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Optimizing team conflict dynamics for high performance teamwork

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ABSTRACT

In the current review we consider theory and research involving task, relationship, and process conflict. We examine relationships with team performance and innovation with an eye toward recent meta-analytic findings. We then review recent research investigating the interplay of team conflict types in the form of team conflict profiles. We advance the Team Conflict Dynamics Model to connect conflict profiles with key variables in the nomological net: psychological safety, conflict management, and team performance. This model considers dynamics by examining conflict transformations over time, reciprocal effects of conflict management processes, and negative feedback loops. Moreover, the model incorporates contextual features involving team design and the organizational environment. This review is needed in order to integrate recent meta-analytic findings, conflict profiles, conflict dynamics, and contextual factors into a parsimonious model useful for guiding future research and practice.

1. Introduction

Organizational work teams are by definition comprised of members that work interdependently and count on one another to make task-, goal-, and outcome-related progress (Kozlowski & Ilgen, 2006). Given that conflict is inevitable wherever interdependencies occur (Deutsch, 1949), conflict in teamwork is a regular occurrence. Because these conflicts have powerful implications for team functioning and effectiveness (DeChurch, Mesmer-Magnus, & Doty, 2013), it is not surprising that there is a long history of research and ongoing work on this topic (see reviews by Korsgaard, Jeong, Mahony, & Pitariu, 2008; Loughry & Amason, 2014).

The current work moves beyond the existing narrative reviews and is needed for several reasons. First, although Korsgaard et al. (2008) provided a review on the multilevel dynamics of team conflict, there have been a number of important recent developments. These largely involve new meta-analyses that shed important light on the benefits, detriments, and contingencies of conflict. Second, Korsgaard et al.'s focus was restricted to antecedents of conflict in teams whereas our focus is on new meta-analytic evidence of conflict's consequences, namely, conflict's implications for performance and innovation. Third, reviews by Loughry and Amason (2014) and Bradley, Anderson, Baur, and Klotz (2015) focused on identifying conditions in which task conflict is most effective. We build on this by drawing from recent empirical work examining team conflict profiles, which describe more clearly the patterns of conflict that occur in teams (O'Neill, McLarnon, Hoffart, Woodley & Allen, in press). Fourth, we theoretically examine the dynamics of team conflict in order to advance research on how conflict profiles are related to other key variables over time. In this way, we further build upon existing reviews, which have called for development of theoretical models that incorporate the role of conflict dynamics given that conflict occurs across multiple episodes of interaction (e.g., Korsgaard et al., 2008). Fifth, the previous reviews do not consider team design or organizational environment factors that represent contextual features with implications for team

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effectiveness (Hackman, 1987). Ignoring such factors would lead to an incomplete understanding of conflict in teams (Todorova, Bear, & Weingart, 2014). Thus, this review is needed to advance a model of team conflict that captures recent scientific developments, identifies priorities for future research, and provides implications for practice.

2. “Marketing and Communications Team”

We will refer to a hypothetical team throughout the current review in order to emphasize the practical implications of the material. The “Marketing and Communications Team” is an 11-member team responsible for various marketing and communication initiatives within a large enterprise organization in the financial services industry. The team has been fortunate as membership has been stable for several years and the team has a mix of experience levels across members. The team has struggled, however, to find time for exploring constructive conflicts involving task-related issues and the team members are finding themselves on a “meeting treadmill.” Specifically, endless meetings within and external to the team are scheduled to deal with day-to-day decision-making as well as to consult to other units in the organization on marketing and communications matters. This has led to back-to-back meetings on most days. Further, members have noted that meetings are scheduled with too little time to prepare and reflect beforehand, and therefore the viewpoints expressed during meetings are not always well informed. Nevertheless, the meetings are highly task-focused, resulting in a considerable degree of task conflict as team members debate proposed solutions to the decisions facing the team. However, because of the emphasis on the task, the development of interpersonal relationships is rarely prioritized. This has given rise to a few miscommunications or misinterpretations that have led to awkward and uncomfortable interpersonal interactions. The team members also indicated that they needed to revisit roles and responsibilities to gain insight into each member's unique skill set. In addition, as other organizational units seek support from the Marketing and Communications Team, the team members are sometimes unsure of how to prioritize or determine clearly who on the team should be involved and in what capacity. This could be partly attributed to the lack of formal strategic planning or strategic discussions during the past several years. This Marketing and Communications Team will be referred to throughout the review in order to emphasize the practical issues as they could apply to teams in organizations.

3. Background of conflict states

3.1. Early conflict research

Early research in organizations emphasized two themes with respect to intragroup conflict. Guetzkow and Gyr (1954) considered the extent to which people's interactions involved differences of opinion that were either substantive (i.e., intellectual) or personal (i.e., affective) in nature. Pondy (1967) noted that conflict can be functional or dysfunctional, as it can take the form of both affective (e.g., anxiety) and cognitive states (e.g., incompatible ideas). Cosier and Rose (1977) examined the potential advantages of cognitive conflict (e.g., probing cognitive differences), which was based on seminal work by Brehmer (1976), who treated cognitive conflict as “differences of policy” (p. 986, emphasis in original). Elsewhere, Argyris (1962) and Rapoport (1960) argued for the harmful effects of personal conflicts within organizations. A reading of this early research suggests themes involving potential detriments of person-based conflict and potential benefits of task-driven conflict. Indeed, several studies revealed that teams employing decision-making techniques that stimulated debate involving diverse and opposing perspectives, as in task conflict, chose the most effective decisions and solutions (e.g., Churchman, 1971; Cosier, 1978; Deutsch, 1973; Mason, 1969; Tjosvold, 1982).

The early examinations of team conflict were followed by many studies that used a variety of different designs and conceptualizations of team conflict (e.g., Nemeth, 1986; Pinkley, 1990; Ross, 1989; Schmidt & Kochan, 1972; Schweiger, Sandberg, & Ragan, 1986; Schwenk & Cosier, 1980; Tjosvold, 1991). Work on developing a common conceptualization of conflict was undertaken independently by two research groups who came to similar conclusions regarding two of the dimensions involved. Amason and colleagues (Amason, 1996; Amason & Schweiger, 1994; Amason et al., 1995) referred to cognitive and affective conflict, whereas Jehn (1992, 1995) used the terms task and relationship conflict, respectively. Task, or cognitive, conflict involves perceived incompatibilities with respect to the ideas and proposed solutions to the issue at hand. Relationship, or affective, conflict involves perceived incompatibilities with respect to personalities and interpersonal interactions.

Ultimately Jehn's (1995) terms were generally preferred, as evidenced by adoption of the task and relationship conflict labels in subsequent meta-analyses (e.g., De Dreu & Weingart, 2003a; Hulsheger, Anderson, & Salgado, 2009) and recently by Amason (e.g., Loughry & Amason, 2014). There are two potential reasons for this. First, Jehn (1997) expanded on the two-dimensional model of conflict by adding a third dimension she called process conflict (see also Shah & Jehn, 1993). Process conflict involves perceived incompatibilities regarding roles, responsibilities, timelines, duties, and resource allocation. Second, Jehn (1995, 1997) advanced psychometrically-sound measures of task, relationship, and process conflict, which were adopted in most subsequent research, including studies conducted by Amason's group (e.g., Amason, 1996). Accordingly, researchers have predominantly used the terms task, relationship, and process conflict when considering conflict types, which has become known as the tripartite model of team conflict (e.g., Behfar, Perterson, Mannix, & Trochim, 2008).

3.2. Benefits and detriments of conflict

3.2.1. Rationale

Theory and conventional thought suggests that task conflict can be beneficial for team effectiveness because it promotes

discussion and exploration of different ideas, and stimulates in-depth analysis of alternative courses of action (e.g., Loughry & Amason, 2014; Pelled, Eisenhardt, & Xin, 1999). Indeed, to benefit from a diverse array of knowledge and to maximize the information pool among team members, exchanges of different and often incongruent viewpoints could be needed (Badke-Schaub, Goldschmidt, & Meijer, 2010). As well, task conflict should promote learning from others' perspectives by creating a deeper understanding of issues (Simons & Peterson, 2000), which should lead to creativity and innovation (De Dreu & West, 2001). Moreover, task conflict could avert decisions that would otherwise lead to disastrous outcomes. For example, some have speculated and reports suggest that a lack of task conflict was implicated in the crash of the *Challenger* space shuttle. Despite some awareness that launching the shuttle under the unusually cold temperatures could be disastrous, conflicting views were not shared openly (Esser & Lindorfer, 1989; Turner & Pratkanis, 1997). This is similar to the so-called "go fever," in which feeling a need to complete a task overwhelms the felt need to consider alternative viewpoints or potential problems. Thus, task conflict should yield benefits for both team performance and innovation.

Experiencing relationship conflict invokes uncomfortable feelings such as anxiety, anger, and fear (Jehn, 1995). This comes at the expense of dedicating energy toward exploring and learning from alternative viewpoints about the task (Behfar et al., 2008). Relationship conflict gives rise to processes that can be understood from the perspective of the threat-rigidity theory (Staw, Sandelands, & Dutton, 1981) and, more recently, social self-preservation theory (Lamarche, Kerr, Faulkner, Gammage, & Klentrou, 2012). Both theories suggest that perceived social threat, as in relationship conflict, activates a stress reaction, which creates narrowed reasoning, cognitive rigidity, defensiveness, closed-mindedness, and either an intensification (fight) or avoidance (flight) response (cf. Carnevale & Probst, 1998). The implication is that fewer mental resources are directed toward flexible thinking, open exploration of distinct task-related views, and information sharing (Nifadkar & Bauer, 2016). This should produce detriments for team performance and innovation.

The key potential advantage of process conflict is that it can lead the team to discover, manage, and minimize inefficiencies in role assignment, planning, and resource allocation (Jehn & Mannix, 2001). However, process conflict may be a symptom of inefficiencies and coordination problems (Shah & Jehn, 1993). Furthermore, process conflict might signal perceptions of procedural injustice, as unresolved process conflicts may be a result of unfair allocations of workload, role assignments, and timelines (Jehn, Greer, Levine, & Szulanski, 2008). Accordingly, the occurrence of process conflicts is generally expected to be problematic for teams and should also produce detriments for team performance and innovation.

3.2.2. Early meta-analytic evidence

De Dreu and Weingart (2003a) conducted a meta-analysis involving team performance and its relation with task ($k = 25$) and relationship ($k = 24$) conflict. The correlation between task conflict and team performance was -0.23 , whereas the correlation between relationship conflict and team performance was -0.22 . There were too few studies to consider process conflict. Thus, on average, task conflict was equally as harmful as was relationship conflict for team performance. This is contrary to much of the theorizing regarding the potential benefits of task conflict (reviewed above), although it supports theory involving the detrimental effects of relationship conflict (e.g., Amason, 1996).

3.2.3. Recent meta-analytic evidence

The findings from De Dreu and Weingart (2003a) created substantial challenges for conflict theory and predictions regarding team performance. Although attempts to reconcile the field were made (e.g., De Dreu & Weingart, 2003b; De Dreu, 2008), a key limiting factor of De Dreu and Weingart's meta-analysis was the relatively small study-level sample size. Specifically, there were 24 and 25 studies capturing almost 2000 teams for each of relationship and task conflict, respectively. Many more studies were later published.

Four meta-analyses examining team conflict-performance and/or conflict-innovation relations were recently conducted. As indicated in Table 1, the sample sizes in three of these were much larger in these meta-analyses than were those reported by De Dreu and Weingart (2003a), thereby suggesting more robust results, and both process conflict and team innovation were considered as additional variables. Considering the meta-analyses together, there are several noteworthy findings. First, team innovation appeared to be unrelated to conflict, which is surprising given that task conflict is well aligned with the creation of novel and useful products and solutions (e.g., De Dreu, 2008). Specifically, Hulsheger et al. (2009) reported small relationships between team innovation and both task conflict ($\rho = -0.03$) and relationship conflict ($\rho = 0.03$). Similar to Hulsheger et al., O'Neill, Allen, and Hastings (2013) reported null relations involving team innovation and each of task ($\rho = 0.01$) relationship ($\rho = -0.03$) and process conflict ($\rho = -0.02$). Moreover, de Wit, Greer, and Jehn (2012) reported that task type did not moderate conflict-performance relationships even for creativity tasks, thereby supporting the results of Hulsheger et al. and O'Neill et al.

Second, task conflict appeared to have a negligible relation with team performance. Although O'Neill et al. (2013) reported a significant negative effect, it was trivial in magnitude ($\rho = -0.06$). DeChurch et al. (2013) and de Wit et al. (2012) both reported non-significant meta-analytic correlations. Moreover, given that more studies were included by both DeChurch et al. and de Wit et al. compared to O'Neill et al., the two former meta-analyses may have more accurate point estimates. Thus, on average, task conflict appears to be unrelated to team performance (but see contingencies involving other conflict types, below).

Third, relationship and process conflict appear to have consistent negative effects on team performance. For relationship conflict, the effect sizes across the DeChurch et al. (2013), de Wit et al. (2012), and O'Neill et al. (2013) were remarkably similar ($\rho = -0.16$, $\rho = -0.18$, and $\rho = -0.14$, respectively). For process conflict, O'Neill et al. reported the largest effect size ($\rho = -0.27$), but as noted there were more studies in de Wit et al.'s meta-analysis. Thus, their estimate of $\rho = -0.15$ should be considered the current best population-level estimate. Taken together, theory involving relationship and process conflict was supported by recent meta-

Table 1
Comparison of meta-analyses Involving team conflict types and teamwork variables.

	De Dreu & Weingart, 2003a	Hulsheger et al., 2009	de Wit et al., 2012	DeChurch et al., 2013	O'Neill et al., 2013
Number of articles	28	11 ^a	116	44	83
Number of teams sampled	Unclear ^b	372 ^a	8880	3218	6122
Number of individuals sampled	Unclear ^b	Unclear	Unclear	Unclear	~28,000
Number of new articles added to De Dreu & Weingart, 2003a, b	–	Unclear ^c	90	Unclear ^c	68
Number of articles added post 2003	–	Unclear ^c	77	Unclear ^c	55
Level of analysis	Mixture of individual and team	Team	Team	Team	Team
Conflict types variables considered	Task conflict Relationship conflict	Task conflict Relationship conflict	Task conflict Relationship conflict Process conflict	Task conflict Relationship conflict	Task conflict Relationship conflict Process conflict
Team variables correlated with conflict types	Team performance Team satisfaction	Team innovation	Team performance Team satisfaction Team trust Team cohesion Team commitment Team identification Organizational citizenship behavior Counterproductive workplace behavior Positive affect	Team performance Team affective outcomes Avoiding Competing Collaborating Openness	Team performance Team innovation Team potency Team cooperative behavior Team competitive behavior Team avoidance behavior

^a This can be viewed as an upper-bound estimate because some studies may have included both relationship and task conflict.

^b A mixture of team and individual-level studies made this unclear.

^c Values in these cells are unclear as the authors did not identify which studies were in task and relationship conflict analyses.

analyses, which demonstrated negative relations, whereas the null effects for task conflict-performance and task conflict-innovation were not consistent with theory.

3.2.4. Summary and practical implications

The null findings involving task conflict suggest that its benefits and detriments may be more complex than simple direct relationships can capture. Below we will consider the possibility that task conflict's implications for team functioning may be contingent on the other forms of conflict, as this is a prominent theme in the conflict literature (e.g., Loughry & Amason, 2014; Xie & Luan, 2014). With respect to relationship and process conflict, empirical research clearly indicates a negative effect on team performance. As expected (Jehn, 1995; Shah & Jehn, 1993), these forms of conflict seem to inhibit constructive approaches to managing and performing the team's tasks. Surprisingly, team innovation was not related to any type of conflict, despite opposite arguments presented in the literature (e.g., De Dreu, 2008). However, given the small sample sizes involving team innovation in the available meta-analyses (e.g., O'Neill et al., 2013), further research is needed to determine whether this finding is robust. Therefore, with a focus on team performance, the practical implications would suggest that it is ideal to ensure teams have low relationship and process conflict.

Recall the Marketing and Communications Team described earlier. Given the null findings associated with task conflict and team performance and innovation, it may be premature to encourage or discourage task conflict. On the other hand, relationship and process conflicts should be addressed. Although relationship conflicts were not very evident in the team, the occasional minor interpersonal clash did occur. Thus, the team leader should continue to apply strategies to maintain an atmosphere free of personal tensions. For example, understanding the team's values and ensuring newcomers fit with those values would be advisable, as diversity with respect to values can promote conflict (Jehn, Northcraft, & Neale, 1999; Klein, Knight, Ziegert, Lim, & Saltz, 2011). A values workshop could identify the team's core values (e.g., commitment to the team, making the work environment fun). Newcomers could be oriented to the team's values and a “values moment” could be added to each team meeting during which exemplar team members are nominated for recent demonstration of the team's values (cf. Nifadkar & Bauer, 2016). Conflict management norms involving relationship conflicts should also be clarified (e.g., approach the person directly, followed by meeting with the leader) so that relationship conflicts are addressed early and potential miscommunications clarified. Managing the affective climate of the team is expected to play a key role in maintaining other critical team functions (Marks, Mathieu, & Zaccaro, 2001).

Regarding process conflicts, the Marketing and Communications Team generally agreed on the processes for conducting task activities, suggesting little process conflict, although there was room for improvement. The team members were not perfectly aware of the strategic priorities, roles and responsibilities, and each person's skill set. One practical recommendation to resolve process conflicts is to develop a team charter, as team charters specify the team's purpose, strategies, member responsibilities, and skill sets (Mathieu & Rapp, 2009). An effective team charter should be developed with a facilitator from HR or a consulting firm who can

provide an independent view, or through structured interactive software platform (e.g., Eddy, Tannenbaum, & Mathieu, 2013). Engaging team members in project management and planning may be another useful exercise to discuss views of timelines, roles, and responsibilities, thereby addressing process conflicts. Process conflicts that are resolved early in the team's lifecycle can help team effectiveness in the long run (e.g., Goncalo, Polman, & Maslach, 2010), and therefore process conflicts that do surface should be actively managed in the Marketing and Communications Team.

One caveat to the above recommendations for HR practitioners is that task, relationship, and process conflict may be resistant to change. For example, although process conflict might be a simple matter of members lacking role clarity, it might also be the result of deeply ingrained perceptions of injustice regarding work assignments and expectations (Jehn et al., 2008). Below we review additional research suggesting that conflict types may not be as responsive to interventions than other variables in the nomological network. Rather, interventions will have indirect implications for team conflict by influencing these other variables. We address these issues under *Propositions of the Team Conflict Dynamics Model*.

4. Team conflict profiles

4.1. Interplay of team conflict types

A recurring theme in the literature is that effective use of task conflict requires minimizing other forms of conflict (e.g., Jehn & Mannix, 2001; Rispens, 2012). de Wit, Greer, and Jehn (2013) suggested that it is vital that task conflicts do not escalate to the point that they ignite relationship conflicts, as task conflicts can spiral into relationship conflicts (Peterson & Behfar, 2003; Xie & Luan, 2014). Moreover, reviews point to the volatile effects of task and relationship conflicts occurring simultaneously (Bradley et al., 2015; Loughry & Amason, 2014). Jehn and Mannix (2001) also noted that process conflicts coinciding with other forms of conflict would be harmful.

Given the above, a critical assumption underlying constructive or healthy conflict would appear to involve disentangling task from both relationship and process conflicts (Janssen, Van De Vliert & Veenstra, 1999; Yang & Mossholder, 2004). Expansion of research and practice incorporating this "complexity perspective" is warranted in light of several recent developments in the literature. First, as described above, meta-analyses have reported null relations involving task conflict and both team performance and team innovation (e.g., de Wit et al., 2012). This is contrary to theorizing that task conflict can be helpful for these outcomes (Chang, 2017; Chun & Choi, 2014). Second, primary studies, recent meta-analytic evidence, and narrative reviews indicate that task conflict may have a positive relationship with team performance when relationship conflict is low (Bradley et al., 2015; de Wit et al., 2012; de Wit et al., 2013). Similarly, teams with members higher in emotional regulation demonstrate a positive relationship between task conflict and team performance (Jiang, Zhang, & Tjosvold, 2013), likely because negative emotions involving relationship conflict are minimized (see also Bradley, Klotz, Postlethwaite, & Brown, 2013). Third, holistic approaches involving person-centered (Meyer, Stanley, & Vandenberg, 2013) and team-centered (O'Neill, McLarnon, Hoffart, Woodley and Allen, *in press*) paradigms provide a foundation for examining individuals and teams as whole entities (e.g., by considering combination of conflict types simultaneously within a team). This approach acknowledges that the combination of conflict types in a team may be more important than any one form of conflict on its own. Methodological advances involving latent profile analyses allow for identifying profiles of team conflict, classifying teams into profiles, and significance testing (Morin & Marsh, 2015). Fourth, identifying typical patterns of task, relationship, and process conflict in teams provides practitioners with more precise diagnostic, educational, and targeted team development opportunities (O'Neill, McLarnon, Hoffart, Onen & Rosehart, *in press*). Thus, we agree with Bradley et al. (2015) that a full understanding of team conflict requires us to better develop research and practice involving team conflict profiles.

4.2. Studies examining team conflict profiles

Jehn and Chatman (2000) proposed the concept "proportional conflict composition," which "describes the relationship among the three types of conflict (task, relationship, process), as the level of each type of conflict proportional to the other two" (p. 57). They provided examples to illustrate the concept. On one hand, moderate task conflict in the presence of very little relationship and process conflict would likely lead to reduced stress, distraction, and animosity as well as greater focus on the task. On the other hand, moderate levels of relationship conflict in the absence of task and process conflict would likely describe a team with personal incompatibilities that interfere with the examination of differing opinions about the team's tasks or processes. They suggested that conflict, therefore, "must be examined by taking into account the profile of conflict types present" (p. 59). This complexity perspective would therefore suggest that teams with high proportional task conflict composition would achieve higher levels of performance, whereas those with a higher proportional relationship or process conflict composition would performed lower.

Janssen et al. (1999) considered a four-quadrant scenario involving combinations of low and high task and relationship conflict. Janssen et al. tested their hypotheses with moderated multiple regression and found that, indeed, task and relationship conflict interacted with each other to predict team decision quality (see also Shaw et al., 2011). Unfortunately, the use of moderated multiple regression in these studies does not indicate whether any teams actually experienced the four combinations of levels of task and relationship conflict, and how many teams were in each quadrant of their model.

O'Neill, McLarnon, Hoffart, Woodley and Allen (*in press*) replicated four distinct profiles of task, relationship, and process conflict in three samples of teams (see Fig. 1). First, a pattern defined by relatively high task conflict and very low relationship and process conflict was detected and labeled task conflict-dominant (TCD). Second, a pattern defined by relatively high task conflict and low relationship and process conflict was identified and labeled relationship conflict/process conflict-minor (RC/PC-minor). Third, a

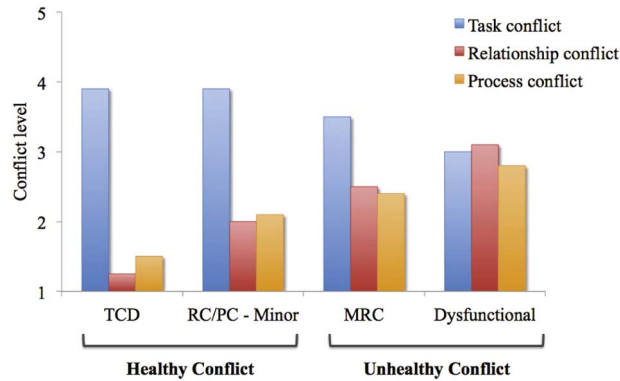


Fig. 1. Profiles of team conflict. TCD = task-conflict dominant; RC/PC-minor = relationship conflict/process conflict-minor; and MRC = mid-range conflict.

pattern defined by relatively moderate task, relationship, and process conflict was identified and labeled mid-range conflict (MRC). Finally, a pattern defined by relatively low task conflict and high relationship and process conflict was found and labeled dysfunctional. In the current review, we refer to TCD and RC/PC-minor as “healthy conflict profiles,” whereas we consider MRC and dysfunctional to be “unhealthy conflict profiles” (see Fig. 1). Note that we use the term “relatively” to indicate the conflict levels with respect to their own means rather than the absolute levels (i.e., rather than referring to the dysfunctional profile as having moderate absolute levels of all three conflict types, we refer to it as having *relatively* low task conflict and *relatively* high relationship and process conflict).

Further support for the presence of the team conflict profiles outlined above has been found, and evidence of their multilevel construct validity profiles has been published (O'Neill, McLarnon, Hoffart, Onen and Rosehart, *in press*). The four profiles were replicated and were related to team-level constructive controversy and psychological safety. Specifically, teams with the TCD profile received the most favorable scores. Moreover, the profiles were related to individual-level perceptions of learning, burnout, and peer ratings of performance. This suggests that a team's conflict profile has important implications both for overall team functioning, but also the functioning of the individuals within the team.

O'Neill et al., (*in press*) reported on a training study investigating the role of constructive controversy in determining profile membership (Tjosvold, 1998). O'Neill, Hoffart et al. adopted constructive controversy because it is a conflict management process that appeared to be strongly aligned with the properties of the TCD profile. Specifically, constructive controversy involves the stages of (a) developing and expressing ideas, (b) questioning and understanding, (c) integrating and creating, and (d) agreeing and implementing (Tjosvold, 2008). To accomplish this, the training encouraged the norming and expectation of task conflict so that it would not be misunderstood as relationship or process conflict. The findings indicated that constructive controversy training enhanced the probability that teams would achieve the TCD profile. Specifically, the proportion of teams in the TCD profile was raised from 43% to 59%, whereas the proportion of teams in the dysfunctional conflict profile was lowered from 8% to 2%. The authors attributed their findings to the strong conceptual alignment involving the TCD profile and constructive controversy as a conflict management (see Johnson, 2015).

4.2.1. Summary and practical implications

Team conflict profiles take on different patterns across teams and these patterns appear to be critical to understanding how conflict affects team functioning. This explains why task conflict was unrelated to performance in previous meta-analyses. Specifically, those meta-analyses focused on isolated conflict-performance relations, whereas profiles incorporate a holistic perspective of team conflict-performance relations. The empirical evidence suggests that task conflict occurring in the absence of both relationship and process conflict is the most effective, efficient, and healthy approach to conflict. Further, teams can indeed achieve this desirable conflict state with a targeted application of constructive controversy training. Thus, evidence accumulated so far tells us that teams experience four patterns of conflict, which could not be identified in studies reviewed elsewhere that rely on regression rather than profile analysis (e.g., reviewed by Bradley et al., 2015). This is important for both theoretical precision and for practitioners who may wish to diagnose and intervene based on a team's conflict profile.

The practical implications for the Marketing and Communications Team suggest that task conflict should only be encouraged when relationship and process conflicts are minimized (i.e., when the team demonstrates a healthy conflict profile). Task conflict in the presence of relationship or process conflict would indicate a different profile in which task conflicts will be intermingled with destructive conflicts. Thus, diagnosing the team through an assessment of task, relationship, and process conflict will help identify whether the team environment is healthy enough to support the encouragement of task conflict. If the team is found to have a suboptimal conflict profile, interventions targeting conflict profile transitions toward healthier profiles may be advisable (see below). Given that the Marketing and Communications Team members have relatively high task conflict coupled with low relationship and process conflict, they would likely be classified in the RC/PC-minor profile (because there is some non-trivial level of relationship and process conflict). As such, interventions that support greater task conflict, while emphasizing declines in relationship and process conflict, are recommended. For example, the constructive controversy training described by O'Neill et al., (*in press*) emphasizes the promotion and exploration of viewpoints in a psychologically safe and positive environment. Thus, conflict levels are changed

indirectly by influencing conflict management. We elaborate on the advantages of interventions targeting conflict rather than conflict types below.

5. Propositions of the Team Conflict Dynamics Model

In light of the team conflict research reviewed above involving theory, meta-analyses, and profiles, we propose The Team Conflict Dynamics Model. This model also addresses dynamics of team conflict, as recent theory and evidence reported by DeChurch et al. (2013) reveals insights into the dynamics of conflict types and conflict management. Dynamics of conflict are often acknowledged but also claimed to be poorly understood (e.g., Jehn & Mannix, 2001). Thus, developing an integrative model and advancing propositions is important for advancing future research and practice on team conflict. Note that because of the lack of meta-analytic support for team conflict-innovation relationships (e.g., O'Neill et al., 2013), we excluded team innovation. Future studies may uncover more robust relationships that could be added to the model.

5.1. Conflict systems and team performance

Multiple lines of evidence suggest that conflict types and conflict management variables have reciprocal influences, and therefore models of conflict need to consider both (e.g., DeChurch & Marks, 2001; Maltarich et al., in press). First, a meta-analysis by DeChurch et al. (2013) reported moderate intercorrelations of conflict management variables with conflict types. Second, similar to group norms, DeChurch et al. argued that conflict types constrain the behavioral repertoire of team members with respect to the conflict management behaviors viewed as acceptable by team members (cf. Hackman, 1992). This is consistent with Morgeson and Hofmann's (1999) suggestion that "individual action is limited by the surrounding context, and, thus, the admissible range of actions is influenced by a multitude of situational and contextual factors" (p. 251). Conflict profiles, therefore, could influence what constitutes expected, appropriate, and adaptive conflict management processes and behaviors in a team. Third, we expect that conflict management will exert a reciprocal influence on conflict profiles in an ongoing bidirectional process, as a particular conflict management approach may encourage some conflict profiles more than others.

Consider the Marketing and Communications Team with the RC/PC-minor profile. This team would likely use a collaborative conflict management process given that task conflict is relatively high, and relationship and process conflict are relatively low. A relatively collaborative conflict management process would then likely reinforce the RC/PC-minor profile, and potentially encourage the TCD profile. However, perhaps a contentious issue surfaces, thereby dividing the team and creating additional relationship and process conflicts. The team might move toward a competitive conflict management approach, involving win/lose negotiation, threat, and domineering strategies to advance individual agendas (Deutsch, 2006). This, in turn, would lead the team to a more unhealthy conflict profile, such as MRC. If the spiral continued, the team may end up with the dysfunctional conflict profile and highly competitive, or avoidance-prone, conflict management approach.

Given the above, within the dashed box in the Team Conflict Dynamics Model (Fig. 2), we propose a reciprocal relationship between conflict profiles and conflict management processes. We propose that this ongoing bidirectional influence represents the "Team Conflict System." The Team Conflict System can be understood as the mutually reinforcing conflict management processes and conflict profiles representing the team's collective perceptions of intragroup conflict dynamics.

As there are many conflict management processes described in the literature, we adopted DeChurch et al.'s (2013) recent

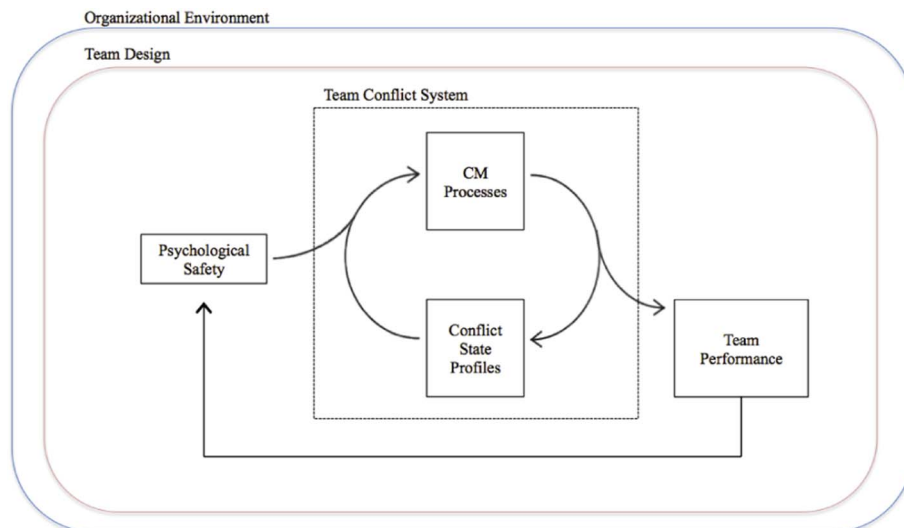


Fig. 2. The Team Conflict Dynamics Model describes the Team Conflict System (dashed box), antecedent (psychological safety), consequence (team performance), and incorporates the team design and organizational environment. CM = conflict management.

taxonomy as a unifying framework. DeChurch et al. labeled collaborative, cooperative, and other similar conflict processes as *collectivistic*, whereas those authors labeled competition, avoidance, and similar other conflict processes as *individualistic*. We surmise that teams using *collectivistic* conflict management processes will be more likely to debate ideas and use different perspectives without interpersonal- or process-related interference (i.e., be in a healthy conflict profile). On the other hand, we expect that teams using more *individualistic* conflict management processes (e.g., competition, avoidance) will share fewer divergent viewpoints and will struggle with relationship and process conflict. This is because collectivistic conflict management provides a safe forum for healthy debate, whereas individualistic conflict management encourages competition and withdrawal (Jehn & Mannix, 2001; Tjosvold, 2008). As described above, conflict types are related to conflict management given that conflict types may narrow the range of conflict management behaviors that would be acceptable within a given team (DeChurch et al., 2013).

Proposition 1. A bidirectional relationship will occur such that teams with higher collectivistic conflict management processes will be more likely in teams with a healthy conflict profile, and vice versa.

Proposition 2. A bidirectional relationship will occur such that teams with higher individualistic conflict management processes will be more likely in teams with an unhealthy conflict profile, and vice versa.

Fig. 2 specifies a direct relation to team performance from the Team Conflict System. We extrapolated this from the pattern of results in DeChurch et al.'s (2013) meta-analysis. Specifically, those authors found that conflict management variables were more predictive of team performance than were any of the three conflict types. Furthermore, this held after controlling for task and relationship conflict (i.e., $\Delta R^2 = 0.13$), whereas task and relationship conflict added little over and above the prediction given by conflict management (i.e., $\Delta R^2 = 0.02$; process conflict was not examined, see Table 1). This suggests that conflict management variables may be more proximal antecedents of team performance than are conflict profiles. Interestingly, given that conflict types were related to conflict management processes, it would seem that conflict types likely operate indirectly through their impact on team processes. Indeed, Marks et al. (2001) proposed that intragroup processes capture team member interactions (i.e., behaviors) that are antecedents of team outcomes. Although we are speculating, the proposed pattern is quite plausible given the findings reported by DeChurch and colleagues.

Proposition 3. Team conflict management mediates the relation between team conflict profiles and team performance.

5.2. Team performance feedback loop

Next in the Team Conflict Dynamics Model is the feedback loop from team performance to team psychological safety. Past performance, as an outcome, is important to consider as an input to subsequent performance episodes (Ilgen et al., 2005), as it may have implications for subsequent team functioning (i.e., other inputs, the Team Conflict System, subsequent outcomes). Worchel et al. (1977) found reduced group cooperation after negative performance feedback. Further, Peterson and Behfar (2003) found that negative performance feedback led to increases in both task and relationship conflict. Interestingly, however, when intrateam trust was high, task conflict was unrelated to subsequent relationship conflict even after negative performance feedback. According to Staw et al. (1981), negative performance feedback has the potential to induce perceptions of threat because poor performance likely has implications for valued outcomes (e.g., resources, job security). Accordingly, negative performance feedback implies a problem with the team's functioning and the threat of adverse outcomes for the team and/or its members.²

As noted above, Peterson and Behfar (2003) found that the influence of performance feedback likely depends on existing trust levels within the team (i.e., as an input). Accordingly, performance feedback may affect how team members deal with subsequent conflicts (e.g., responding in a collectivistic manner following positive feedback, or in an individualistic manner following negative feedback) by enhancing, maintaining, or reducing psychological safety. We emphasize psychological safety because it focuses specifically on the extent to which the team is safe for interpersonal risk taking (Edmondson, 1999) and it correlates highly with trust (Schaubroeck et al., 2011). A team environment in which interpersonal risk taking leads to negative implications for the risk taker (i.e., low psychological safety) runs in stark opposition to collectivistic conflict management (e.g., openness to others' perspectives; Tjosvold et al., 2016). Conversely, a team environment that is safe for interpersonal risk taking sets the stage for collectivistic conflict management because team members feel they can speak up if they have an alternative view (Edmondson, 2004; Edmondson & Roloff, 2009). The reverse should also hold for individualistic conflict management processes such as competitiveness, which may be elevated when teams have low psychological safety.

Proposition 4. Team psychological safety will mediate the positive relation between positive performance feedback and collectivistic conflict management processes.

Proposition 5. Team psychological safety will mediate the positive relation between negative performance feedback and individualistic conflict management processes.

The influence of performance feedback should continue through psychological safety and conflict management processes to ultimately influence subsequent team conflict profiles. For example, consider a team with the TCD profile that had used collectivistic

² We define performance feedback not with reference to a standard or the direction of the feedback but with reference to whether it is interpreted positively (e.g., as useful knowledge of results; Hackman, 1987) or negatively (e.g., as threatening; Staw et al., 1981) by the team.

conflict management in the past. In the event of negative performance feedback, team members may be at risk to engage in blaming, posturing, and distancing behaviors, which are characteristic of teams with low psychological safety (Edmondson & Smith, 2006). Members of these teams may then become more competitive, defensive, and guarded, and the team may adopt more individualistic conflict management approaches as a result. This may then increase the likelihood that the team will transition into an unhealthy conflict profile. More generally, negative performance feedback may have the tendency to reinforce unhealthy profiles or detract from previously healthy profiles, through its reduction in psychological safety and emphasis on individualistic conflict management. In the face of multiple negative performance feedback episodes, a team may enter a downward spiral toward membership in unhealthy conflict profiles, which may further lower psychological safety, weaken collectivistic conflict management approaches, and decrease performance (cf. Behfar et al., 2008). Positive performance feedback, on the other hand, may have the tendency to reinforce healthy conflict profiles or augment previously unhealthy profiles (Peterson & Behfar, 2003). Thus, we anticipate the following propositions will hold:

Proposition 6. Positive performance feedback will increase the likelihood of a transition toward increasingly healthy conflict profiles through stronger psychological safety and collaborative conflict management processes.

Proposition 7. Negative performance feedback will increase the likelihood of a transition toward increasingly unhealthy conflict profiles through weaker psychological safety and individualistic conflict management processes.

5.3. Temporal transitions of team conflict profiles

In order to provide an investigation into the temporal dynamics of team conflict profiles, it would be necessary to track the occurrence and nature of transitions. Analytically, this can be accomplished through latent transition analysis (Collins & Lanza, 2010). Conceptually, LTA identifies the occurrence and nature of transitions in latent profile membership over time (Collins & Lanza, 2010). Thus, we can advance predictions about the probabilities that teams in a particular profile at t_k will be in each of the four profiles at t_{k+1} .

To propose how teams may, or may not, transition through conflict profiles over time, we draw on research suggesting that conflict types tend to exhibit stability and order. In other words, a team with high relationship conflict will not tend to have low relationship conflict shortly thereafter. Longitudinal studies report high correlations involving conflict types over time (Goncalo et al., 2010; Greer et al., 2008), suggesting stability and consistency. DeChurch et al. (2013) also theorized that these team conflict types are relatively stable. This is in accordance with conflict types being classified as part of the broader collection of team “states” (Marks et al., 2001) that can be “malleable in newly formed teams but tend to remain fairly stable in those with a long history” (p. 358; see also Mathieu et al., 2017). In our view, this makes it unlikely that teams will rapidly oscillate between conflict profiles and that changes will be smaller in order rather than large and dramatic. However, non-trivial dynamics in conflict profile membership are possible, as existing longitudinal research reports less than perfect correlations (e.g., Rispens & Demerouti, 2016; Peterson & Behfar, 2003). Interventions and changing environmental contexts, as well as team design adjustments, could drive small, predictable changes in team conflict profile membership.

We propose that temporal transitions of team conflict profiles may follow three potential patterns (see Fig. 3). First, we propose that teams will, on average, remain in the same profile over time. The bolded horizontal rectangles in Fig. 3 describe this tendency

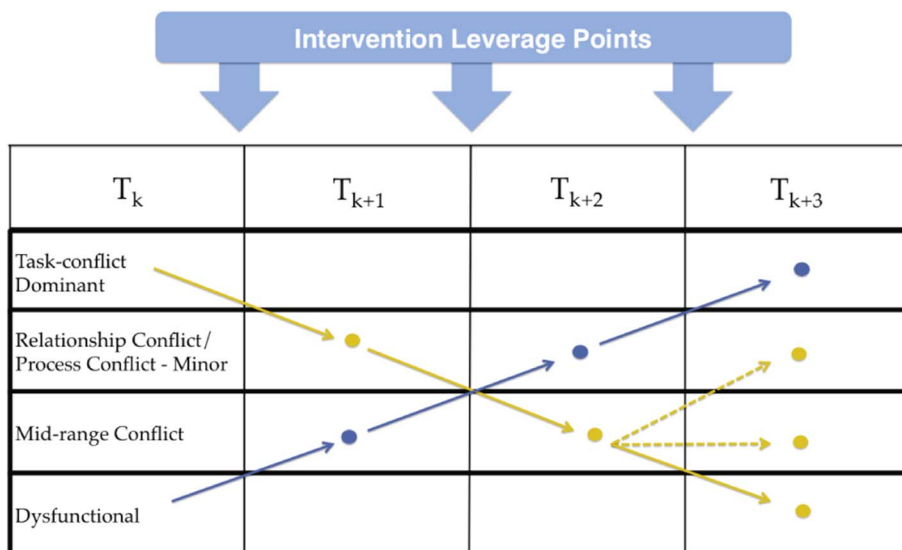


Fig. 3. Temporal transitions of team conflict profiles and intervention leverage points. Interventions must influence psychological safety, conflict management processes, or team performance feedback to create transitions in conflict profiles.

toward stability. Second, we propose that teams that do transition across profiles will exhibit a gradual, single-degree transition (e.g., to an “adjacent profile”, such as RC/PC-minor to either TCD or MRC), rather than a dramatic transition across multiple degrees (e.g., TCD to Dysfunctional). Third, whereas a continual decline would be characteristic of teams in a downward conflict spiral (yellow arrows in Fig. 3), a continual incline would be characteristic of teams in an upward conflict trajectory (blue arrows in Fig. 3). Moreover, teams with an undesirable conflict profile could seek an intervention to change the existing pattern (see the dashed lines in Fig. 3). The key is that proposed stability (e.g., static forces) and dynamics (e.g., spirals, trajectories, interventions) of conflict can be studied systematically through the temporal transitions of all three types of conflict simultaneously through the assessment of team conflict profiles.

Proposition 8. Teams' most likely conflict profile membership at t_{k+1} is the profile membership at t_k , followed by a profile with a single degree of difference from the profile membership at t_k , and so on.

The diagrams in Figs. 2 and 3 have important interdependencies that, together, represent the Team Conflict Dynamics Model. The temporal transitions of team conflict profiles (Fig. 3) will be predicted by changes in psychological safety, conflict management, or team performance. Specifically, for a team to move to a more or less healthy conflict profile (e.g., RC/PC-minor \rightarrow TCD; RC/PC-minor \rightarrow MRC), team performance, psychological safety, or conflict management must be influenced (Fig. 2). A critical point, therefore, is that *transition probabilities will be predicted by changes in performance feedback, psychological safety, and/or conflict management processes.*

Fortunately, training and interventions appear to be effective. Hackman and Morris (1975) noted that training programs could produce beneficial effects on affective constructs, such as those in the Team Conflict Dynamics Model (see also Salas et al., 2008). Use of T-groups and conflict management learning exercises may improve trust and effective use of conflict management processes (as reviewed by Marks et al., 2001). Jarvenpaa et al. (2004) reported evidence that socialization activities (e.g., sharing backgrounds and personal experiences) can help bolster team trust. Systems such as the Productivity Measurement and Enhancement System (ProMES; Pritchard et al., 1988) offer mechanisms to provide continuous performance feedback. Coupled with positive coaching behaviors involving the use of informal rewards (encouragement) and management of interpersonal issues (related to trust and conflict management; Wageman, 2001), performance feedback may be more likely to be viewed positively by team members. Below we also provide additional practical examples of interventions drawing from team design and the organizational environment variables.

Proposition 9. Interventions that influence team performance feedback, psychological safety, and/or conflict management can affect the probability that a team will be in a particular profile at t_{k+1} given profile membership at t_k .

5.4. Team design and organizational environment

The thesis of Hackman's (2002) book, *Leading Teams*, is that teams will rarely be successful without the appropriate design and environmental conditions. According to Hackman (1987), team design includes the team task, team composition, and team structures (e.g., norms), and these factors can be “manipulated by managers to create the conditions for effective performance” (Cohen & Bailey, 1997, p. 243). Regarding the organizational environment, Hackman (1987) noted that the reward, information, and education systems can affect teams' performance. The conditions comprising the team design features and the organizational environment can influence the variables in the Team Conflict Dynamics Model in line with Proposition 9. Specifically, that proposition suggests that interventions be directed toward team psychological safety, conflict management, and/or team performance in order to influence variables in the model including, indirectly, conflict profiles.

As it is beyond the scope of this review, we refer readers to other sources instead of revisiting the empirical evidence in detail here (e.g., Cohen & Bailey, 1997; Hackman, 1987, 2002; Kozlowski & Ilgen, 2006; Mathieu et al., 2008). We do, however, believe that illustrations may be helpful. Accordingly, we advance one proposition for each team design (team task, team composition, and team structures) and organizational environment (team rewards, information systems, and education opportunities) variable as it relates either to team psychological safety, conflict management processes, or team performance (see Table 2 for the matrix of team design and organizational environment variables crosses with teamwork variables and the linkages considered in this review).

5.4.1. Team design: team task

Task design includes task interdependence (Hackman, 1987), which can be classified as pooled, sequential, reciprocal, and intensive (Van de Ven et al., 1976). Pooled interdependence involves autonomous work that is aggregated to form the team output.

Table 2

Matrix of team conflict dynamics variables crossed with team design and organizational environment factors.

Team variables	Team design			Organizational environment		
	Task	Composition	Structure	Rewards	Information	Education
Psychological safety		Prop. 11			Prop. 14	
Conflict management			Prop. 12			Prop. 15
Team performance	Prop. 10			Prop. 13		

Note. Cell entries indicate propositions for future research identified in the current review. Empty cells should also be considered in future research.

Sequential interdependence involves a unidirectional chain with each member's link performing a single activity (e.g., assembly line). Reciprocal interdependence involves adding bidirectional linkages in a production chain. Intensive interdependence involves a dense network of information flow and task-related linkages across team members.

As a team design variable, team task interdependence can be adjusted to influence a team's performance (Somech et al., 2009). This, of course, assumes that the team in question constitutes a "real" team (Hackman, 2002). In real teams, interdependence is high because the task is sufficiently large and complex to require a mix of capabilities and specializations (i.e., no single individual can perform the task). However, some managers may still organize the work to be completed individually with little interaction across team members (i.e., pooled interdependence). Wageman (1995) reported that Xerox repair services teams with a common goal (i.e., outcome interdependence) but little task interdependence performed poorly relative to teams with a high degree of team task interdependence. Therefore, in real teams responsible for a common objective, high task interdependence may encourage healthy conflict profiles and strengthen team goal accomplishment.

Proposition 10. The health of the team conflict system will be improved by augmenting team task interdependence (e.g., sequential → reciprocal) in order to improve team performance.

5.4.2. Team design: team composition

Team design aimed at improving team psychological safety through an emphasis on team composition may be fruitful. Trust is a "willingness to be vulnerable to the actions of a trustee" (Colquitt & Rodell, 2011, p. 1184). If trust is high among members, we would expect high psychological safety as the environment should be safe for interpersonal risk taking (Edmondson, 2004). According to Colquitt et al. (2007), there are four aspects influencing trust among employees: trust propensity and trustworthiness components of perceived ability, benevolence, and integrity of the trustee. One step toward building psychological safety in teams, therefore, would likely involve selecting individuals who are high on these characteristics. Trust propensity is a stable disposition and refers to the extent to which a trustor is inclined to be naturally trusting of others. Validated survey scales exist for assessing trust propensity and integrity from test publishers. Benevolence involves kindness, warmth, and morality, which are features of Agreeableness (O'Neill & Hastings, 2010). Agreeableness scales are also widely available from test publishers (e.g., Costa & McCrae, 1992). Finally, perceived ability could be enhanced if the team member was recruited by maximizing the fit between capabilities and the role requirements. This would involve a work analysis and appropriate selection procedures for hiring decisions (see Cascio & Aguinis, 2005). In sum, we propose the following:

Proposition 11. The health of the team conflict system will be improved by introducing team composition interventions in order to improve team psychological safety.

5.4.3. Team design: structure

Improving a team's conflict management processes through an intervention targeting aspects of the team's structure could also be advantageous. Specifically, core norms of conduct are an aspect of team structure (Wageman et al., 2005) representing the "normative structures that enables a group to regulate member behavior" (Hackman, 1987, p. 329). Hackman (1987) noted that when group norms are understood by all group members and are sufficiently salient, they exert an impact on member behavior. Although several other studies have investigated and found team-related benefits from developing norms (e.g., Eddy et al., 2013), few have investigated the role norms may have in influencing conflict management. One quasi-experimental training study, however, focused on building norms with the intention of impacting conflict management (O'Neill et al., in press). As noted earlier, training involved receiving information on using constructive controversy (Tjosvold, 2008) and participating in simulations and exercises (i.e., role-play, unstructured team decision making, and team contracts). This training was found to increase the proportion of teams in the TCD profile, likely through improving levels of collectivistic conflict management. Elsewhere, Weingart et al. (2015) noted that high directness and low intensity is essential in conflict management, and Todorova et al. (2014) reported that high directness and low intensity led to more engagement in the team. Thus, training that builds norms involving appropriate directness and intensity of conflict expression could be beneficial for team conflict management as well.

Proposition 12. The health of the team conflict system will be improved by introducing team norming interventions in order to improve conflict management processes.

5.4.4. Organizational environment: rewards

"Team effort is enhanced by organizational reward systems that recognize and reinforce team excellence" (Hackman & Wageman, 2005, p. 281). Indeed, Hertel et al. (2004) found that high outcome interdependence (i.e., shared team rewards) was more strongly related to team performance than was task or goal interdependence. This effect was partially mediated by team members' perceptions of instrumentality (i.e., team members' beliefs that performance efforts would help the team achieve rewards). The advantage of team-based rewards may also be due to self-regulation and attention allocation. DeShon et al. (2004) reported that attention was allocated to individual or team tasks depending on whether feedback was directed toward individual or team performance. Thus, organizational rewards directed to the team-level could orient members' attention toward successful team task accomplishment.

Proposition 13. The health of the team conflict system will be improved by introducing team rewards interventions in order to improve team performance.

5.4.5. Organizational environment: information

Although studied as part of a composite with other organizational variables (e.g., rewards), Edmondson (1999) found that enabling a free-flowing exchange of information was positively related to team psychological safety. In a study by Choi et al. (2010), the authors found that the accessibility of information technologies allowed group members to share more knowledge. Moreover, team information sharing was related to team outcomes, such as team cohesion, in a meta-analysis by Mesmer-Magnus and DeChurch (2009). Increased access to project information should help members to increase their willingness to be vulnerable in a team setting, as uncertainties are minimized (Edmondson, 1999). Indeed, Pinjani and Palvia (2013) reported that collaboration technologies enabled stronger relationships between team processes and trust. Thus, information access should be facilitated by the organization in order to improve team psychological safety.

Proposition 14. The health of the team conflict system will be improved by introducing team information systems in order to improve team psychological safety.

5.4.6. Organizational environment: education

Inherent in collectivistic conflict management, such as cooperative conflict management and constructive controversy, is the opportunity to learn from others (Vollmer & Seyr, 2013). Although we are not aware of research that has directly investigated this proposal, making educational and learning opportunities available to team members could enhance perceived efficacy for mutual learning and, in turn, collectivistic conflict management. Further, modern educational modalities of collaboration communities, communities of practice, conferences, trade meetings, e-learning modules, and so forth (Ford, 2014), could be leveraged to maximize the opportunities team members have to learn. As team members participate in educational experiences and bring this knowledge back to the team (e.g., boundary spanning; Ancona & Caldwell, 1992), the opportunity to learn from new perspectives could stimulate collectivistic conflict management. In other words, making resources and training available that can introduce novel viewpoints and approaches may serve as a transfer of training platform from which to engage in collectivistic conflict management. In contrast, a team with little opportunity to learn from each other may view conflict as a win-lose contest and may be closed-minded, suspicious, and guarded. However, we note that little past research has examined this and the current proposal is speculative.

Proposition 15. The health of the team conflict system will be improved by introducing educational opportunities in order to improve conflict management processes.

5.5. Summary and practical implications

As emphasized by Hackman (2002), creating the conditions for team success sets the stage for great performances. Thus, considering the role of team design and the effect of a team's environment is critical for enabling high performance teamwork. The team design and organizational environment variables proposed here are examples of many potential interventions that could influence team psychological safety, conflict management, and team performance.

As mentioned earlier, the Marketing and Communications Team likely has the RC/PC-minor profile. Team members currently engage in substantial task conflict and yet there appears to be a small level of relationship and process conflict. According to Fig. 3, a single-order change to the TCD profile should be achievable in the near term. Leverage points include interventions to bolster psychological safety, conflict management, and team performance. Given their interconnectedness, changing any of these variables in the positive direction should positively influence the team's conflict system and conflict profile (Fig. 2). Organizational environment and team design factors reviewed above represent six options for the Marketing and Communications Team. Other options we drew attention to earlier included relationship building activities (for supporting psychological safety; Jarvenpaa et al., 2004), conflict management training (for supporting conflict management processes; O'Neill et al., in press), and performance feedback (for supporting increased team performance; Pritchard et al., 1988). Ultimately, as conflict management becomes increasingly collectivistic, the conflict profiles may be positively influenced in a mutually reinforcing cycle within the Team Conflict System, thereby encouraging and maintaining a healthier conflict profile. Interestingly, introducing a multi-pronged approach targeting psychological safety, conflict management, and team performance simultaneously might be even more likely to achieve a more desirable conflict profile, namely, the TCD profile. Though this might require a substantial investment, it has the potential to raise the team's performance and produce a healthier, more sustainable teamwork environment.

6. Future research, limitations, and conclusion

6.1. Future research directions

The Team Conflict Dynamics Model identifies a number of research questions that are ripe for future consideration. First, longitudinal investigations are needed to better understand the Team Conflict System and whether relationships are reciprocal as proposed (i.e., Propositions 1 and 2). A cross-lagged panel analysis would be useful in this respect (e.g., Goncalo et al., 2010). Second, the Team Conflict Dynamics Model is mediation-based and therefore several mechanisms need to be investigated involving performance feedback, psychological safety, conflict management, conflict profiles, and performance feedback (Propositions 3–7). Third, longitudinal investigations are also needed to determine the stability, spirals, and trajectories of team conflict profile transitions to examine the predictions advanced in Propositions 8. These studies require repeated measurements and the application of latent

transition analysis. Fourth, interventions targeting changes in team performance, psychological safety, and/or conflict management are needed to investigate their impact on the Team Conflict System and team performance (Proposition 9). A meta-analysis by Salas et al. (2008) provides cause for optimism as team affective (e.g., psychological safety), process (e.g., conflict management), and performance are apparently responsive to training and interventions. Investigating how training influences the hypothesized paths in the Team Conflict Dynamics Model (Fig. 2) and the conflict profile transitions (Fig. 3) would advance our understanding of how conflict can be managed by external interventions.

Further investigation is needed into linkages involving team design and organizational environment features and their influences on variables in the Team Conflict Dynamics Model. We advanced six propositions in this regard (Propositions 10–15), but we note that a complete matrix crossing the six team design/organizational environment features with team psychological safety, conflict management, and team performance comprises 18 cells. Each of these cells could represent an initiative or intervention seeking to apply a team design or organizational environment feature toward enhancing levels of variables in the Team Conflict Dynamics Model. Table 2 indicates the cells for which we recommended specific and testable propositions, as well as the empty cells that warrant future consideration. Thus, there is considerable research to be conducted to identify research supported interventions for each component of this matrix.

One important future research need is to validate the team conflict profiles in field teams, as they were identified and investigated in student project teams. Moreover, team conflict profiles should be examined across a variety of team design and environmental contexts, as well as early in teams' lifespans. Notably, in one sample used by O'Neill, McLarnon, Hoffart, Woodley, & Allen, *in press*, a unique profile was identified that was referred to as "Low-range Conflict," which involved very low levels of all three conflict types. Teams demonstrating this pattern of conflict were proposed to be in a period of low work activity or were close to disbanding (i.e., had completed and delivered most of their project work). However, the four focal profiles might be expected to replicate. First, the profiles are based on subpopulations of teams, which means several teams must exhibit a similar profile in order for that profile to constitute a robust pattern of team conflict. One-off teams would not be sufficient to generate a new profile that would be expected to generalize. Second, and related to the first point, is that the pattern of conflict intercorrelations suggests a profile with high relationship conflict and low process conflict is unlikely (as is the reverse pattern). Relationship conflict and process conflict correlate at 0.73 according to de Wit et al.'s (2012) recent meta-analysis (the highest intercorrelation involving the three conflict types). This suggests that relationship conflict and process conflict are very unlikely to occur at drastically different levels in a substantial number of teams. Third, O'Neill, McLarnon, Hoffart, Woodley and Allen (*in press*) provided extensive theoretical predictions involving the four conflict profiles. These predictions drew on information processing theory and the pattern of correlations involving conflict types. Thus, whereas replication in field teams is needed, there are reasons to believe that additional patterns are unlikely to be identified.

We note that longitudinal research is required to achieve clarity on the effects of early process conflict on team performance. Although early process conflict seems to correlate with subsequent task and relationship conflict (e.g., Greer et al., 2008), Goncalo et al.'s (2010) cross-lagged panel design suggested that a lack of early process conflict is symptomatic of overconfidence. Teams that did not work through process conflicts early in their lifecycle performed worse than teams that addressed different viewpoints involving process and individual roles and responsibilities. Thus, further longitudinal work is needed to examine the role of early process conflict in teams.

An issue that should be addressed in future team conflict research is the interplay involving conflict types and conflict resolution. The theory of conflict types assumes that task, relationship, and process conflict levels have implications for team performance (Jehn, 1995). Much less often considered is that conflict levels may matter less than the actual resolution of conflicts. Indeed, O'Neill and Allen (2014) found that task conflict resolution significantly predicted team performance whereas absolute task conflict levels did not. In the Team Conflict Dynamics Model we also make the assumption that task conflict is helpful when it occurs in the absence of relationship and process conflict, and evidence supports this (O'Neill, McLarnon, Hoffart, Onen, & Rosehart, *in press*; O'Neill, McLarnon, Hoffart, Woodley, & Allen, *in press*). Thus, considering teams with very low levels of conflict, such as teams with the Low-range Conflict profile discussed above, and investigating the actual resolution of conflict would be useful in future research.

Finally, although this review focused on the team-level of analysis, there is research that considers dyadic conflict patterns and social networks of conflict within a team. Conflict asymmetries occur when team members are in disagreement regarding perceived conflict levels, and this has been linked to weaker team performance than when conflict is viewed similarly (Jehn, Rispen & Thatcher, 2010). Social networks that identify the structure of conflict within a team through numerous indices (e.g., density, centrality; see Balkundi & Harrison, 2006) may be valuable directions for future research on intrateam conflict. Asymmetries and social networks attempt to capture intricacies of intrateam conflict that are overlooked by typical aggregation methods in team-level research (including the team-centered paradigm). It would be interesting if future research adapted the Team Conflict Dynamics Model to propose and test structural propositions according to social network approaches that could further illuminate the subtleties of conflict within a team.

6.2. Limitations and boundary conditions

Throughout this review, we limited the functional implications of conflict to team performance and innovation rather than to other outcomes for reasons of brevity. However, we note that team performance is not interchangeable with other outcomes commonly studied in the conflict literature (e.g., satisfaction). Further, our focus has been on linear relationships given that interdependencies in conflict types and meta-analyses focus on linear rather than other functional forms (i.e., quadratic). We also limited coverage to team-level mean operationalizations of task, relationship, and process conflict types rather than to other

operationalizations (e.g., skewness; Sinha, Janardhanan, Greer, Conlon & Edwards, 2016) and levels such as dyadic- or individual-level variables (e.g., Jehn et al., 2010). Moreover, a multitude of antecedents of team conflict have been examined (see Korsgaard et al., 2008) and it is beyond the scope of the current review to examine each.

We would be remiss if we did not mention potential boundary conditions affecting the proposed relationships in the Team Conflict Dynamics Model. Specifically, we propose that the relationships are tightly coupled and that they should be universal in teams with particular characteristics. First, teams should be “real teams” with interdependent members, relatively stable membership, and clear membership boundaries (Hackman, 2002; Wageman et al., 2005). Lacking any of these features, the linkages may be more loosely coupled given that the team represents a less integrated entity. Second, teams should be responsible for performing complex tasks, as productive conflict is theorized to occur mainly in making complex decisions involving multifaceted tasks (Bradley et al., 2015; O'Neill et al., 2013). Routine tasks are easily optimized and therefore have less potential to benefit from multiple perspectives and backgrounds (Jehn, 1995). Third, the current model is based on past research findings, which are overwhelmingly focused on assessing teams well after the formation stage (cf. Kozlowski, 2015). As a result, the model is expected to hold for teams that have interacted for sufficient time for their team processes to stabilize. These boundary conditions, however, are speculative and could also be examined in future research.

7. Conclusion

In the current review we presented a synthesis, integration, and extension of the literature on conflict types in order to develop a cyclical model incorporating task, relationship, and process conflict along with team psychological safety, conflict management, and team performance (i.e., the Team Conflict Dynamics Model). Further, we considered the role of key contingency factors involving team design and the organizational environment that may be adjusted in order produce high performance teamwork. Throughout we considered the implications for a hypothetical team's conflict system to illustrate the practical implications of this work. The propositions described in this review, along with the future research recommendations, identify avenues in which continued research into the nature, meaning, and dynamics of intrateam conflict in work teams may be fruitful.

References

- Amason, A. (1996). Distinguishing effects of functional and dysfunctional conflict on strategic decision making: Resolving a paradox for top management teams. *Academy of Management Journal*, 39, 123–148. <http://dx.doi.org/10.2307/256633>.
- Amason, A., & Schweiger, D. M. (1994). Resolving the paradox of conflict, strategic decision making, and organizational performance. *International Journal of Conflict Management*, 5, 239–253. <http://dx.doi.org/10.1108/eb022745>.
- Amason, A., Thompson, K. R., Hochwarter, W. A., & Harrison, A. W. (1995). Conflict: An important dimension in successful management teams. *Organizational Dynamics*, 24(2), 20–35. [http://dx.doi.org/10.1016/0090-2616\(95\)90069-1](http://dx.doi.org/10.1016/0090-2616(95)90069-1).
- Ancona, D. G., & Caldwell, D. F. (1992). Bridging the boundary: External activity and performance in organizational teams. *Administrative Science Quarterly*, 37, 634–665. <http://dx.doi.org/10.2307/2393475>.
- Argyris, C. (1962). *Interpersonal competence and organizational effectiveness*. Homewood, IL: Dorsey Press.
- Badke-Schaub, P., Goldschmidt, G., & Meijer, M. (2010). How does cognitive conflict in design teams support the development of creative ideas? *Creativity and Innovation Management*, 19, 119–133. <http://dx.doi.org/10.1111/j.1467-8691.2010.00553.x>.
- Balkundi, P., & Harrison, D. A. (2006). Ties, leaders, and time in teams: Strong inference about network structure's effects on team viability and performance. *Academy of Management Journal*, 49, 49–68. <http://dx.doi.org/10.5465/AMJ.2006.20785500>.
- Behfar, K. J., Perterson, R. S., Mannix, E. A., & Trochim, M. K. (2008). The critical role of conflict resolution in teams: A close look at the links between conflict type, conflict management strategies, and team outcomes. *Journal of Applied Psychology*, 93, 170–188. <http://dx.doi.org/10.1037/0021-9010.93.1.170>.
- Bradley, B. H., Anderson, H. J., Baur, J. E., & Klotz, A. C. (2015). When conflict helps: Integrating evidence for beneficial conflict in groups and teams under three perspectives. *Group Dynamics: Theory, Research, and Practice*, 19, 243–272. <http://dx.doi.org/10.1037/gdn0000033>.
- Bradley, B. H., Klotz, A. C., Postlethwaite, B. E., & Brown, K. G. (2013). Ready to rumble: How team personality composition and task conflict interact to improve performance. *Journal of Applied Psychology*, 98, 385–392. <http://dx.doi.org/10.1037/a0029845>.
- Brehmer, B. (1976). Social judgment theory and the analysis of interpersonal conflict. *Psychological Bulletin*, 83, 985–1003. <http://dx.doi.org/10.1037/0033-2909.83.6.985>.
- Carnevale, P. J., & Probst, T. M. (1998). Social values and social conflict in creative problem solving and categorization. *Journal of Personality and Social Psychology*, 74, 1300–1309. <http://dx.doi.org/10.1037/0022-3514.74.5.1300>.
- Cascio, W. F., & Aguinis, H. (2005). *Applied psychology in human resource management*. Upper Saddle River, NJ: Pearson Prentice Hall.
- Chang, M. L. (2017). On the relationship between intragroup conflict and social capital in teams: A longitudinal investigation in Taiwan. *Journal of Organizational Behavior*, 38, 3–27. <http://dx.doi.org/10.1002/job.2107>.
- Choi, S. Y., Lee, H., & Yoo, Y. (2010). The impact of information technology and transactive memory systems on knowledge sharing, application, and team performance: A field study. *MIS Quarterly*, 34, 855–870.
- Chun, J. S., & Choi, J. N. (2014). Members' needs, intragroup conflict, and group performance. *Journal of Applied Psychology*, 99, 437–450. <http://dx.doi.org/10.1037/a0036363>.
- Churchman, C. W. (1971). *The design of inquiring systems basic concepts of systems and organization*. New York, NY: Basic Books.
- Cohen, S. G., & Bailey, D. E. (1997). What makes teams work: Group effectiveness research from the shop floor to the executive suite. *Journal of Management*, 23(3), 239–290. <http://dx.doi.org/10.1177/014920639702300303>.
- Collins, L. M., & Lanza, S. T. (2010). *Latent class and latent transition analysis: With applications in the social, behavioral, and health sciences*. Hoboken, NJ: John Wiley & Sons.
- Colquitt, J. A., & Rodell, J. B. (2011). Justice, trust, and trustworthiness: A longitudinal analysis integrating three theoretical perspectives. *Academy of Management Journal*, 54, 1183–1206. <http://dx.doi.org/10.5465/amj.2007.0572>.
- Colquitt, J. A., Scott, B. A., & LePine, J. A. (2007). Trust, trustworthiness, and trust propensity: A meta-analytic test of their unique relationships with risk taking and job performance. *Journal of Applied Psychology*, 92, 909–927. <http://dx.doi.org/10.1037/0021-9010.92.4.909>.
- Cosier, R. A. (1978). The effects of three potential aids for making strategic decisions on prediction accuracy. *Organizational Behavior and Human Performance*, 22, 295–306. [http://dx.doi.org/10.1016/0030-5073\(78\)90018-1](http://dx.doi.org/10.1016/0030-5073(78)90018-1).
- Cosier, R. A., & Rose, G. L. (1977). Cognitive conflict and goal conflict effects on task performance. *Organizational Behavior and Human Performance*, 19, 378–391. [http://dx.doi.org/10.1016/0030-5073\(77\)90071-X](http://dx.doi.org/10.1016/0030-5073(77)90071-X).
- Costa, P. T., & McCrae, R. R. (1992). *Neo PI-R professional manual*. Odessa, FL: Psychological Assessment Resources.

- DeChurch, L. A., & Marks, M. A. (2001). Maximizing the benefits of task conflict: The role of conflict management. *International Journal of Conflict Management*, 12, 4–22. <http://dx.doi.org/10.1108/eb022847>.
- DeChurch, L. A., Mesmer-Magnus, J. R., & Doty, D. (2013). Moving beyond relationship and task conflict: Toward a process-state perspective. *Journal of Applied Psychology*, 98, 559–578. <http://dx.doi.org/10.1037/a0032896>.
- De Dreu, C. K. W. (2008). The virtue and vice of workplace conflict: Food for (pessimistic) thought. *Journal of Organizational Behavior*, 29, 5–18. <http://dx.doi.org/10.1002/job.474>.
- De Dreu, C. K. W., & Weingart, L. R. (2003a). Task versus relationship conflict, team performance, and team member satisfaction: A meta-analysis. *Journal of Applied Psychology*, 88, 741–749. <http://dx.doi.org/10.1037/0021-9010.88.4.741>.
- De Dreu, C. K. W., & Weingart, L. R. (2003b). A contingency theory of task conflict and performance in groups and organizational teams. In M. West, D. Tjosvold, & K. G. Smith (Eds.), *International handbook of organizational teamwork and cooperative working* (pp. 151–166). Chichester, UK: Wiley.
- De Dreu, C. K., & West, M. A. (2001). Minority dissent and team innovation: The importance of participation in decision making. *Journal of Applied Psychology*, 86, 1191–1201. <http://dx.doi.org/10.1037/0021-9010.86.6.1191>.
- DeShon, R. P., Kozlowski, S. W., Schmidt, A. M., Milner, K. R., & Wiechmann, D. (2004). A multiple-goal, multilevel model of feedback effects on the regulation of individual and team performance. *Journal of Applied Psychology*, 89, 1035–1056. <http://dx.doi.org/10.1037/0021-9010.89.6.1035>.
- Deutsch, M. (1949). A theory of cooperation and competition. *Human Relations*, 2, 129–152.
- Deutsch, M. (1973). *The resolution of conflict: Constructive and destructive processes*. New Haven, CT: Yale University Press.
- Deutsch, M. (2006). Cooperation and competition. In M. Deutsch, P. T. Coleman, & E. C. Marcus (Eds.), *The handbook of conflict resolution: Theory and practice* (pp. 23–42). San Francisco, CA: Wiley.
- de Wit, F. R. C., Greer, L. L., & Jehn, K. A. (2012). The paradox of intragroup conflict: A meta-analysis. *Journal of Applied Psychology*, 97, 360–390. <http://dx.doi.org/10.1037/a0024844>.
- de Wit, F. R. C., Greer, L. L., & Jehn, K. A. (2013). Task conflict, information processing, and decision-making: The damaging effect of relationship conflict. *Journal of Applied Psychology*, 122, 177–189. <http://dx.doi.org/10.1016/j.obhdp.2013.07.002>.
- Eddy, E. R., Tannenbaum, S. I., & Mathieu, J. E. (2013). Helping teams to help themselves: Comparing two team-led debriefing methods. *Personnel Psychology*, 66, 975–1008. <http://dx.doi.org/10.1111/peps.12041>.
- Edmondson, A. C. (1999). Psychological safety and learning behavior in work teams. *Administrative Science Quarterly*, 44, 350–383. <http://dx.doi.org/10.2307/2666999>.
- Edmondson, A. C. (2004). Psychological safety, trust, and learning in organizations: A group lens. In R. M. Kramer, & K. S. Cook (Eds.), *Trust and distrust in organizations: Dilemmas and approaches* (pp. 239–272). New York, NY: Sage.
- Edmondson, A. C., & Roloff, K. S. (2009). Overcoming barriers to collaboration: Psychological safety and learning in diverse teams. In E. Salas, G. F. Goodwin, & C. S. Burke (Eds.), *Team effectiveness in complex organizations: Cross-disciplinary perspectives and approaches* (pp. 183–208). New York, NY: Routledge.
- Edmondson, A. C., & Smith, D. M. (2006). Too hot to handle? How to manage relationship conflict. *California Management Review*, 49, 6–31. <http://dx.doi.org/10.2307/41166369>.
- Esser, J. K., & Lindoerfer, J. L. (1989). Groupthink and the space shuttle challenger accident: Toward a quantitative case analysis. *Journal of Behavioral Decision Making*, 2, 167–177. <http://dx.doi.org/10.1002/bdm.3960020304>.
- Ford, J. K. (2014). *Improving training effectiveness in work organizations*. Psychology Press.
- Goncalo, J. A., Polman, E., & Maslach, C. (2010). Can confidence come too soon? Collective efficacy, conflict, and group performance over time. *Organizational Behavior and Human Decision Processes*, 113, 13–24. <http://dx.doi.org/10.1016/j.obhdp.2010.05.001>.
- Greer, L. L., Jehn, K. A., & Mannix, E. A. (2008). Conflict transformation a longitudinal investigation of the relationships between different types of intragroup conflict and the moderating role of conflict resolution. *Small Group Research*, 39, 278–302. <http://dx.doi.org/10.1177/1046496408317793>.
- Guetzkow, H., & Gyr, J. (1954). An analysis of conflict in decision-making groups. *Human Relations*, 7, 367–382. <http://dx.doi.org/10.1177/001872675400700307>.
- Hackman, J. R. (1987). The design of work teams. In J. W. Lorsch (Ed.), *Handbook of organizational behavior* (pp. 315–342). Englewood Cliffs, NJ: Prentice-Hall.
- Hackman, J. R. (1992). *Group influences on individuals in organizations*. Palo Alto, CA: Consulting Psychologists Press.
- Hackman, J. R. (2002). *Leading teams: Setting the stage for great performances*. Boston, MA: Harvard Business School Press.
- Hackman, J. R., & Morris, C. G. (1975). Group tasks, group interaction process, and group performance effectiveness: A review and proposed integration. In L. Berkowitz (Ed.), *Advances in Experimental Social Psychology* (pp. 45–99). San Diego, CA: Academic Press.
- Hackman, J. R., & Wageman, R. (2005). A theory of team coaching. *Academy of Management Review*, 30, 269–287. <http://dx.doi.org/10.5465/AMR.2005.16387885>.
- Hertel, G., Konradt, U., & Orlikowski, B. (2004). Managing distance by interdependence: Goal setting, task interdependence, and team-based rewards in virtual teams. *European Journal of Work and Organizational Psychology*, 13, 1–28. <http://dx.doi.org/10.1080/13594320344000228>.
- Hulsheger, U. R., Anderson, N., & Salgado, J. F. (2009). Team-level predictors of innovation at work: A comprehensive meta-analysis spanning three decades of research. *Journal of Applied Psychology*, 94, 1128–1145. <http://dx.doi.org/10.1037/a0015978>.
- Ilgen, D. R., Hollenbeck, J. R., Johnson, M., & Jundt, D. (2005). Teams in organizations: From input-process-output models to IMO models. *Annual Review of Psychology*, 56, 517–543. <http://dx.doi.org/10.1146/annurev.psych.56.091103.070250>.
- Janssen, O., Van De Vliert, E., & Veenstra, C. (1999). How task and person conflict shape the role of positive interdependence in management teams. *Journal of Management*, 25, 117–142. <http://dx.doi.org/10.1177/014920639902500201>.
- Jarvenpaa, S. L., Shaw, T. R., & Staples, D. S. (2004). Toward contextualized theories of trust: The role of trust in global virtual teams. *Information Systems Research*, 15, 250–267. <http://dx.doi.org/10.1287/isre.1040.0028>.
- Jehn, K. A. (1992). *The impact of intragroup conflict on effectiveness: A multimethod examination of the benefits and detriments of conflict*. Unpublished doctoral dissertation: Northwestern University.
- Jehn, K. A. (1995). A multimethod examination of the benefits and detriments of intragroup conflict. *Administrative Science Quarterly*, 40, 256–282. <http://dx.doi.org/10.2307/2393638>.
- Jehn, K. A. (1997). A qualitative analysis of conflict types and dimensions in organizational groups. *Administrative Science Quarterly*, 42, 530–557. <http://dx.doi.org/10.2307/2393737>.
- Jehn, K. A., & Chatman, J. A. (2000). The influence of proportional and perceptual conflict composition on team performance. *International Journal of Conflict Management*, 11, 56–73. <http://dx.doi.org/10.1108/eb022835>.
- Jehn, K. A., Greer, L., Levine, S., & Szulanski, G. (2008). The effects of conflict types, dimensions, and emergent states on group outcomes. *Group Decision and Negotiation*, 17, 465–495. <http://dx.doi.org/10.1007/s10726-008-9107-0>.
- 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, 238–251. <http://dx.doi.org/10.2307/3069453>.
- Jehn, K. A., Northcraft, G. B., & Neale, M. A. (1999). Why differences make a difference: A field study of diversity, conflict and performance in workgroups. *Administrative Science Quarterly*, 44, 741–763. <http://dx.doi.org/10.2307/2667054>.
- Jehn, K. A., Rispens, S., & Thatcher, S. M. B. (2010). The effects of conflict asymmetry on work group and individual outcomes. *The Academy of Management Journal*, 53, 596–616. <http://dx.doi.org/10.5465/AMJ.2010.51468978>.
- Jiang, J. Y., Zhang, X., & Tjosvold, D. (2013). Emotion regulation as a boundary condition of the relationship between team conflict and performance: A multi-level examination. *Journal of Organizational Behavior*, 34, 714–734. <http://dx.doi.org/10.1002/job.1834>.
- Johnson, D. W. (2015). *Constructive controversy: Theory, research, practice*. Cambridge, UK: Cambridge University Press.
- Klein, K. J., Knight, A. P., Ziegert, J. C., Lim, B. C., & Saltz, J. L. (2011). When team members' values differ: The moderating role of team leadership. *Organizational Behavior and Human Decision Processes*, 114, 25–36. <http://dx.doi.org/10.1016/j.obhdp.2010.08.004>.
- Korsgaard, M. A., Jeong, S. S., Mahony, D. M., & Pitariu, A. H. (2008). A multilevel view of intragroup conflict. *Journal of Management*, 34, 1222–1252. <http://dx.doi.org/10.1177/0149206308325124>.
- Kozlowski, S. W. (2015). Advancing research on team process dynamics: Theoretical, methodological, and measurement considerations. *Organizational Psychology*

- Review, 5, 270–299. <http://dx.doi.org/10.1177/2041386614533586>.
- Kozlowski, S. W., & Ilgen, D. R. (2006). Enhancing the effectiveness of work groups and teams. *Psychological Science in the Public Interest*, 7, 77–124. <http://dx.doi.org/10.1111/j.1529-1006.2006.00030.x>.
- Lamarche, L., Kerr, G., Faulkner, G., Gammage, K. L., & Klenzrou, P. (2012). A qualitative examination of body image threats using social self-preservation theory. *Body Image*, 9, 145–154. <http://dx.doi.org/10.1016/j.bodyim.2011.10.004>.
- Loughry, M., & Amason, A. (2014). Why won't task conflict cooperate? Deciphering stubborn results. *International Journal of Conflict Management*, 25, 333–358. <http://dx.doi.org/10.1108/IJCM-01-2014-0005>.
- Maltarich, M. A., Kukenberger, M., Reilly, G., & Mathieu, J. (2017). *Conflict in teams: Modeling early and late conflict states and the interactive effects of conflict processes*. Group and Organization Management (in press).
- Marks, M. A., Mathieu, J. E., & Zaccaro, S. J. (2001). A temporally based framework and taxonomy of team processes. *Academy of Management Journal*, 26, 356–376. <http://dx.doi.org/10.5465/AMR.2001.4845785>.
- Mason, R. O. (1969). A dialectical approach to strategic planning. *Management Science*, 15, 403–414. <http://dx.doi.org/10.1287/mnsc.15.8.B403>.
- Mathieu, J. E., Hollenbeck, J. R., van Knippenberg, D., & Ilgen, D. R. (2017). A century of work teams in the Journal of Applied Psychology. *Journal of Applied Psychology*, 102, 452–467. <http://dx.doi.org/10.1037/apl0000128>.
- Mathieu, J. E., Maynard, M. T., Rapp, T., & Gilson, L. (2008). Team effectiveness 1997–2007: A review of recent advancements and a glimpse into the future. *Journal of Management*, 34, 410–476. <http://dx.doi.org/10.1177/0149206308316061>.
- Mathieu, J. E., & Rapp, T. L. (2009). Laying the foundation for successful team performance trajectories: The roles of team charters and performance strategies. *Journal of Applied Psychology*, 94, 90–103. <http://dx.doi.org/10.1037/a0013257>.
- Mesmer-Magnus, J. R., & DeChurch, L. A. (2009). Information sharing and team performance: A meta-analysis. *Journal of Applied Psychology*, 94, 535–546. <http://dx.doi.org/10.1109/emr.2012.6172774>.
- Meyer, J. P., Stanley, L. J., & Vandenberg, R. J. (2013). A person-centered approach to the study of commitment. *Human Resource Management Review*, 23, 190–202. <http://dx.doi.org/10.1016/j.hrmr.2012.07.007>.
- Morgeson, F. P., & Hofmann, D. A. (1999). The structure and function of collective constructs: Implications for multilevel research and theory development. *Academy of Management Review*, 24, 249–265. <http://dx.doi.org/10.5465/AMR.1999.1893935>.
- Morin, A. J. S., & Marsh, H. W. (2015). Disentangling shape from level effects in person-centered analyses: An illustration based on university teachers' multi-dimensional profiles of effectiveness. *Structural Equation Modeling*, 22, 39–59. <http://dx.doi.org/10.1080/10705511.2014.919825>.
- Nemeth, C. J. (1986). Differential contributions of majority and minority influence. *Psychological Review*, 93, 23–32. <http://dx.doi.org/10.1037//0033-295x.93.1.23>.
- Nifadkar, S. S., & Bauer, T. N. (2016). Breach of belongingness: Newcomer relationship conflict, information, and task-related outcomes during organizational socialization. *Journal of Applied Psychology*, 101, 1–13. <http://dx.doi.org/10.1037/apl0000035>.
- O'Neill, T. A., & Allen, N. J. (2014). Team task conflict resolution: An examination of its linkages to team personality composition and team effectiveness outcomes. *Group Dynamics: Theory, Research, and Practice*, 18, 159–173.
- O'Neill, T. A., Allen, N. J., & Hastings, S. E. (2013). Examining the “pros” and “cons” of team conflict: A team-level meta-analysis of task, relationship, and process conflict. *Human Performance*, 26, 236–260. <http://dx.doi.org/10.1080/08959285.2013.795573>.
- O'Neill, T. A., & Hastings, S. E. (2010). Explaining workplace deviance behavior with more than just the “Big Five”. *Personality and Individual Differences*, 50, 268–273. <http://dx.doi.org/10.1016/j.paid.2010.10.001>.
- O'Neill, T. A., Hoffart, G., McLarnon, M., Woodley, H., Eggermont, M., Rosehart, W., & Brennan, R. (2017). Constructive controversy and reflexivity training promotes effective conflict profiles and outcomes in student learning teams. *Academy of Management Learning & Education*. <http://dx.doi.org/10.5465/amle.2015.0183> (in press).
- O'Neill, T. A., McLarnon, M. J. W., Hoffart, G., Onen, D., & Rosehart, W. (2017). The multilevel nomological net of team conflict profiles. *International Journal of Conflict Management*. <http://dx.doi.org/10.1108/IJCM-05-2016-0038> (in press).
- O'Neill, T. A., McLarnon, M. J., Hoffart, G. C., Woodley, H. J., & Allen, N. J. (2017). The structure and function of team conflict state profiles. *Journal of Management*. <http://dx.doi.org/10.1177/0149206315581662> (in press).
- Pelled, L., Eisenhardt, K. M., & Xin, K. R. (1999). Exploring the black box: An analysis of work group diversity, conflict, and performance. *Administrative Science Quarterly*, 44, 1–28. <http://dx.doi.org/10.2307/2667029>.
- Peterson, R. S., & Behfar, K. J. (2003). The dynamic relationship between performance feedback, trust, and conflict in groups: A longitudinal study. *Organizational Behavior and Human Decision Processes*, 92, 102–112. [http://dx.doi.org/10.1016/S0749-5978\(03\)00090-6](http://dx.doi.org/10.1016/S0749-5978(03)00090-6).
- Pinjani, P., & Palvia, P. (2013). Trust and knowledge sharing in diverse global virtual teams. *Information Management*, 50, 144–153. <http://dx.doi.org/10.1016/j.im.2012.10.002>.
- Pinkley, R. L. (1990). Dimensions of conflict frame: Disputant interpretations of conflict. *Journal of Applied Psychology*, 75, 117–126. <http://dx.doi.org/10.1037/0021-9010.75.2.117>.
- Pondy, L. R. (1967). Organizational conflict: Concepts and models. *Administrative Science Quarterly*, 12, 296–320. <http://dx.doi.org/10.2307/2391553>.
- Pritchard, R. D., Jones, S. D., Roth, P. L., Stuebing, K. K., & Ekeberg, S. E. (1988). Effects of group feedback, goal setting, and incentives on organizational productivity. *Journal of Applied Psychology*, 73, 337–358. <http://dx.doi.org/10.1037/0021-9010.73.2.337>.
- Rapoport, A. (1960). *Fights, games, and debates*. Ann Arbor, MI: University of Michigan Press.
- Rispens, S. (2012). The influence of conflict issue importance on the co-occurrence of task and relationship conflict in teams. *Applied Psychology*, 61, 349–367. <http://dx.doi.org/10.1111/j.1464-0597.2011.00473.x>.
- Rispens, S., & Demerouti, E. (2016). Conflict at work, negative emotions, and performance: A diary study. *Negotiation and Conflict Management Research*, 9, 103–119. <http://dx.doi.org/10.1111/ncmr.12069>.
- Ross, R. (1989). Conflict. In R. Ross, & J. Ross (Eds.), *Small groups in organizational settings* (pp. 139–178). Englewood Cliffs, NJ: Prentice-Hall.
- Salas, E., DiazGranados, D., Klein, C., Burke, C. S., Stagl, K. C., Goodwin, G. F., & Halpin, S. M. (2008). Does team training improve team performance? A meta-analysis. *Human Factors*, 50, 903–933. <http://dx.doi.org/10.1518/001872008X375009>.
- Schaubroeck, J., Lam, S. S., & Peng, A. C. (2011). Cognition-based and affect-based trust as mediators of leader behavior influences on team performance. *Journal of Applied Psychology*, 96(4), 863–871. <http://dx.doi.org/10.1037/a0022625>.
- Schmidt, S. M., & Kochan, T. A. (1972). Conflict: Toward conceptual clarity. *Administrative Science Quarterly*, 17, 359–370. <http://dx.doi.org/10.2307/2392149>.
- Schweiger, D. M., Sandberg, W. R., & Ragan, J. W. (1986). Group approaches for improving strategic decision making: A comparative analysis of dialectical inquiry, devil's advocacy, and consensus. *Academy of Management Journal*, 29, 51–71. <http://dx.doi.org/10.2307/255859>.
- Schwenk, C. R., & Cosier, R. A. (1980). Effects of the expert, devil's advocate, and dialectical inquiry methods on prediction performance. *Organizational Behavior and Human Performance*, 26, 409–424. [http://dx.doi.org/10.1016/0030-5073\(80\)90076-8](http://dx.doi.org/10.1016/0030-5073(80)90076-8).
- Shah, P. P., & Jehn, K. A. (1993). Do friends perform better than acquaintances? The interaction of friendship, conflict, and task. *Group Decision and Negotiation*, 2, 149–165. <http://dx.doi.org/10.11007/bf01884769>.
- 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, 391–400. <http://dx.doi.org/10.1037/a0021340>.
- Simons, T. L., & Peterson, R. S. (2000). Task conflict and relationship conflict in top management teams: The pivotal role of intragroup trust. *Journal of Applied Psychology*, 85, 102–111. <http://dx.doi.org/10.1037/0021-9010.85.1.102>.
- Sinha, R., Janardhanan, N. S., Greer, L. L., Conlon, D. E., & Edwards, J. R. (2016). Skewed task conflicts in teams: What happens when a few members see more conflict than the rest? *Journal of Applied Psychology*, 101, 1045–1055. <http://dx.doi.org/10.1037/apl0000059>.
- Somech, A., Desivilya, H. S., & Lidogoster, H. (2009). Team conflict management and team effectiveness: The effects of task interdependence and team identification. *Journal of Organizational Behavior*, 30, 359–378. <http://dx.doi.org/10.1002/job.537>.
- Staw, B. M., Sandelands, L. E., & Dutton, J. E. (1981). Threat rigidity effects in organizational behavior: A multilevel analysis. *Administrative Science Quarterly*, 26, 501–524. <http://dx.doi.org/10.2307/2392337>.

- Tjosvold, D. (1982). Effects of approach to controversy on superiors' incorporation of subordinates' information in decision making. *Journal of Applied Psychology*, 67, 189–193. <http://dx.doi.org/10.1037/0021-9010.67.2.189>.
- Tjosvold, D. (1991). *Team organization: An enduring competitive advantage*. Chichester, UK: John Wiley.
- Tjosvold, D. (1998). Co-operative and competitive goal approaches to conflict: Accomplishments and challenges. *Applied Psychology. An International Review*, 41, 285–342. <http://dx.doi.org/10.1111/j.1464-0597.1998.tb00025.x>.
- Tjosvold, D. (2008). Constructive controversy for management education: Developing committed, open-minded researchers. *Academy of Management Learning & Education*, 7, 73–85. <http://dx.doi.org/10.5465/AMLE.2008.31413864>.
- Tjosvold, D., Wan, P., & Tang, M. M. (2016). Trust and managing conflict: Partners in developing organizations. In P. Elgoibar, M. Euwema, & L. Munduate (Eds.), *Building trust and constructive conflict management in organizations* (pp. 53–74). Cham, Switzerland: Springer International Publishing. http://dx.doi.org/10.1007/978-3-319-31475-4_4.
- Todorova, G., Bear, J. B., & Weingart, L. R. (2014). Can conflict be energizing? A study of task conflict, positive emotions, and job satisfaction. *Journal of Applied Psychology*, 99, 451–467. <http://dx.doi.org/10.1037/a0035134>.
- Turner, M., & Pratkanis, A. (1997). Mitigating groupthink by stimulating constructive conflict. In C. K. W. De Dreu, & E. Van de Vliert (Eds.), *Using conflict in organizations* (pp. 39–52). London, UK: Sage.
- Van de Ven, A. H., Delbecq, A. L., & Koenig, R. (1976). Determinants of coordination modes within organizations. *American Sociological Review*, 41, 322–328. <http://dx.doi.org/10.2307/2094477>.
- Vollmer, A., & Seyr, S. (2013). Constructive controversy research in the business organizational context: A literature review. *International Journal of Conflict Management*, 24, 399–420. <http://dx.doi.org/10.1108/IJCMA-07-2011-0055>.
- Wageman, R. (1995). Interdependence and group effectiveness. *Administrative Science Quarterly*, 40, 145–180. <http://dx.doi.org/10.2307/2393703>.
- Wageman, R. (2001). How leaders foster self-managing team effectiveness: Design choices versus hands-on coaching. *Organization Science*, 12, 559–577. <http://dx.doi.org/10.1287/orsc.12.5.559.10094>.
- Wageman, R., Hackman, J. R., & Lehman, E. (2005). Team diagnostic survey: Development of an instrument. *The Journal of Applied Behavioral Science*, 41, 373–398. <http://dx.doi.org/10.1177/0021886305281984>.
- Weingart, L. R., Behfar, K. J., Bendersky, C., Todorova, G., & Jehn, K. A. (2015). The directness and oppositional intensity of conflict expression. *Academy of Management Review*, 40, 235–262. <http://dx.doi.org/10.5465/amr.2013.0124>.
- Worchel, S., Andreoli, V., & Folger, R. (1977). Intergroup cooperation and intergroup attraction: The effect of previous interaction and outcome of combined effort. *Journal of Experimental Social Psychology*, 13, 131–140. [http://dx.doi.org/10.1016/s0022-1031\(77\)80006-1](http://dx.doi.org/10.1016/s0022-1031(77)80006-1).
- Xie, X. Y., & Luan, K. (2014). When business becomes personal: The catalyst implication of subgroup perception underlying the co-occurrence of task and relationship conflict. *Group Dynamics: Theory, Research, and Practice*, 18, 87–89. <http://dx.doi.org/10.1037/a0035689>.
- Yang, J., & Mossholder, K. W. (2004). Decoupling task and relationship conflict: The role of intragroup emotional processing. *Journal of Organizational Behavior*, 25, 589–605. <http://dx.doi.org/10.1002/job.258>.