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Can Conflict Cultivate Collaboration? The Positive Impact of Mild Versus Intense Task Conflict via Perceived Openness Rather Than Emotions

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Previous research has demonstrated negative associations between task-relevant conflicts and collaboration. To supplement the previous findings and explore the potential benefits of conflicts, we differentiate between two types of task conflict expressions (i.e., mild vs. intense task conflicts, such as debates vs. disagreements regarding work-related issues) in dyad interactions and propose the differential effects of mild versus intense task conflicts on collaboration based on the theory of conflict expression. In three studies with experimental manipulations and surveys on working adults, the results demonstrated that perceptions of debates versus disagreements (in Studies 1 and 2) or mild versus intense task conflicts (in Study 3) enhanced perceivers' collaboration with others via the perceivers' assessments of others' openness rather than emotions. The findings regarding positive associations between mild task conflicts and collaboration implicate the coexistence of conflict and collaboration. Moreover, the results showed that debates versus disagreements (in Study 1) or mild versus intense task conflicts (in Study 3) achieved high task performance by enhancing perceptions of others' openness that subsequently increased collaboration. These findings clarify why conflicts inconsistently influence interpersonal interactions and task performance.

Public Significance Statement

In contrast to previous research on the negative associations between conflict and collaboration, the current investigation demonstrates the positive effects of conflict on collaboration and performance and offers practical suggestions on beneficial conflict expressions. Specifically, when people debate and deliberate about their different viewpoints about task-related issues, they tend to collaborate and thus achieve high task performance by enhancing their perceptions of others' openness rather than by influencing their emotions.

Keywords: conflict, perceived openness, collaboration, emotions, performance

Supplemental materials: <https://doi.org/10.1037/xap0000448.supp>

Research has demonstrated negative associations between task-relevant conflicts and collaboration-relevant outcomes. Task conflicts are commonly perceived as “disagreements” regarding work-relevant issues (e.g., Jehn, 1995; Jehn et al., 2008), whereas collaboration is a tendency to seek mutually satisfactory solutions for all the participants (De Dreu et al., 2001) and is considered as a *cooperative* approach to managing conflicts (Thomas, 1976). For instance, task conflict impairs group members' mutually positive attitudes and perceptions (Jehn et al., 2008) and negatively predicts a broad range of cooperative behaviors, such as a promotion of a group goal and an attempt to reach a consensus of high-quality solutions (Puck & Pregonig, 2014). Moreover, meta-

analytical reports indicate significant negative correlations between task conflict and team collaboration (overall $r = -.13$; DeChurch et al., 2013) and between task conflict and cooperative team behavior (overall $r = -.19$; O'Neill et al., 2013).

To investigate and complement the negative association between task conflict and collaboration, we examine how task conflict expressions (i.e., mild vs. intense task conflicts, such as debates vs. disagreements regarding work-relevant issues) influence perceivers to use a collaborative approach to resolve conflict. We investigate conflicts in dyads because most likely conflicts originate from dyad interactions (Shah et al., 2020). Furthermore, researchers have traditionally conceptualized task conflicts as “disagreements” regarding task-related issues (Jehn, 1995; Jehn et al., 2008). However, Behfar et al. (2011) subsequently incorporated “debates” about task-related ideas in their revised concept and measure of task conflicts. More recently, a study about dyad dynamics also used the revised task conflict measure with an item regarding debates (Humphrey et al., 2017). To expand the constructs and explore the positive outcomes of task conflicts, we draw on the theory of conflict expression (Weingart et al., 2015) to differentiate between debates and disagreements. This theory posits that debates are direct expressions and have low oppositional intensity, which can signal high levels of openness and elicit desirable emotions, thus leading

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The analytical codes and data sets can be assessed at: https://osf.io/7ejkt/?view_only=bed8be408d4145c88e0349a534a29903.

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to an integration of preferences from all the participants. Tsai and Bendersky (2016) also considered disagreements as direct expressions with higher oppositional intensity than debates. Thus, we propose that mild versus intense task conflicts (e.g., debates vs. disagreements) increase a perceiver's collaboration with a counterpart by enhancing the perceptions of the counterpart's openness to alternative perspectives, increasing the perceiver's positive emotions, and decreasing the perceiver's negative emotions. In the current research, a counterpart refers to another party in a dyad interaction, such as a task partner or a work colleague (see a summary of the research model in Figure 1).

The current research contributes to the existing research in three important aspects. First, we utilize the differentiation of mild versus intense task conflict expressions (e.g., debates vs. disagreements) to investigate the unexplored benefits of task conflict—collaboration. However, the current research suggests positive associations between mild task conflicts (e.g., debates) and collaboration, which supplements a traditional viewpoint on the negative effect of task conflict on collaboration.¹ Second, we examine the differentiation between debates and disagreements in a comprehensive manner. Tsai and Bendersky (2016) only examined groups' receptivity to dissenting opinions as a single mediator of the associations between debates versus disagreements and information sharing. However, the current research incorporates a perception of a counterpart's openness and the perceiver's emotions as simultaneous mediators of the associations between debate versus disagreement expressions and collaboration according to the theory of conflict expression (Weingart et al., 2015). Third, we examine task conflict expressions within dyad interactions to address the issues of assessment ambiguity and inconsistency in a collective unit (e.g., students' project groups from Tsai & Bendersky, 2016). That is, individuals tend to have various perceptions of conflicts with different members within the same group (Park et al., 2020). Thus, the present study allows for a clear evaluation target.

Theoretical Background and Hypothesis Development

Theory of Conflict Expression and Debates Versus Disagreements

Weingart et al. (2015) differentiate between displays of conflict according to (a) directness (i.e., the extent to which the content of the opposition is *explicitly* communicated) and (b) oppositional intensity (i.e., the extent to which people display their oppositional strength). In the current research, we focus on direct conflict expressions with different levels of oppositional intensity. Mild direct conflict expressions describe situations where people express their different perspectives, debate, and deliberate over their ideas. By contrast, intense direct conflict expressions refer to instances in which people argue, criticize, and clash about their opinions. A conflict communication can involve a sender, a message (or a conflict expression), and a receiver (see also Shannon, 1948). For instance, a sender can deliver a conflict message to a receiver by debating with the receiver (Tsai & Bendersky, 2016). The sender's conflict message or expression influences how the receiver perceives and responds to the conflict communication.

Moreover, a sender's direct low-intensity expressions convey low entrenchment in a position and demonstrate no intention to undermine a receiver's influence, leading to the receiver's perceptions of

the sender's openness and eliciting the receiver's positive emotions (Weingart et al., 2015). The receiver's perceptions and emotions may subsequently influence how the receiver manages conflicts. Weingart et al. (2015) further propose that direct low-intensity conflict expressions tend to cause deescalatory conflict interactions in which people cooperate to seek integrative solutions that satisfy mutual interests (p. 249).

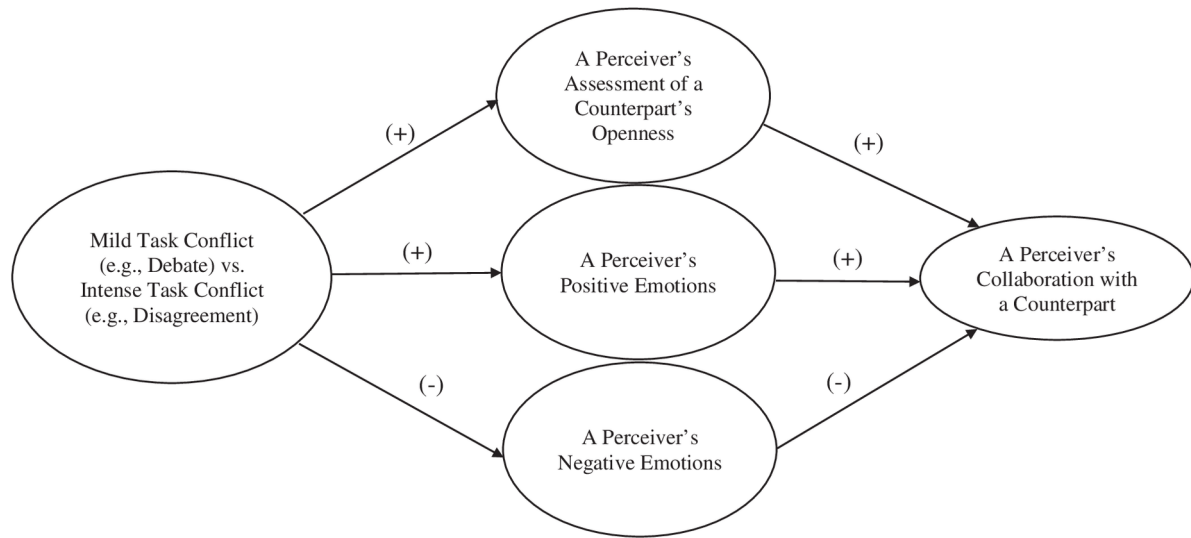
A sender's direct high-intensity expressions convey high entrenchment in a position and demonstrate an intention to reduce a receiver's influence, causing the receiver's negative emotions (Weingart et al., 2015). Although this theory does not specify whether disagreements are direct expressions with low or high oppositional intensity, Tsai and Bendersky (2016) considered disagreements as direct expressions with higher intensity than debates, and their findings also supported their viewpoint. Tsai and Bendersky (2016) also found that groups' disagreements were more negatively associated with the groups' receptivity to dissenting opinions than the groups' debates. Taken together, when perceptions of mild versus intense task conflicts (e.g., debates vs. disagreements) are conveyed, perceivers may be more likely to collaborate with their counterparts because the perceivers may regard their counterparts as more open to alternative perspectives and experience more positive emotions and less negative emotions.

The Differential Effects of Mild Versus Intense Task Conflicts

From a receiver's perspective, perceptions of mild versus intense task conflicts (e.g., debates vs. disagreements) may enhance perceivers' collaboration with counterparts by increasing the perceivers' assessments of the counterparts' openness and the perceivers' positive emotions and reducing the perceivers' negative emotions. In the current research, openness refers to a consideration of alternative perspectives from another individual (Tsai et al., 2020). To reiterate, the theory of conflict expression posits that direct expressions of low-intensity conflicts (e.g., debates) signal openness to alternative perspectives. Existing research supported this viewpoint. When health care employees debated and expressed various perspectives, they performed activities to obtain task-related information, such as considering others' opinions (Todorova et al., 2014). Researchers also identified a conceptual relationship between the clusters of "discuss or debate" and of "open communication" from project teams and found that the two clusters were closely related to each other (Behfar et al., 2008). These studies suggest that debates may convey openness to alternative perspectives.

By contrast, direct expressions of high-intensity conflicts signal resistance to dissenting perspectives because these expressions present a strong entrenchment in a position and convey an intention to subvert others' social standing (Weingart et al., 2015). Research has demonstrated that direct expressions of high-intensity conflicts, including clashes, arguments, and criticisms, discourage receivers from considering others' opinions (Todorova et al., 2014).

¹ To examine a layperson's perspective on the association between debate/disagreement and collaboration, we conducted a pilot study, and its results supported a common belief: the majority of participants regarded people who debate about or disagree with their viewpoints as being less likely to collaborate with them than those who agree with their viewpoints. Please see the findings in the [Supplemental Materials](#).

Figure 1*Conflict Expression, Perceived Openness, Emotions, and Collaboration*

Note. The positive or negative sign denotes positive or negative associations between constructs. For example, there is a positive sign regarding the relationship between mild task conflict versus intense task conflict and a perceiver's assessment of a counterpart's openness, which means that mild task conflict is more likely to elicit perceptions of a counterpart's openness than is intense task conflict.

Empirical studies suggest negative associations between disagreements and perceptions of openness. Disagreements negatively predict perceptions of openness for sharing viewpoints and considering alternative ideas and suggestions (van Woerkom & Sanders, 2010). Similarly, task-relevant disagreements are negatively correlated with perceptions of openness regarding conflict resolution (Tekleab et al., 2009) and open discussion norms (Jehn, 1995). Conjointly, mild task conflicts may be more positively associated with a perceiver's evaluation of a counterpart's openness than are perceptions of intense task conflicts.

In addition to differential associations between perceptions of mild versus intense task conflicts and perceivers' assessments of counterparts' openness, perceivers' assessments of counterparts' openness may be in turn positively associated with the perceivers' collaboration with the counterparts. The theory of conflict expression also highlights *perceptions* of conflict expressions as a significant precursor of receivers' reactions to the conflict expressions (Weingart et al., 2015): "Receivers' perceptions subsequently determine their cognitive and behavioral responses that influence the nature of a conflict spiral" (p. 245). Conflict spirals refer to situations in which a person initiates an open or negative conflict communication, the other person reciprocates a similar type of response based on corresponding perceptions of the conflict communication, and the communication process continues consistently (Olekalns & Weingart, 2008; Weingart et al., 1990). More specifically, when a receiver perceives a sender as open or resistant to alternative perspectives, the receiver may reciprocate by seeking integrative solutions (e.g., exploring ideas that benefit both parties) or using distributive tactics (e.g., threatening the other party; Weingart et al., 2015). Existing studies also support the positive associations between perceptions of others' openness and the perceivers' collaboration with the others. For instance, perceptions of an individual's openness to alternative perspectives

positively predicted the perceivers' intentions to seek mutually satisfactory solutions with the individual (Tsai et al., 2020). Similarly, when task partners were evaluated as being more willing to engage in conversations with people with strong opposing views, the evaluator had a stronger intention to collaborate with them in the future (Yeomans et al., 2020). Thus, a perception of a counterpart's openness may be positively associated with the perceiver's collaboration with the counterpart. Jointly, we propose:

Hypothesis 1: Mild task conflicts (e.g., debates) are more positively associated with a perceiver's collaboration with a counterpart than are intense task conflicts (e.g., disagreements) by enhancing the perceiver's assessment of the counterpart's openness.

We also explore positive and negative emotions as mediators of the associations between mild versus intense task conflicts and collaboration. Research demonstrated that mild task conflict expressions (i.e., expressions of different viewpoints and debates) were proportionally associated with positive emotions because the expressions promoted information acquisition that allowed for superior task performance (Todorova et al., 2014). Conversely, Todorova et al. (2014) found that intense task conflict expressions (i.e., arguments, clashes, and criticisms) were positively correlated with negative emotions. Furthermore, a typical response to a disagreement includes frustration and dissatisfaction (Ross, 1989). Research also demonstrated that task-relevant disagreements were positively related to negative emotions (Dimas et al., 2012). Thus, people may have more positive and less negative emotions during mild rather than intense task conflicts.

Furthermore, emotions may subsequently influence collaboration. Researchers have proposed that positive emotions can signal that a situation is free from problems (Ashby et al., 1999) and

increase the number of ideas and possible actions (Fredrickson & Losada, 2005), thus contributing to high collaboration. Negotiators with more positive emotions were more likely to focus on mutual benefits and achieve integrative outcomes (Carnevale & Isen, 1986). In contrast, negative emotions can signify distrust (Jones & George, 1998) and elicit a motive to protect personal resources (Kjell & Thompson, 2013), which may reduce the likelihood of collaboration. Research also demonstrated the adverse effects of negative emotions on cooperation in an economic game (Drouvelis & Grosskopf, 2016). In similar games, anger was positively correlated with a tendency to reject unfair offers (Pillutla & Murnighan, 1996) and an engagement in retaliatory behaviors (Hopfensitz & Reuben, 2009), which may undermine collaborative activities. Together, mild versus intense task conflicts may elicit perceivers' collaboration because the perceivers experience more positive emotions and less negative emotions. Thus, we propose:

Hypothesis 2: Mild task conflicts (e.g., debates) are more positively associated with a perceiver's collaboration with a counterpart than are intense task conflicts (e.g., disagreements) by enhancing the perceiver's positive emotions.

Hypothesis 3: Mild task conflicts (e.g., debates) are more positively associated with a perceiver's collaboration with a counterpart than are intense task conflicts (e.g., disagreements) by reducing the perceiver's negative emotions.

The Current Research: Transparency and Openness

The present investigation includes three studies. Although our study designs, hypotheses, or analytic plans were not preregistered, we share all the data sets to promote transparency and openness, which can be assessed at: https://osf.io/7ejkt/?view_only=bed8be408d4145c88e0349a534a29903 (Tsai, 2022). The link also includes the information about all analytic methods in each study (i.e., names of statistical software, data files, and analytic codes; see the file "Analysis codes"). We also present all the manipulations in the article and the information about data exclusion and study materials in the [Supplemental Materials](#). The minimal sample sizes were predetermined before data collection (i.e., at least 200 data points for individual-level data or 100 data points for dyad-level data), and the final sample sizes depended on recruitment effectiveness, the numbers of overrecruited participants, and resources available for the studies. We did not use any analyses to determine when our data collection should be terminated and performed statistical analyses only after the completion of data collection. We also conducted sensitivity power analyses in G*Power 3.1 for comparing the average means between the conditions ($\alpha = 5\%$, power value = 80%, two-tailed) based on the sample sizes in the experiments, and our sample sizes allow for detecting moderate effects, range of $ds = [0.48, 0.50]$.

Study 1: A Laboratory Experiment Utilizing Task Framing

To evaluate the causal effects of debates versus disagreements and test the hypotheses, we employed a laboratory experiment in which participants worked in dyads to complete tasks. We also explored the differential effects of debates versus disagreements on task performance via the variables used in the study, including the

three mediators and collaboration. Collaboration may also enhance performance by increasing persistence in work-related assignments (Carr & Walton, 2014). Thus, debates versus disagreements may influence the proposed mediators that affect collaboration, subsequently predicting task performance.

Participants and Design

We recruited 406 university students (age: $M = 21.75$, $SD = 1.80$; 75.86% female) to complete a 30-min laboratory study for course credit or monetary compensation (i.e., 5 Singapore dollars). We randomly assigned participants to the debate condition ($N = 136$), decision condition ($N = 134$), or disagreement condition ($N = 136$). Given that the task assignment of Study 1 required all the participants to make joint *decisions* for dyad group ideas, and the word "decision" does not have an explicit connotation relevant to conflict, we included a decision condition in addition to the focal conditions (i.e., debate and disagreement). The decision condition is used as a baseline group to assess whether the effects of debate and disagreement are positive or negative.

Procedure and Measures

Participants worked as dyads to complete the study in a physical room. Each batch of participants had up to eight people who formed dyads according to random assignments. Participants read a task scenario adapted from existing research (Jessup & Tansik, 1991), which describes a struggle for locating an available parking space in a city center and requests participants to engage in two discussions with their counterparts to determine their dyad slogans to resolve the issues of limited parking spaces.

To implement the experimental manipulation, dyads read different instructions depending on the conditions. The instructions for the *debate/decision/disagreement* condition are as follows:

THE DEBATE/DECISION/DISAGREEMENT TASK

In this task, you and your counterpart will debate over different ideas/ make decisions/disagree about different ideas regarding (1) a slogan to increase public awareness about limited parking spaces and (2) a slogan to encourage the use of public transportation.

Participants also read that they would have two discussions with their counterparts to generate (a) a slogan to enhance public awareness about limited parking lots and (b) a slogan to encourage the use of public transportation and have 6 min to determine their dyad slogan in each discussion. To facilitate the discussions involving opinion differences, each participant was requested to write down an initial slogan before each discussion.² Participants also answered two manipulation check questions before their discussion and recorded their dyad slogans after each discussion.

After finishing their discussions, participants evaluated their counterparts' openness, reported their levels of emotions and collaboration with their counterparts, indicated their demographics, and read debriefing information. The experiment administrators also investigated whether participants knew their counterparts before their discussions, and none of the participants indicated that they

² The individual slogans differed within each dyad in Studies 1 and 3 based on the results generated by the function of the SPSS software (i.e., "Identify Duplicate Cases").

knew their counterparts before their discussions, which suggested that an existing relationship would not constitute a valid factor that influenced the study results.

Measures

Manipulation Checks

Participants responded to two questions: “To confirm that you have read the study materials carefully, please indicate the title of the task.” and “To confirm that you have read the study materials carefully, please use one or two words to indicate what you are supposed to do in this task.” The participants’ responses were coded using a scheme that involved the verb or noun form of the words “debate,” “decision,” and “disagreement.” If a participant’s answer to a question involved one of the targeted words (e.g., “Debate ideas,” “Make decisions about slogans,” or “Disagree about slogans”), the participant was assigned a score of one for the debate, decision, or disagreement category. Otherwise, he or she received a score of zero for the corresponding category. The responses from the two questions achieved acceptable reliability (debate: $\alpha = .70$; decision: $\alpha = .71$; disagreement: $\alpha = .79$) and therefore were summed into a composite indicator (i.e., 0 = no targeted words; 1 = targeted words from one question; 2 = targeted words from both questions) for each category (debate: $M = .47$, $SD = .73$; decision: $M = .48$, $SD = .74$; disagreement: $M = .51$, $SD = .78$).

Perceived Openness

Participants evaluated their task counterparts’ openness using the three-item scale from Tsai et al. (2020). A sample item (1 = *strongly disagree*, 7 = *strongly agree*, $\alpha = .91$) was: “Good ideas get serious consideration from my counterpart.”

Emotions

Participants indicated their levels of positive and negative emotions felt immediately after their interactions with their counterparts using the items from Todorova et al. (2014) because this article investigated the associations between conflict and emotions. The items of positive emotions (1 = not at all, 7 = extremely, $\alpha = .91$) included “Attentive/Energetic/Active/Interested,” whereas those of negative emotions (1 = not at all, 7 = extremely, $\alpha = .82$) included “Frustrated/Annoyed/Tense/Angry.”

Collaboration

Participants rated their collaboration with their counterparts using the three-item scale from Tsai et al. (2020). A sample item (1 = not at all, 7 = to a great extent, $\alpha = .94$) was: “I discussed the issues with my counterpart to work out a mutually acceptable idea.”

Task Performance

We evaluated dyad task performance by adding up the quality scores of all the slogans created by a specific dyad based on existing research (Tsai et al., 2020). For example, if a dyad group generates two slogans and the quality scores of the two slogans are 2 and 3, respectively, the performance score of the dyad is 5 (i.e., 2 + 3). Specifically, the quality score of slogans was estimated using the

average scores of novelty and practicality rated by three independent evaluators. For instance, if the average novelty and practicality scores of a slogan are 1 and 3, the corresponding quality score is 2 (i.e., $[1 + 3]/2$). These evaluators did not access the data of other study variables and performed assessments based on 5-point scales (novelty: 1 = not novel, 5 = very novel; practicality: 1 = not practical, 5 = very practical). We conducted analyses of two-way random intraclass correlation (ICC; Shrout & Fleiss, 1979) to assess the consistency of the ratings between the evaluators. The results demonstrated acceptable degrees of interrater consistency for the ratings of novelty, $ICC_{\text{single measures}} = .47$, $ICC_{\text{average measures}} = .72$, both $ps < .001$, and practicality, $ICC_{\text{single measures}} = .52$, $ICC_{\text{average measures}} = .76$, both $ps < .001$. Therefore, we used the average scores of the three evaluators.

Results

We aggregated individual-level data into dyad-level data using the average scores within dyads for subsequent analyses because Study 1 utilized a dyad-level manipulation and assessed task performance at a dyad level. Other conflict research also aggregated individual-level data into collective-level data when the study employed a collective-level manipulation and included a collective-level outcome (e.g., Beersma & De Dreu, 1999). Table 1 indicates the means, standard deviations, and correlations of the variables in Study 1.

Effectiveness of Manipulations

To examine condition differences in the manipulation check measures, we conducted ordinary least squares (OLS) regression models with two sets of dummy variables. The results demonstrated condition differences in the scores of the debate, $F(2, 200) = 921.68$, $p < .001$, decision, $F(2, 200) = 938.27$, $p < .001$, and disagreement, $F(2, 200) = 1039.06$, $p < .001$, categories. Specifically, dyads in the debate condition (debate: $M = 1.40$, $SE = 0.05$) were more likely to associate “debate” with their task assignments than those in the other conditions (decision: $M = 0.00$, $SE = 0.00$, $B/b^3 = 1.40/0.95$, $p < .001$; disagreement: $M = 0.01$, $SE = 0.01$, $B/b = 1.39/0.95$, $p < .001$). Dyads in the decision condition (decision: $M = 1.43$, $SE = .05$) were more likely to associate “decision” with their task assignments than those in the other conditions (debate: $M = .01$, $SE = .01$, $B/b = 1.42/0.95$, $p < .001$; disagreement: $M = .01$, $SE = 0.01$, $B/b = 1.42/0.95$, $p < .001$). Participants in the disagreement condition (disagreement: $M = 1.51$, $SE = 0.05$) were more likely to associate “disagreement” with their task assignments than those in the other conditions (debate: $M = 0.00$, $SE = 0.00$, $B/b = 1.51/0.96$, $p < .001$; decision: $M = 0.00$, $SE = 0.00$, $B/b = 1.51/0.95$, $p < .001$). The above results supported the effectiveness of the manipulation.

Comparisons Between Debate, Decision, and Disagreement as Predictors

To examine condition differences in the outcome variables, we conducted OLS regression models with two sets of dummy variables that allowed for three pairwise comparisons (i.e., debate vs. disagreement, debate vs. decision, and decision vs. disagreement).

³ B or b refers to an unstandardized or a standardized regression coefficient.

Table 1
Means, Standard Deviations, and Correlations in Study 1

Variables	<i>M</i>	<i>SD</i>	1	2	3	4	5
1. Condition ^a	0.00	0.82	—				
2. Perceived openness	6.38	0.55	0.23**	—			
3. Positive emotions	5.09	0.97	0.12	0.47***	—		
4. Negative emotions	1.39	0.52	-0.20**	-0.38***	-0.11	—	
5. Collaboration	6.35	0.63	0.21**	0.69***	0.44***	-0.33***	—
6. Performance	5.41	1.20	0.21**	0.20**	0.10	-0.13	0.18*

Note. ^a For the variable “Condition,” the number “1” represents the debate condition, the number “0” represents the decision condition, and the number “-1” represents the disagreement condition.

* $p < .05$. ** $p < .01$. *** $p < .001$ (two-tailed).

Table 2 indicates the corresponding results of regression models in Study 1, whereas Table 3 indicates the descriptive statistics of the variables across different conditions. The results demonstrated significant condition differences in collaboration, Model 1: $F(2, 200) = 4.41, p = .013$; perceptions of counterpart openness, that is, *perceived openness*, Model 2: $F(2, 200) = 5.50, p = .005$; negative emotions, Model 4: $F(2, 200) = 4.34, p = .014$; and task performance, Model 5: $F(2, 200) = 5.48, p = .005$; but did not show significant condition differences in positive emotions, Model 3: $F(2, 200) = 1.56, p = .213$. Specifically, the results of Model 1 indicated that dyads in the debate condition had a significantly higher level of collaboration than did those in the disagreement condition ($B/b = 0.31/0.24, p = .003$). The level of collaboration in the decision condition was between those in the debate and disagreement conditions despite the nonsignificant difference in collaboration between the debate and decision conditions ($B/b = 0.15/0.11, p = .154$) or between the decision and disagreement conditions ($B/b = 0.16/0.12, p = .128$).

The results of Model 2 indicated that dyads in the debate condition had significantly higher perceived openness than did those in the disagreement condition ($B/b = 0.30/0.26, p = .001$). The level of perceived openness in the decision condition was between those in the debate and disagreement conditions despite the nonsignificant difference in perceived openness between the debate and decision conditions ($B/b = 0.12/0.10, p = .191$) or between the decision and disagreement conditions ($B/b = 0.18/0.16, p = .050$). The results of Model 3 demonstrated the nonsignificant

effects of the condition differences on positive emotions, $B/b = [0.09/0.04, 0.28/0.14]$, all $ps \geq .086$. The results of Model 4 demonstrated that dyads in the debate condition or decision condition experienced significantly less negative emotions than did those in the disagreement condition ($B/b = -0.25/-0.23$ or $-0.18/-0.16, p = .005$ or $.044$). Dyads in the debate condition experienced less negative emotions than did those in the decision condition although the difference was nonsignificant ($B/b = -0.07/-0.07, p = .408$). The results of Model 5 demonstrated that dyads in the debate condition or decision condition performed significantly better than did those in the disagreement condition ($B/b = 0.61/0.24$ or $0.53/0.21, p = .003$ or $.009$). Dyads in the debate condition performed better than did those in the decision condition although the difference was nonsignificant ($B/b = 0.08/0.03, p = .697$).

Path Analysis

To investigate the effect of the debate versus disagreement condition on task performance via the proposed mediators that predict collaboration, we performed a path analysis using STATA (Version 17). According to previous research (Burgess et al., 2015), we also used the standardized scores of the variables to offer a similar distribution, which reduces the problem of poor convergence. We set up the following paths: “dummy variables involving a comparison between the debate and disagreement condition → perceptions of a counterpart’s openness, positive

Table 2
Regression Analyses in Study 1

Independent Variables	Model 1	Model 2	Model 3	Model 4	Model 5
	DV: collaboration	DV: perceived openness	DV: positive emotions	DV: negative emotions	DV: performance
Predictors					
Debate vs. disagreement	0.31** (0.11)	0.30** (0.09)	0.28 (0.17)	-0.25** (0.09)	0.61** (0.20)
Debate vs. decision	0.15 (0.11)	0.12 (0.09)	0.20 (0.17)	-0.07 (0.09)	0.08 (0.20)
Decision vs. disagreement	0.16 (0.11)	0.18 (0.09)	0.09 (0.17)	-0.18* (0.09)	0.53** (0.20)
R^2	.04	.05	.02	.04	.05
F	4.41*	5.50**	1.56	4.34*	5.48**

Note. The numbers outside and in the parentheses indicate unstandardized regression coefficients and standard errors, respectively. DV refers to the term “dependent variable.”

* $p < .05$. ** $p < .01$.

Table 3
Descriptive Statistics Across the Conditions in Study 1

Conditions	Model 1	Model 2	Model 3	Model 4	Model 5
	DV: collaboration	DV: perceived openness	DV: positive emotions	DV: negative emotions	DV: performance
Debate (<i>M</i>)	6.50	6.52	5.25	1.28	5.64
Debate (<i>SE</i>)	0.06	0.05	0.11	0.05	0.13
Decision (<i>M</i>)	6.35	6.40	5.05	1.35	5.56
Decision (<i>SE</i>)	0.08	0.07	0.11	0.05	0.15
Disagreement (<i>M</i>)	6.19	6.22	4.97	1.53	5.02
Disagreement (<i>SE</i>)	0.09	0.08	0.13	0.08	0.15

Note. DV = dependent variable; SE = standard error.

emotions, and negative emotions → collaboration → task performance.” Moreover, perceptions of a counterpart’s openness, positive emotions, and negative emotions are regarded as parallel mediators, and the correlations of the three variables can be predicted by other variables except for the effects of the manipulation. To consider this possibility in the path model, we estimated the residual covariances of the three variables according to existing research (Woody, 2011).

The path model showed adequate overall fit, including Comparative Fit Index (CFI) = 0.98 and root-mean-square error of approximation (RMSEA) = 0.05, based on Kline’s (2011) criteria (RMSEA < 0.10 and CFI ≥ 0.90). Figure 2 presents the findings of individual associations. The model also showed that the debate versus disagreement condition significantly increased perceived openness ($B/b^4 = 0.26, p < .001$) and decreased negative emotions ($B/b = -0.23, p = .004$) but did not significantly influence positive emotions ($B/b = 0.14, p = .083$). Perceived openness ($B/b = 0.58, p < .001$) and positive emotions ($B/b = 0.16, p = .006$) were significantly and proportionally associated with collaboration. However, negative emotions were not significantly related to collaboration ($B/b = -0.09, p = .085$). Collaboration also significantly and positively predicted task performance ($B/b = 0.18, p = .011$).

To examine the indirect effects of the debate versus disagreement condition via the mediators on collaboration that subsequently predicts task performance in the path model, we estimated the indirect effects using the bootstrap estimation with 5,000 replications to compute percentile confidence intervals (Efron, 1979). The debate versus disagreement condition significantly increased collaboration via perceived openness, $B/b = 0.15, 95\% \text{ CI } [0.059, 0.264]$, but not via positive emotions, $B/b = 0.02, 95\% \text{ CI } [-0.003, 0.061]$, or negative emotions, $B/b = 0.02, 95\% \text{ CI } [-0.003, 0.057]$, which supported Hypothesis 1 rather than Hypothesis 2 or 3. Furthermore, the debate versus disagreement condition significantly increased task performance via the path from perceived openness to collaboration (i.e., the debate vs. disagreement condition → perceptions of a counterpart’s openness → collaboration → task performance; $B/b = 0.03, 95\% \text{ CI } [0.004, 0.064]$) but not via the path from positive emotions to collaboration, $B/b = 0.00, 95\% \text{ CI } [-0.001, 0.012]$, or from negative emotions to collaboration, $B/b = 0.00, 95\% \text{ CI } [0.000, 0.012]$. In summary, Study 1 utilized experimental manipulations and supported the causal effects of different task conflict expressions: debates versus disagreements

enhanced collaboration and thus achieved superior task performance by promoting perceptions of counterparts’ openness.

Study 2: Three-Wave Survey on Working Adults

To strengthen the external validity of the findings, we surveyed working adults three times, and they reported their interactions with their coworkers.

Participants, Design, and Procedure

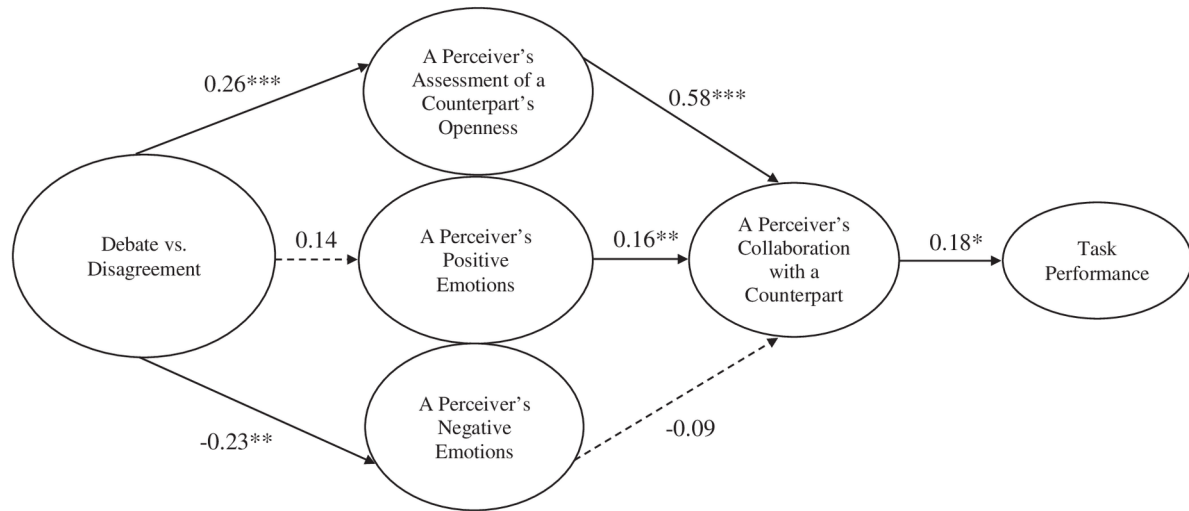
We recruited 320 working adults (52.50% female; age: $M = 40.31, SD = 11.40$; organizational tenure: $M = 7.81$ years, $SD = 6.83$), who properly completed a three-wave survey through the Turkprime website (Litman et al., 2017). These working adults resided in the United States and were from various industries, such as health care, education, information technology, finance, and retail sales. They completed the surveys regarding their demographics and work status for monetary compensation (Wave I: \$0.80; Wave II: \$1.20; Wave III: \$1.50). We used approximately a 2-week time interval between survey waves based on existing research on conflict (Chi & Yang, 2015). Research has also demonstrated that an interval of at least 2 weeks between measures significantly decreased overestimated associations between the assessed concepts (Johnson et al., 2011).

During the first-wave survey, participants answered screening questions⁵ and indicated the initials and gender from one of their coworkers who had worked with them for the longest amount of time based on existing research (Tsai et al., 2020), allowing participants to provide more reliable information about their coworkers based on their longer observations of the coworkers. They also indicated the frequencies of debate and disagreement between the coworker and themselves, completed the measures of control variables, and reported their demographics. If participants were not employed or did not have a coworker, they answered similar questions related to their previous work situations and would not receive an invitation for subsequent surveys. During the second

⁴ We used standardized variables in the path analyses, and thus there were no differences between standardized and unstandardized coefficients.

⁵ I used screening questions to identify whether participants were working adults, had at least one coworker, and could understand the purpose of the study. I also evaluated the data quality in Study 2. Please see the screening details and evaluation outcomes in the Supplemental Materials.

Figure 2
Path Analysis in Study 1



Note. Each path is denoted by a standardized or unstandardized coefficient. A nonsignificant path is indicated by a dashed line. The residual covariance between perceived openness and positive emotions is 0.44^{***} , the residual covariance between perceived openness and negative emotions is -0.34^{***} , and the residual covariance between positive and negative emotions is -0.09 (nonsignificant).
* $p < .05$. ** $p < .01$. *** $p < .001$.

survey, participants evaluated their coworkers' openness and their emotions during the interactions with their coworkers. During the third survey, participants rated their levels of collaboration with the coworkers. They also indicated their coworkers' initials and gender, which allowed for an evaluation of consistent coworkers between different waves of the survey.

Measures

To indicate conflicts as relevant situations, participants were instructed to consider situations in which they and their coworkers had conflicts while rating the statements of the subsequent scales (except for control variables).

Debate and Disagreement

Participants indicated the frequencies of debates and disagreements (1 = none, 7 = a lot) using the five-item debate scale ($\alpha = .96$) and the four-item disagreement ($\alpha = .95$) scale adapted from Tsai and Bendersky (2016). The sample items of debate and disagreement were: "How often do you and your coworker debate about opposing views for the final course of action for your work?" and "How often do you and your coworker disagree about opinions regarding the work being done?"

Perceived Openness

Participants rated their coworkers' openness using the three-item scale from Tsai et al. (2020). The sample item (1 = *strongly disagree*, 7 = *strongly agree*, $\alpha = .95$) was: "Good ideas get serious consideration from my coworker."

Emotions

Participants indicated their levels of positive emotions ($\alpha = .93$) and negative emotions ($\alpha = .94$) during their interactions with their coworkers using the items from Study 1.

Collaboration

Participants indicated their levels of collaborative behavior with their coworkers utilizing the three-item scale from Tsai et al. (2020). The sample item (1 = not at all, 7 = to a great extent, $\alpha = .91$) was: "I discussed the issues with my coworker to work out a mutually acceptable idea."

Control Variables

We employed positive and negative affectivity at work, task interdependency, and relationship conflict as control variables in subsequent regression analyses. Positive affectivity (1 = not at all, 7 = extremely, $\alpha = .90$) or negative affectivity (1 = not at all, 7 = extremely, $\alpha = .92$) refers to the average tendency of positive or negative emotional experiences at work (Todorova et al., 2014), and therefore participants indicated how they felt on the average at work using the same adjectives describing emotions as in Study 1. We used positive affectivity and negative affectivity as controls because these two variables can predict positive and negative emotions and were used as controls in a study with conflict expressions as predictors and emotions as outcome variables (Todorova et al., 2014). Furthermore, participants evaluated their task interdependency with their coworkers using the six-item scale (1 = *strongly disagree*, 5 = *strongly agree*, $\alpha = .92$) adapted from Settoon and Mossholder (2002). A sample item was: "My job activities go on to affect my coworker's work." Participants also

indicated their levels of relationship conflict with their coworkers using the three-item scale (1 = *strongly disagree*, 7 = *strongly agree*, $\alpha = .88$) from Humphrey et al. (2017). A sample item of relationship conflict was: “We have feelings which tend to pull us apart.” Research has also demonstrated a positive association between task interdependency and collaboration (Tsai et al., 2020) and a negative association between relationship conflict and openness or collaboration (DeChurch et al., 2013), which constituted reasons for the inclusion of task interdependency and relationship conflict as controls.

Results

Table 4 indicates the means, standard deviations, and correlations of the variables in Study 2.

Differentiation Among Measures

To mitigate a potential concern of a single-source bias and enhance discriminant validity, we performed multiple confirmatory factor analyses (CFAs) for the measures of the control variables (i.e., positive and negative affectivity at work, task interdependency, and relationship conflict), debate, disagreement, perceived openness, positive and negative emotions, and collaboration. We employed Kline’s (2011) criteria to assess the CFA results (i.e., RMSEA < 0.10 and CFI \geq 0.90). The results of CFAs demonstrated that these 10 variables were distinct constructs based on fit statistics: $\chi^2(695) = 1360.03$, $p < .001$, RMSEA = 0.06, and CFI = 0.95. The results of chi-square difference tests indicated that the 10-factor model was significantly better than the other models, including from one- to nine-factor models, all $ps < .001$.

Debate and Disagreement as Predictors

To examine debate and disagreement as predictors of other variables, we conducted OLS regression models with the inclusion of the control variables as additional independent variables. Table 5 indicates the corresponding results of regression models in Study 2. All the regression models demonstrated significant overall fit, range of $F(6, 313) = [23.32, 44.19]$, all $ps < .001$. To investigate the differential associations between debate versus disagreement and other variables, we conducted z tests for a difference between two regression coefficients (Clogg et al., 1995). The results of Model 1 demonstrated that debate was more positively associated with collaboration (i.e., participants’ collaboration with the coworkers) than was disagreement ($z = 3.17$, $p = .002$). Furthermore, debate was significantly and positively associated with collaboration ($B/b = 0.11/0.14$, $p = .017$), whereas disagreement was significantly and negatively associated with collaboration ($B/b = -0.16/-0.18$, $p = .027$). The results of Model 2 demonstrated that debate was more positively associated with perceived openness (i.e., perceptions of coworkers’ openness) than was disagreement ($z = 4.51$, $p < .001$). Specifically, debate was significantly and positively related to perceived openness ($B/b = 0.17/0.16$, $p = .006$), whereas disagreement was significantly and negatively related to perceived openness ($B/b = -0.33/-0.29$, $p < .001$). The results of Model 3 demonstrated a nonsignificant difference in the association between debate versus disagreement and positive emotions ($z = 0.98$, $p = .325$). Neither debate nor disagreement was significantly associated

with positive emotions ($B/b = 0.12/0.11$ or $-0.01/-0.01$, $p = .091$ or $.946$). The results of Model 4 demonstrated that debate was more negatively associated with negative emotions than was disagreement although the difference was nonsignificant ($z = -1.93$, $p = .053$). Specifically, debate was nonsignificantly and negatively associated with negative emotions ($B/b = -0.02/-0.01$, $p = .809$), whereas disagreement was significantly and positively associated with negative emotions ($B/b = 0.24/0.19$, $p = .032$).⁶

Path Analysis

To investigate the indirect associations between debate/disagreement and collaboration via the proposed mediators, we used the same approach as in Study 1 (i.e., standardized variables) to conduct a path analysis and estimate indirect effects. We set up the following paths: “debate and disagreement \rightarrow perceptions of a counterpart’s openness, positive emotions, and negative emotions \rightarrow collaboration.” We also estimated the residual covariances of the three mediators and included the control variables in the path model.

The path model showed adequate overall fits, CFI = 1.00 and RMSEA = 0.04. Figure 3 presents the findings of individual associations. The model also showed that debate was significantly and positively associated with perceived openness ($B/b = 0.16$, $p = .005$) and nonsignificantly and positively associated with positive emotions ($B/b = 0.11$, $p = .087$) but was not significantly associated with negative emotions ($B/b = -0.01$, $p = .807$). Disagreement was significantly and negatively associated with perceived openness ($B/b = -0.29$, $p < .001$) and positively associated with negative emotions ($B/b = 0.19$, $p = .030$) but was not significantly associated with positive emotions ($B/b = -0.01$, $p = .946$). Perceived openness ($B/b = 0.27$, $p < .001$) and positive emotions ($B/b = 0.17$, $p < .001$) were significantly and proportionally associated with collaboration. However, negative emotions were not significantly related to collaboration ($B = 0.04$, $p = .449$).

The analyses of indirect effects demonstrated that debate was more positively associated with collaboration via perceived openness than was disagreement ($z = 3.71$, $p < .001$). Specifically, debate was significantly and positively associated with collaboration via perceived openness, $B/b = 0.04$, 95% CI [0.014, 0.084], whereas disagreement was significantly and negatively associated with collaboration via perceived openness, $B/b = -0.08$, 95% CI [-0.135, -0.029]. However, there were nonsignificant differences between debate and disagreement regarding their indirect associations with collaboration via positive emotions ($z = 0.81$, $p = .418$) or negative emotions ($z = -0.65$, $p = .516$). Neither debate nor disagreement was significantly associated with collaboration via positive emotions or negative emotions, range of $B/b = [0.00, 0.02]$, all 95% CIs including zero. Thus, the results supported Hypothesis 1 rather than Hypothesis 2 or 3, replicated the findings of Study 1, and improved the external validity using a sample of working adults.

Study 3: An Experiment With Communication Rules

To extend the separation between debates and disagreements to the differentiation between mild and intense task conflicts, we used

⁶ To investigate whether the inclusion of controls was a reason for the significant results, we performed the regression analyses using the same predictors without controls and the results remained significant, which eliminated the use of controls as an explanation for the significant findings.

Table 4
Means, Standard Deviations, and Correlations in Study 2

Variables	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9
1. Positive affectivity	4.91	1.31	—								
2. Negative affectivity	2.61	1.40	-0.47***	—							
3. Task interdependency	3.19	1.03	0.23***	-0.07	—						
4. Relationship conflict	2.10	1.32	-0.32***	0.63***	-0.03	—					
5. Debate	3.21	1.40	0.09	0.29***	0.16**	0.38***	—				
6. Disagreement	2.67	1.30	-0.13*	0.54***	0.05	0.76***	0.64***	—			
7. Perceived openness	5.17	1.48	0.39***	-0.46***	0.19***	-0.60***	-0.13*	-0.50***	—		
8. Positive emotions	4.33	1.50	0.51***	-0.33***	0.22***	-0.31***	0.08	-0.15**	0.44***	—	
9. Negative emotions	3.42	1.64	-0.18**	0.49***	0.03	0.57***	0.29***	0.52***	-0.45***	-0.29***	—
10. Collaboration	5.51	1.15	0.45***	-0.50***	0.23***	-0.58***	-0.10	-0.44***	0.61***	0.47***	-0.36***

* $p < .05$. ** $p < .01$. *** $p < .001$ (two-tailed).

experimental manipulations including specific instructions for participants to express or not express mild or intense task conflicts and assessed the levels of debates and disagreements in each dyad. To address the weakness of the self-reported collaboration measure in Studies 1 and 2, we also used the assessments from independent and blinded raters based on participants' written communication. To improve the measures of manipulation checks in Study 1 (i.e., the items that were only relevant to the task instructions), the effectiveness of the manipulations in Study 3 was evaluated based on participants' interactions within dyads.

Participants and Design

We recruited 256 university students (age: $M = 22.57$, $SD = 1.80$; 73.44% female) who completed an online study⁷ for 6 Singapore dollars. The study was presented as a 30-min study and included a two (mild task conflict encouragement vs. discouragement) by two (intense task conflict encouragement vs. discouragement) between-subjects design with random assignments. Participants were in the condition of mild and intense task conflict discouragement ($n = 56$), mild task conflict discouragement and intense task conflict encouragement ($n = 74$), mild task conflict encouragement and intense task conflict discouragement ($n = 62$), or mild and intense task conflict encouragement ($n = 64$).

Procedure

Participants were randomly assigned into dyads who performed a task before they began the online study. The participants read a task scenario that included negative consequences of water pollution and were requested to generate a slogan to decrease water pollution with a counterpart within 10 min through a text messaging platform—"ChatPlat." Other researchers also used this platform and found consistent patterns between the results with the platform and other study paradigms (e.g., Brooks & Schweitzer, 2011). We used instant text messaging as a method of task discussion because text messaging has become a common way to communicate (Chang et al., 2014). To facilitate discussions with different ideas, participants were requested to generate an initial slogan before their communications with their task counterparts.

Subsequently, dyads received different rules based on the experimental conditions. To influence participants to follow the rules, the participants read that the three participants who best follow the

rules would receive a reward (i.e., 3 Singapore dollars). We used specific communication rules as dyad-level manipulations based on previous research on organizational behavior and psychology (e.g., Huang et al., 2017; Wolf et al., 2016), which demonstrated a significant impact of communication rules on interpersonal perceptions.

In the condition of mild task conflict encouragement/[discouragement], dyads read the instructions: "Please [do NOT] fully express your different ideas, engage in careful consideration of all the possible ideas, and/[or] debate over the pros and cons of the different ideas." By contrast, in the condition of intense task conflict encouragement/[discouragement], dyads read the instructions: "Please [do NOT] argue for your own ideas, strongly oppose and/[or] indicate the weaknesses of the other person's ideas in a disapproving way." To mitigate the issue of unexpected confounding factors created during a communication process, all the dyads were also required not to disclose their personal information to their counterparts.

After the task communication, participants recorded their dyad slogans and indicated their perceptions of the counterparts' openness, their levels of emotions, and their demographics. Last, they were presented with debriefing information.

Measures

Manipulation Checks

To measure mild and intense task conflict in each dyad as manipulation checks, we used the assessments from two independent raters (i.e., the average scores of the raters) who were blind to other study data and learned the constructs of task conflicts. Specifically, mild (or intense) task conflict refers to instances in which two group members express different viewpoints, deliberate, and debate (or argue, criticize, and clash) about task-relevant issues. The raters indicated the levels of mild and intense task conflicts (1 = lowest level; 7 = highest level) within each dyad according to its corresponding communication. Their ratings achieved high interrater agreement (mild task conflict: $ICC_{\text{single measures}} = 0.60$, $ICC_{\text{average measures}} = 0.75$, both $ps < .001$; intense task conflict: $ICC_{\text{single measures}} = 0.64$, $ICC_{\text{average measures}} = 0.78$, both $ps < .001$). To extend the findings from the previous studies to Study 3 and to

⁷ Nine other dyads did not complete their task discussions online properly due to technical issues, and therefore their incomplete responses were excluded from the sample and analyses.

Table 5
Regression Analyses in Study 2

Independent Variables	Model 1	Model 2	Model 3	Model 4
	DV: Collaboration	DV: Perceived openness	DV: Positive emotions	DV: Negative emotions
Controls				
Positive affectivity	0.19*** (0.04)	0.20*** (0.06)	0.45*** (0.07)	0.04 (0.07)
Negative affectivity	-0.08 (0.05)	-0.03 (0.06)	-0.06 (0.07)	0.25*** (0.07)
Task interdependency	0.16*** (0.05)	0.19** (0.06)	0.16* (0.07)	0.05 (0.07)
Relationship conflict	-0.31*** (0.06)	-0.40*** (0.08)	-0.21* (0.09)	0.38*** (0.10)
Predictors				
Debate	0.11* (0.05)	0.17** (0.06)	0.12 (0.07)	-0.02 (0.07)
Disagreement	-0.16* (0.07)	-0.33*** (0.09)	-0.01 (0.11)	0.24* (0.11)
R^2	.46	.45	.31	.37
F	44.19***	42.62***	23.32***	30.11***

Note. The numbers outside and in the parentheses indicate unstandardized regression coefficients and standard errors, respectively. DV refers to the term “dependent variable.”

* $p < .05$. ** $p < .01$. *** $p < .001$.

evaluate whether debate and disagreement were empirically elicited by the communication rules of mild and intense task conflict, respectively, two blinded and independent raters also indicated the levels of debate and disagreement (1 = lowest level; 7 = highest level) as additional manipulation checks. The ratings also demonstrated high interrater agreement (debate: $ICC_{\text{single measures}} = 0.82$, $ICC_{\text{average measures}} = 0.90$, both $ps < .001$; disagreement: $ICC_{\text{single measures}} = 0.62$, $ICC_{\text{average measures}} = 0.77$, both $ps < .001$).

Perceived Openness

Participants rated their counterpart’s openness using the same measure ($\alpha = .92$) from Study 1.

Emotions

Participants indicated their positive ($\alpha = .93$) and negative ($\alpha = .92$) emotions felt during the interactions between them and their counterparts using the same measures from Study 1.

Collaboration

Two blinded and independent raters assessed each participant’s collaboration (1 = lowest level of collaboration; 7 = highest level of collaboration) based on the participant’s text messages during task communication. Before the assessments of collaboration, the raters learned the definition of collaboration and the measure of collaboration used in Study 1. Their assessments also had high interrater agreement ($ICC_{\text{single measures}} = 0.69$, $ICC_{\text{average measures}} = 0.81$, both $ps < .001$), and thus we used the average scores of the two raters as an indicator of collaboration.

Task Performance

To evaluate task performance, we used the same approach as in Study 1 to generate scores of task performance (i.e., using the average scores of novelty and practicality as the quality scores). To generate quality scores, two independent and blinded evaluators rated each slogan regarding novelty (1 = not novel, 5 = very novel) and practicality (1 = not practical, 5 = very practical). These ratings also had high interrater agreement (novelty: $ICC_{\text{single measures}} = 0.53$, $ICC_{\text{average measures}} = 0.69$, both $ps < .001$; practicality:

$ICC_{\text{single measures}} = 0.27$, $ICC_{\text{average measures}} = 0.43$, both $ps = .002$), supporting the use of the average ratings.

Results

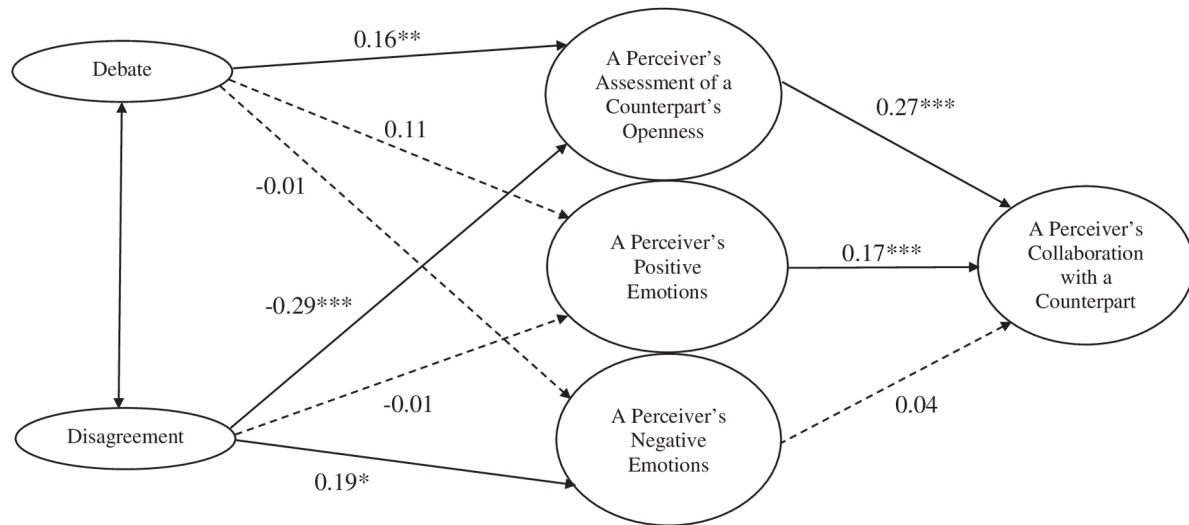
Similar to Study 1, we aggregated individual-level data to dyad-level data in Study 3 for subsequent analyses because Study 3 utilized a dyad-level manipulation and outcome variable (i.e., task performance). Table 6 indicates the means, standard deviations, and correlations of the variables in Study 3.

Effectiveness of Manipulations

To examine the effects of the manipulations on the manipulation checks, we conducted OLS regression analyses with mild task conflict (encouragement vs. discouragement) and intense task conflict (encouragement vs. discouragement) as predictors. All the regression models demonstrated significant overall fit, range of $F(2/3, 125/124) = [5.24, 13.03]$, all $ps < .002$. The results showed that mild task conflict (encouragement vs. discouragement) significantly increased mild task conflict ($B/b = 0.93/0.33$, $p < .001$; encouragement: $M = 3.80$, $SE = 0.17$; discouragement: $M = 2.87$, $SE = 0.16$) and debate ($B/b = 1.14/0.38$, $p < .001$; encouragement: $M = 5.52$, $SE = 0.13$; discouragement: $M = 4.36$, $SE = 0.21$) but not intense task conflict ($B/b = -0.23/-0.09$, $p = .297$) or disagreement ($B/b = -0.23/-0.10$, $p = .253$). By contrast, intense task conflict (encouragement vs. discouragement) significantly increased intense task conflict ($B/b = 1.09/0.40$, $p < .001$; encouragement: $M = 2.51$, $SE = 0.20$; discouragement: $M = 1.41$, $SE = 0.06$) and disagreement ($B/b = 0.69/0.30$, $p < .001$; encouragement: $M = 2.02$, $SE = 0.17$; discouragement: $M = 1.32$, $SE = 0.08$) but not mild task conflict ($B/b = 0.01/0.00$, $p = .980$) or debate ($B/b = -0.30/-0.10$, $p = .233$). The results of separate regressions demonstrated nonsignificant interaction effects of the mild and intense task conflict manipulations on the manipulation checks (all $ps \geq .072$).⁸ Therefore, the results supported the separation between debate and disagreement

⁸ We conducted other regression analyses to examine the interaction effects of the manipulations on outcome variables, including collaboration, perceived openness, positive and negative emotions, and task performance, and all the interaction effects were nonsignificant (all $ps \geq .051$). Thus, subsequent analyses did not include the results of the interaction effects.

Figure 3
Path Analysis in Study 2



Note. Each path is denoted by a standardized or unstandardized coefficient. A nonsignificant path is indicated by a dashed line. The residual covariance between perceived openness and positive emotions is 0.15***, the residual covariance between perceived openness and negative emotions is -0.10^{**} , and the residual covariance between positive and negative emotions is -0.12^{**} .
* $p < .05$. ** $p < .01$. *** $p < .001$.

based on the framework of mild versus intense task conflict and demonstrated the effectiveness of and differentiation between the two manipulations.

Mild and Intense Task Conflicts as Predictors

To examine mild task conflict (encouragement vs. discouragement) and intense task conflict (encouragement vs. discouragement) as predictors of other variables, we conducted OLS regression models. Table 7 indicates the corresponding results of regression models in Study 3, whereas Table 8 indicates the descriptive statistics of the variables across different conditions. All the regression models demonstrated significant overall fit, range of $F(6, 313) = [4.87, 11.45]$, all $ps < .01$. To investigate the differential effects of mild versus intense task conflict on other variables, we conducted the same z tests as those in Study 2. The results of Model

1 demonstrated that mild task conflict was more positively associated with collaboration than was intense task conflict ($z = 4.44, p < .001$). Furthermore, mild task conflict was positively associated with collaboration ($B/b = 0.75/0.28, p = .001$), whereas intense task conflict was negatively associated with collaboration ($B/b = -0.66/-0.24, p = .004$). The results of Model 2 demonstrated that mild task conflict was more positively associated with perceived openness than was intense task conflict ($z = 4.63, p < .001$). Specifically, mild task conflict was significantly and positively related to perceived openness ($B/b = 0.62/0.29, p < .001$), whereas intense task conflict was significantly and negatively related to perceived openness ($B/b = -0.55/-0.25, p = .003$). The results of Model 3 demonstrated that mild task conflict was more positively associated with positive emotions than was intense task conflict ($z = 3.43, p < .001$). Specifically, mild task conflict was nonsignificantly and positively related to positive emotions ($B/b = 0.29/0.16, p = .064$),

Table 6
Means, Standard Deviations, and Correlations in Study 3

Variables	M	SD	1	2	3	4	5	6
1. Mild task conflict (encouragement vs. discouragement)	0.49	0.50	—					
2. Intense task conflict (encouragement vs. discouragement)	0.54	0.50	-0.06	—				
3. Perceived openness	5.70	1.09	0.30***	-0.27**	—			
4. Positive emotions	5.30	0.93	0.18*	-0.26**	0.62***	—		
5. Negative emotions	1.86	1.00	-0.28**	0.26**	-0.59***	-0.42***	—	
6. Collaboration	5.22	1.36	0.29**	-0.26**	0.65***	0.50***	-0.44***	—
7. Performance	2.13	1.20	0.17	-0.22*	0.37***	0.33***	-0.41***	0.60***

Note. Mild and intense task conflict coding: encouragement = 1; discouragement = 0.
* $p < .05$. ** $p < .01$. *** $p < .001$ (two-tailed).

Table 7
Regression Analyses in Study 3

Independent Variables	Model 1	Model 2	Model 3	Model 4	Model 5
	DV: collaboration	DV: perceived openness	DV: positive emotions	DV: negative emotions	DV: performance
Predictors					
Mild task conflict (encouragement vs. discouragement)	0.75** (0.22)	0.62*** (0.18)	0.29 (0.16)	-0.53** (0.17)	0.38 (0.21)
Intense task conflict (encouragement vs. discouragement)	-0.66** (0.23)	-0.55** (0.18)	-0.47** (0.16)	0.48** (0.17)	-0.50* (0.21)
R^2	.14	.15	.09	.14	.07
F	10.55***	11.45***	6.55**	9.80***	4.87**

Note. The numbers outside and in the parentheses indicate unstandardized regression coefficients and standard errors, respectively. DV refers to the term “dependent variable.” Mild and intense task conflict coding: encouragement = 1; discouragement = 0.

* $p < .05$. ** $p < .01$. *** $p < .001$.

whereas intense task conflict was significantly and negatively related to positive emotions ($B/b = -0.47/-0.25$, $p = .003$). The results of Model 4 demonstrated that mild task conflict was more negatively associated with negative emotions than was intense task conflict ($z = -4.29$, $p < .001$). Specifically, mild task conflict was significantly and negatively associated with negative emotions ($B/b = -0.53/-0.26$, $p = .002$), whereas intense task conflict was significantly and positively associated with negative emotions ($B/b = 0.48/0.24$, $p = .004$). The results of Model 5 demonstrated that mild task conflict was more positively associated with task performance than was intense task conflict ($z = 3.00$, $p = .003$). Specifically, mild task conflict was nonsignificantly and positively related to task performance ($B/b = 0.38/0.16$, $p = .070$), whereas intense task conflict was significantly and negatively related to task performance ($B/b = -0.50/-0.21$, $p = .017$).

Path Analysis

To investigate the indirect effects of mild and intense task conflicts on task performance via the proposed mediators that predict collaboration, we used the same ways as in Studies 1 and 2 (i.e., standardized variables) to conduct a path analysis and estimate indirect effects. We set up the following paths: “mild and intense task conflicts → perceptions of a counterpart’s openness,

positive emotions, and negative emotions → collaboration → task performance.” We also estimated the residual covariances of the three mediators.

The path model showed adequate overall fit, CFI = 0.98 and RMSEA = 0.07. Figure 4 presents the findings of individual associations. The model also showed that mild task conflict was significantly and positively associated with perceived openness ($B/b = 0.29$, $p < .001$), nonsignificantly and positively associated with positive emotions ($B/b = 0.16$, $p = .058$), and significantly and inversely associated with negative emotions ($B/b = -0.26$, $p = .001$). Intense task conflict was significantly and negatively associated with perceived openness ($B/b = -0.25$, $p = .002$) and positive emotions ($B/b = -0.25$, $p = .003$) and significantly and positively associated with negative emotions ($B/b = 0.24$, $p = .003$). Perceived openness was significantly and positively associated with collaboration ($B/b = 0.50$, $p < .001$). However, neither positive emotions ($B = 0.15$, $p = .084$) nor negative emotions ($B = -0.09$, $p = .271$) were significantly related to collaboration. Moreover, collaboration significantly predicted task performance ($B/b = 0.60$, $p < .001$).

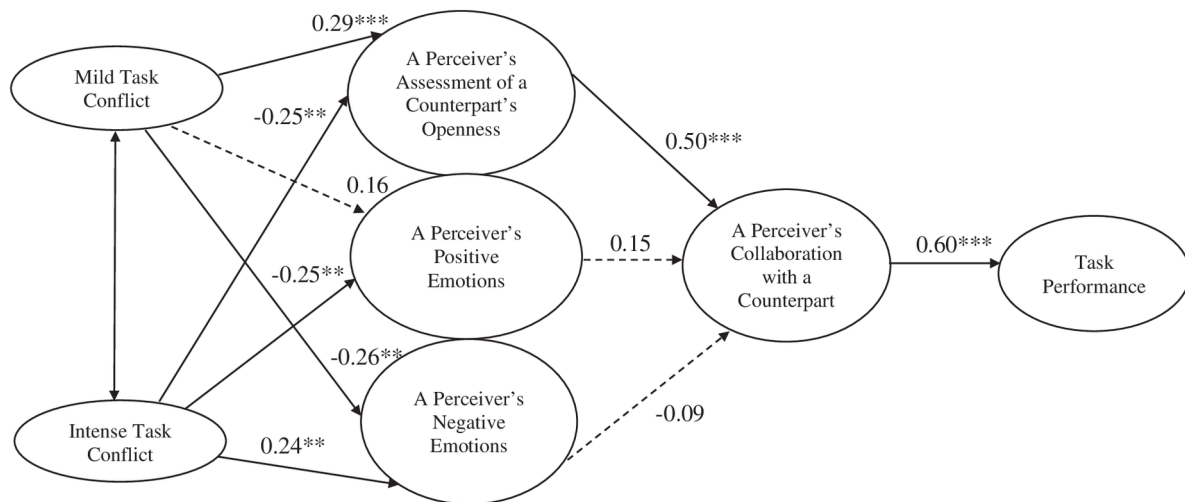
The tests of indirect effects showed that mild task conflict significantly increased collaboration via perceived openness more than did intense task conflict ($z = 3.75$, $p < .001$). Specifically, mild task conflict significantly increased collaboration via

Table 8
Descriptive Statistics Across the Conditions in Study 3

Conditions	Model 1	Model 2	Model 3	Model 4	Model 5
	DV: collaboration	DV: perceived openness	DV: positive emotions	DV: negative emotions	DV: performance
Mild task conflict					
Encouragement (M)	5.62	6.04	5.46	1.58	2.34
Encouragement (SE)	0.15	0.11	0.10	0.10	0.12
Discouragement (M)	4.83	5.38	5.14	2.14	1.93
Discouragement (SE)	0.18	0.15	0.13	0.14	0.17
Intense task conflict					
Encouragement (M)	4.89	5.43	5.07	2.10	1.89
Encouragement (SE)	0.17	0.14	0.10	0.14	0.16
Discouragement (M)	5.60	6.02	5.56	1.58	2.42
Discouragement (SE)	0.16	0.12	0.13	0.09	0.12

Note. SE = standard error; DV = dependent variable.

Figure 4
Path Analysis in Study 3



Note. Each path is denoted by a standardized or unstandardized coefficient. A nonsignificant path is indicated by a dashed line. The residual covariance between perceived openness and positive emotions is 0.50^{***} , the residual covariance between perceived openness and negative emotions is -0.44^{***} , and the residual covariance between positive and negative emotions is -0.30^{***} .
** $p < .01$. *** $p < .001$.

perceived openness, $B/b = 0.14$, 95% CI [0.054, 0.259], whereas intense task conflict significantly decreased collaboration via perceived openness, $B/b = -0.13$, 95% CI [-0.234, -0.041]. However, there were nonsignificant differences between mild and intense task conflicts regarding their indirect effects on collaboration via positive emotions ($z = 1.87$, $p = .061$) or negative emotions ($z = 1.14$, $p = .254$). Neither mild task conflict nor intense task conflict significantly influenced collaboration via positive emotions or negative emotions, range of $B/b = [-0.04, 0.02]$, all 95% CIs including zero. Thus, the results supported Hypothesis 1 rather than Hypothesis 2 or 3. Furthermore, mild versus intense task conflict significantly increased task performance via the path from perceived openness to collaboration (i.e., mild vs. intense task conflict → perceptions of a counterpart's openness → collaboration → task performance; $z = 3.63$, $p < .001$) but not via the path from positive emotions to collaboration ($z = 1.89$, $p = .059$) or from negative emotions to collaboration ($z = 1.10$, $p = .271$). Specifically, mild task conflict significantly increased task performance via the path from perceived openness to collaboration (i.e., mild task conflict → perceptions of a counterpart's openness → collaboration → task performance; $B/b = 0.09$, 95% CI [0.032, 0.156]). By contrast, intense task conflict significantly decreased task performance via the path from perceived openness to collaboration, that is, intense task conflict → perceptions of a counterpart's openness → collaboration → task performance; $B/b = -0.08$, 95% CI [-0.144, -0.023]. Moreover, neither mild task conflict nor intense task conflict significantly influenced task performance via the path from positive or negative emotions to collaboration, range of $B/b = [-0.02, 0.01]$, all 95% CIs including zero. Thus, the results confirmed the differential effects of mild and intense task conflict expressions on collaboration and task performance via perceived openness.

General Discussion

The current research investigates the differential associations between mild versus intense task conflicts (e.g., debates vs. disagreements) and collaboration and offers consistent findings in three studies: mild versus intense task conflicts enhance perceptions of counterparts' openness and thus increase the perceivers' collaboration. We also exclude emotions as alternative explanations for the effects of mild versus intense task conflicts. Furthermore, mild versus intense task conflicts achieve superior task performance by enhancing perceptions of counterparts' openness that elicits collaboration in Studies 1 and 3. In Studies 2 and 3, the findings of the positive relationships between mild task conflicts and collaboration contradict people's common beliefs about the negative association between conflict and collaboration. The significant, robust findings also demonstrate high generalizability because the current studies involved different research methods and sources of data. The findings not only eliminate emotions as alternative explanations for the positive effects of mild versus intense task conflicts on collaboration and task performance but also highlight perceptions of openness as an essential reason based on the theory of conflict expression.

Theoretical Contributions

The current investigation contradicts the common belief about the negative association between conflict and collaboration. Previous research utilized debates to stimulate unique information sharing and prevent premature agreement (Tsai & Bendersky, 2016). Given that collaboration involves seeking agreements on satisfactory solutions (De Dreu & van Vianen, 2001), Tsai and Bendersky's (2016) research suggests that debates decrease the likelihood of agreements and thus may reduce the chance of collaboration. The

pilot study in the current [Supplemental Materials](#) also supports a common belief that people who debate about or disagree with an individual's viewpoints are predicted to create barriers to collaboration. However, Studies 2 and 3 suggest a positive association between debate/mild task conflict and collaboration.

The current investigation also contributes to research on framing and cooperation in a conflict situation. [Stephensen et al. \(2021\)](#) described the valence-driven account of why framing influences behavior: positive (or negative) framing of the information elicits people's positive (or negative) assessments of the relevant targets, and thus the people adjust their behaviors accordingly. Previous research supported this account. For instance, an activity labeled as a "Community Game" elicited more cooperation between players with conflicting interests than an activity labeled as a "Wall Street Game" ([Lieberman et al., 2004](#)). In economic games, when the choices were presented as a positive outcome rather than a negative outcome to players, the players tended to make choices that increased each other's benefits ([Böhm & Theelen, 2016](#)). Nevertheless, the current research implies that the presentation of information without a clear positive valence can create positive outcomes. Specifically, although both debates and disagreements are deemed as obstacles to collaboration in the pilot study, the formal studies show a positive association between debates and collaboration via perceptions of others' openness. The current findings suggest that the presentation of information with an ambiguous valence (i.e., framing task assignments as debates) can still create positive consequences via a specific perception process.

Furthermore, the present research illuminates the elements of conflict expression and how task conflict expressions influence collaboration. Research on conflict expressions does not categorize disagreements into mild or intense conflict expressions ([Todorova et al., 2021](#); [Weingart et al., 2015](#)), but [Tsai and Bendersky \(2016\)](#) considered disagreements as intense conflict expressions. The current investigation supports their consideration by demonstrating that both disagreements and intense conflict expressions reduce perceptions of another person's openness and elicit negative emotions. Furthermore, although emotions serve as important consequences of mild and intense task conflicts ([Todorova et al., 2021](#); [Weingart et al., 2015](#)), the current research identifies perceived openness rather than emotions as a critical mediator of the associations between task conflicts and collaboration.

The present research advances the literature on conflict perceptions and management strategies by demonstrating novel associations between task conflict expressions and collaborative management strategies. Previous research focused on how conflict management strategies influenced the associations between task-relevant conflicts and their outcomes. For instance, a cooperative way to resolve conflicts (e.g., emphasizing mutual goals) decreased the chance that people escalated their task-related disagreements into relationship conflicts ([Papenhausen & Parayitam, 2015](#)). The negative effects of task disagreements on team innovativeness were minimized when group members engaged in collaborative communications that focused on mutually beneficial solutions ([Lovelace et al., 2001](#)). In contrast to these studies using conflict management strategies as moderators for the effects of task conflicts, the present study distinguishes between task conflicts based on mild versus intense task conflicts (e.g., debates vs. disagreements) and suggests their differential effects on collaborative conflict management strategies.

The present study also explains why task-relevant conflicts inconsistently influence important outcomes. Previous research used a contingency approach. For instance, task conflict was more positively associated with stress when relationship conflict was higher ([Shahzad et al., 2019](#)). Relationship conflict also determined the effect of task conflict on performance; task conflict without relationship conflict achieved higher daily productivity than did task conflict with relationship conflict ([Mauersberger et al., 2020](#)). Moreover, task conflict improved (or worsened) group performance depending on whether groups had high (or low) degrees of emotional stability ([Bradley et al., 2013](#)). The current research complements the contingency approach by varying how task conflicts are expressed, suggesting that mild task conflicts (e.g., debates) are more likely to improve task performance through increased perceptions of another person's openness that elicits collaboration than are intense task conflicts (e.g., disagreements).

Practical Implications

Contrary to our common assumption that conflict is detrimental to collaboration, the current investigation indicates that mild task conflict expressions (e.g., debates and deliberations over task-related issues) stimulate collaboration by signaling receptivity to divergent opinions. Moreover, the present research suggests that intense task conflict expressions (e.g., disagreements and criticisms regarding task-relevant topics) convey resistance to alternative viewpoints and therefore discourage collaboration. The current findings also suggest that individuals can achieve collaboration more effectively when framing their tasks as debates or including communication instructions for expressing mild task conflicts.

The current research also demonstrates positive associations between perceptions of others' openness and collaboration, suggesting that organizational leaders should encourage members to display their openness to other ideas and suggestions. To improve receptivity to alternative perspectives, people can utilize perspective-taking training ([Sessa, 1996](#)), frame organizational decision processes as a problem-solving task rather than a judgment-making assignment ([Stasser & Stewart, 1992](#)), or present discussions as debate tasks based on the current research. Organizations can further promote receptivity to diverse perspectives by integrating openness as an important element of job training and performance assessment. To promote communication openness, people can attend to others' suggestions effectively through training programs that cultivate nondefensive responses to alternative ideas and develop communication skills regarding presentations of the rationales for action and nonaction in response to suggestions from others ([Tröster & van Knippenberg, 2012](#)). Furthermore, organizations can use coworkers' and customers' ratings of openness to assess employees' performance and reward those who have been rated as open to suggestions from others ([Detert & Burris, 2007](#)). These practical methods aim to foster communication openness, thus ultimately achieving collaboration and improving performance in organizations.

Limitations and Future Research

Despite the theoretical advancements and practical suggestions of the present investigation, this research has potential limitations that create promising opportunities for future studies. Although we

excluded participants' positive and negative emotions as reasons for why task conflict expressions have differential effects on collaboration, future research can examine other potential mediators. For instance, perceptions of another party's threat to one's goals and desired outcomes may mediate the associations between task conflict expressions and a perceiver's collaboration with the other party. Moreover, Weingart et al. (2015) propose that direct higher intensity conflict expressions convey higher levels of threat to perceivers' desired objectives and social standing (Lee & Aaker, 2004), which implies that intense task conflict expressions may be more likely to threaten a perceiver's goal and status than may debate expressions. Subsequently, the perceiver may feel reluctant to collaborate with the disputant. To support this statement, research has demonstrated that an individual offers less help to people in outgroups (Li & Zhao, 2012) or more strongly opposes actions that benefit them (Renfro et al., 2006) if he or she perceives a higher level of threat from them. This example illustrates how perceptions of others' threats may explain the different impacts of mild versus intense task conflict expressions in future research.

Moreover, the current investigation presents the differential effects of debates versus disagreements on task performance via perceptions of openness while controlling for task interdependency, but task performance is often influenced by both conflict and task relations in organizations, and thus future research can focus on how conflict expressions and task processes jointly influence task effectiveness. For example, Park et al. (2020) have proposed that task conflict (i.e., disagreements regarding work-related issues) improves task effectiveness the most when both organizational members perceive their disagreements over task-related issues, and their work-related information and input can be communicated between them over time or simultaneously (i.e., bidirectional task flow ties). Nevertheless, the current research suggests that debate expressions are more beneficial than are disagreement expressions. To integrate Park et al.'s (2020) proposition and the current findings, researchers can distinguish between mild and intense task conflict expressions and investigate how various conflict expressions and task flow ties affect task performance.

Conclusion

People inevitably experience conflict when working with others. During this process, expressing opinion differences in an open-minded way may determine how the conflicts unfold. The present research suggests that compared with people who intensely express task conflicts, those who mildly express task conflicts are more likely to achieve collaboration and task performance by conveying openness to alternative perspectives rather than by influencing perceivers' emotions. Furthermore, the current research demonstrates the positive associations between mild task conflicts (e.g., debates) and collaboration. We hope that the present investigation inspires future research on conflict management and promotes openness, collaboration, and performance in organizations.

References

- Ashby, F. G., Isen, A. M., & Turken, A. U. (1999). A neuropsychological theory of positive affect and its influence on cognition. *Psychological Review*, *106*(3), 529–550. <https://doi.org/10.1037/0033-295X.106.3.529>
- Beersma, B., & De Dreu, C. K. W. (1999). Negotiation processes and outcomes in prosocially and egoistically motivated groups. *International Journal of Conflict Management*, *10*(4), 385–402. <https://doi.org/10.1108/eb022831>
- Behfar, K. J., Mannix, E. A., Peterson, R. S., & Trochim, W. M. (2011). Conflict in small groups: The meaning and consequences of process conflict. *Small Group Research*, *42*(2), 127–176. <https://doi.org/10.1177/1046496410389194>
- Behfar, K. J., Peterson, R. S., Mannix, E. A., & Trochim, W. 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*(1), 170–188. <https://doi.org/10.1037/0021-9010.93.1.170>
- Böhm, R., & Theelen, M. M. P. (2016). Outcome valence and externality valence framing in public good dilemmas. *Journal of Economic Psychology*, *54*, 151–163. <https://doi.org/10.1016/j.joep.2016.04.003>
- 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*(2), 385–392. <https://doi.org/10.1037/a0029845>
- Brooks, A. W., & Schweitzer, M. E. (2011). Can Nervous Nelly negotiate? How anxiety causes negotiators to make low first offers, exit early, and earn less profit. *Organizational Behavior and Human Decision Processes*, *115*(1), 43–54. <https://doi.org/10.1016/j.obhdp.2011.01.008>
- Burgess, S., Daniel, R. M., Butterworth, A. S., Thompson, S. G., & the EPIC-InterAct Consortium. (2015). Network Mendelian randomization: Using genetic variants as instrumental variables to investigate mediation in causal pathways. *International Journal of Epidemiology*, *44*(2), 484–495. <https://doi.org/10.1093/ije/dyu176>
- Carnevale, P. J., & Isen, A. M. (1986). The influence of positive affect and visual access on the discovery of integrative solutions in bilateral negotiation. *Organizational Behavior and Human Decision Processes*, *37*(1), 1–13. [https://doi.org/10.1016/0749-5978\(86\)90041-5](https://doi.org/10.1016/0749-5978(86)90041-5)
- Carr, P. B., & Walton, G. M. (2014). Cues of working together fuel intrinsic motivation. *Journal of Experimental Social Psychology*, *53*, 169–184. <https://doi.org/10.1016/j.jesp.2014.03.015>
- Chang, T., Gossa, W., Sharp, A., Rowe, Z., Kohatsu, L., Cobb, E. M., & Heisler, M. (2014). Text messaging as a community-based survey tool: A pilot study. *BMC Public Health*, *14*(1), Article 936. <https://doi.org/10.1186/1471-2458-14-936>
- Chi, S.-C. S., & Yang, M.-Y. (2015). How does negative mood affect turnover intention? The interactive effect of self-monitoring and conflict perception. *European Journal of Work and Organizational Psychology*, *24*(1), 31–43. <https://doi.org/10.1080/1359432X.2013.856299>
- Clogg, C. C., Petkova, E., & Haritou, A. (1995). Statistical methods for comparing regression coefficients between models. *American Journal of Sociology*, *100*(5), 1261–1293. <https://doi.org/10.1086/230638>
- De Dreu, C. K. W., Evers, A., Beersma, B., Kluwer, E. S., & Nauta, A. (2001). A theory-based measure of conflict management strategies in the workplace. *Journal of Organizational Behavior*, *22*(6), 645–668. <https://doi.org/10.1002/job.107>
- De Dreu, C. K. W., & van Vianen, A. E. M. (2001). Managing relationship conflict and the effectiveness of organizational teams. *Journal of Organizational Behavior*, *22*(3), 309–328. <https://doi.org/10.1002/job.71>
- 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*(4), 559–578. <https://doi.org/10.1037/a0032896>
- Detert, J. R., & Burris, E. R. (2007). Leadership behavior and employee voice: Is the door really open? *Academy of Management Journal*, *50*(4), 869–884. <https://doi.org/10.5465/amj.2007.26279183>
- Dimas, I., Giordano, A., & Lourenço, P. (2012). The relationship between conflict and emotions in workgroups/teams. In C. Carvalho, P. R. Lourenço, & C. F. Peralta (Eds.), *A emoção nas organizações* (pp. 241–257). PsicoSoma.

- Drouvelis, M., & Grosskopf, B. (2016). The effects of induced emotions on pro-social behaviour. *Journal of Public Economics*, 134, 1–8. <https://doi.org/10.1016/j.jpubeco.2015.12.012>
- Efron, B. (1979). Bootstrap methods: Another look at the Jackknife. *Annals of Statistics*, 7(1), 1–26. <https://doi.org/10.1214/aos/1176344552>
- Fredrickson, B. L., & Losada, M. F. (2005). Positive affect and the complex dynamics of human flourishing. *American Psychologist*, 60(7), 678–686. <https://doi.org/10.1037/0003-066X.60.7.678>
- Hopfensitz, A., & Reuben, E. (2009). The importance of emotions for the effectiveness of social punishment. *Economic Journal*, 119(540), 1534–1559. <https://doi.org/10.1111/j.1468-0297.2009.02288.x>
- Huang, K., Yeomans, M., Brooks, A. W., Minson, J., & Gino, F. (2017). It doesn't hurt to ask: Question-asking increases liking. *Journal of Personality and Social Psychology*, 113(3), 430–452. <https://doi.org/10.1037/pspi0000097>
- Humphrey, S. E., Aime, F., Cushenbery, L., Hill, A. D., & Fairchild, J. (2017). Team conflict dynamics: Implications of a dyadic view of conflict for team performance. *Organizational Behavior and Human Decision Processes*, 142, 58–70. <https://doi.org/10.1016/j.obhdp.2017.08.002>
- Jehn, K. A. (1995). A multimethod examination of the benefits and detriments of intragroup conflict. *Administrative Science Quarterly*, 40(2), 256–282. <https://doi.org/10.2307/2393638>
- 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(6), 1–31. <https://doi.org/10.1007/s10726-008-9107-0>
- Jessup, L. M., & Tansik, D. A. (1991). Group problem solving in an automated environment: The effects of anonymity and proximity on group process and outcome with a group decision support system. *Decision Sciences*, 22(2), 266–279. <https://doi.org/10.1111/j.1540-5915.1991.tb00346.x>
- Johnson, R. E., Rosen, C. C., & Djurdjevic, E. (2011). Assessing the impact of common method variance on higher order multidimensional constructs. *Journal of Applied Psychology*, 96(4), 744–761. <https://doi.org/10.1037/a0021504>
- Jones, G. R., & George, J. M. (1998). The experience and evolution of trust: Implications for cooperation and teamwork. *Academy of Management Review*, 23(3), 531–546. <https://doi.org/10.5465/amr.1998.926625>
- Kjell, O. N. E., & Thompson, S. (2013). Exploring the impact of positive and negative emotions on cooperative behaviour in a Prisoner's Dilemma Game. *PeerJ*, 1, Article e231. <https://doi.org/10.7717/peerj.231>
- Kline, R. B. (2011). *Principles and practice of structural equation modeling* (3rd ed.). Guilford Press.
- Lee, A. Y., & Aaker, J. L. (2004). Bringing the frame into focus: The influence of regulatory fit on processing fluency and persuasion. *Journal of Personality and Social Psychology*, 86(2), 205–218. <https://doi.org/10.1037/0022-3514.86.2.205>
- Li, T., & Zhao, Y. (2012). Help less or help more—Perceived intergroup threat and out-group helping. *International Journal of Psychological Studies*, 4(4), 90–98. <https://doi.org/10.5539/ijps.v4n4p90>
- Liberman, V., Samuels, S. M., & Ross, L. (2004). The name of the game: Predictive power of reputations versus situational labels in determining prisoner's dilemma game moves. *Personality and Social Psychology Bulletin*, 30(9), 1175–1185. <https://doi.org/10.1177/0146167204264004>
- Litman, L., Robinson, J., & Abberbock, T. (2017). TurkPrime.com: A versatile crowdsourcing data acquisition platform for the behavioral sciences. *Behavior Research Methods*, 49(2), 433–442. <https://doi.org/10.3758/s13428-016-0727-z>
- Lovelace, K., Shapiro, D. L., & Weingart, L. R. (2001). Maximizing cross-functional new product teams' innovativeness and constraint adherence: A conflict communications perspective. *Academy of Management Journal*, 44(4), 779–793. <https://doi.org/10.5465/3069415>
- Mauersberger, H., Hess, U., & Hoppe, A. (2020). Measuring task conflicts as they occur: A real-time assessment of task conflicts and their immediate affective, cognitive and social consequences. *Journal of Business and Psychology*, 35(6), 813–830. <https://doi.org/10.1007/s10869-019-09640-z>
- Olekals, M., & Weingart, L. R. (2008). Emergent negotiations: Stability and shifts in negotiation dynamics. *Negotiation and Conflict Management Research*, 1(2), 135–160. <https://doi.org/10.1111/j.1750-4716.2008.00008.x>
- 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(3), 236–260. <https://doi.org/10.1080/08959285.2013.795573>
- Papenhause, C., & Parayitam, S. (2015). Conflict management strategies as moderators in the antecedents to affective conflict and its influence on team effectiveness. *Journal of Business and Management*, 21(1), 101–119. [https://doi.org/10.6347/JBM.201501_21\(1\).0006](https://doi.org/10.6347/JBM.201501_21(1).0006)
- Park, S., Mathieu, J. E., & Grosser, T. J. (2020). A network conceptualization of team conflict. *Academy of Management Review*, 45(2), 352–375. <https://doi.org/10.5465/amr.2016.0472>
- Pillutla, M. M., & Murnighan, J. K. (1996). Unfairness, anger, and spite: Emotional rejections of ultimatum offers. *Organizational Behavior and Human Decision Processes*, 68(3), 208–224. <https://doi.org/10.1006/obhd.1996.0100>
- Puck, J., & Pregonig, U. (2014). The effect of task conflict and cooperation on performance of teams: Are the results similar for different task types? *European Management Journal*, 32(6), 870–878. <https://doi.org/10.1016/j.emj.2014.03.007>
- Renfro, C. L., Duran, A., Stephan, W. G., & Clason, D. L. (2006). The role of threat in attitudes toward affirmative action and its beneficiaries. *Journal of Applied Social Psychology*, 36(1), 41–74. <https://doi.org/10.1111/j.0021-9029.2006.00003.x>
- Ross, R. (1989). *Conflict*. Prentice-Hall.
- Sessa, V. I. (1996). Using perspective taking to manage conflict and affect in teams. *The Journal of Applied Behavioral Science*, 32(1), 101–115. <https://doi.org/10.1177/0021886396321007>
- Settoon, R. P., & Mossholder, K. W. (2002). Relationship quality and relationship context as antecedents of person- and task-focused interpersonal citizenship behavior. *Journal of Applied Psychology*, 87(2), 255–267. <https://doi.org/10.1037/0021-9010.87.2.255>
- Shah, P. P., Peterson, R. S., Jones, S. L., & Ferguson, A. J. (2020). Things are not always what they seem: The origins and evolution of intragroup conflict. *Administrative Science Quarterly*, 66(2), 426–474. <https://doi.org/10.1177/0001839220965186>
- Shahzad, U., Memon, M. A., Khurram, S., & Tan, K. L. (2019). The role of relationship conflict and mindfulness in the consequences of task conflict. *Asian Journal of Business Research*, 9(3), 145–159. <https://doi.org/10.14707/ajbr.190071>
- Shannon, C. E. (1948). A mathematical theory of communication. *Mobile Computing and Communications Review*, 5(1), 3–55. <https://doi.org/10.1145/584091.584093>
- Shrout, P. E., & Fleiss, J. L. (1979). Intraclass correlations: Uses in assessing rater reliability. *Psychological Bulletin*, 86(2), 420–428. <https://doi.org/10.1037/0033-2909.86.2.420>
- Stasser, G., & Stewart, D. (1992). Discovery of hidden profiles by decision making groups: Solving a problem versus making a judgment. *Journal of Personality and Social Psychology*, 63(3), 426–434. <https://doi.org/10.1037/0022-3514.63.3.426>
- Stephensen, M. B., Schulze, C., Landrø, M., Hendrikx, J., & Hetland, A. (2021). Should I judge safety or danger? Perceived risk depends on the question frame. *Journal of Experimental Psychology: Applied*, 27(3), 485–502. <https://doi.org/10.1037/xap0000354>
- Tekleab, A. G., Quigley, N. R., & Tesluk, P. E. (2009). A longitudinal study of team conflict, conflict management, cohesion, and team effectiveness. *Group & Organization Management*, 34(2), 170–205. <https://doi.org/10.1177/1059601108331218>

- Thomas, K. W. (1976). Conflict and conflict management. In M. Dunnette (Ed.), *Handbook of industrial and organizational psychology* (pp. 889–935). Rand McNally.
- 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*(3), 451–467. <https://doi.org/10.1037/a0035134>
- Todorova, G., Goh, K. T., & Weingart, L. R. (2021). The effects of conflict type and conflict expression intensity on conflict management. *International Journal of Conflict Management, 33*(2), 245–272. <https://doi.org/10.1108/IJCM-03-2021-0042>
- Tröster, C., & van Knippenberg, D. (2012). Leader openness, nationality dissimilarity, and voice in multinational management teams. *Journal of International Business Studies, 43*(6), 591–613. <https://doi.org/10.1057/jibs.2012.15>
- Tsai, M.-H. (2022, May 27). *Can conflict cultivate collaboration? The positive impact of mild versus intense task conflict via perceived openness rather than emotions.* https://osf.io/7ejkt/?view_only=bed8be408d4145c88e0349a534a29903
- Tsai, M.-H., Bendersky, C., & the Disagreements Increases Perceived Receptivity to Dissenting Opinions in Groups. (2016). The pursuit of information sharing: Expressing task conflicts as debates vs. disagreements increases perceived receptivity to dissenting opinions in groups. *Organization Science, 27*(1), 141–156. <https://doi.org/10.1287/orsc.2015.1025>
- Tsai, M.-H., Melia, N. V., & Hinsz, V. B. (2020). The effects of perceived decision-making styles on evaluations of openness and competence that elicit collaboration. *Personality and Social Psychology Bulletin, 46*(1), 124–139. <https://doi.org/10.1177/0146167219843934>
- van Woerkom, M., & Sanders, K. (2010). The romance of learning from disagreement. The effect of cohesiveness and disagreement on knowledge sharing behavior and individual performance within teams. *Journal of Business and Psychology, 25*(1), 139–149. <https://doi.org/10.1007/s10869-009-9136-y>
- Weingart, L. R., Behfar, K., Bendersky, C., Todorova, G., & Jehn, K. (2015). The directness and oppositional intensity of conflict expression. *Academy of Management Review, 40*(2), 235–262. <https://doi.org/10.5465/amr.2013-0124>
- Weingart, L. R., Thompson, L., Bazerman, M. H., & Carroll, J. S. (1990). Tactical behavior and negotiation outcomes. *International Journal of Conflict Management, 1*(1), 7–31. <https://doi.org/10.1108/eb022670>
- Wolf, E. B., Lee, J. J., Sah, S., & Brooks, A. W. (2016). Managing perceptions of distress at work: Reframing emotion as passion. *Organizational Behavior and Human Decision Processes, 137*, 1–12. <https://doi.org/10.1016/j.obhdp.2016.07.003>
- Woody, E. (2011). An SEM perspective on evaluating mediation: What every clinical researcher needs to know. *Journal of Experimental Psychopathology, 2*(2), 210–251. <https://doi.org/10.5127/jep.010410>
- Yeomans, M., Minson, J., Collins, H., Chen, F., & Gino, F. (2020). Conversational receptiveness: Improving engagement with opposing views. *Organizational Behavior and Human Decision Processes, 160*, 131–148. <https://doi.org/10.1016/j.obhdp.2020.03.011>

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