

Direct and Contextual Influence of Team Conflict on Team Resources, Team Work Engagement, and Team Performance

Patrícia L. Costa,¹ Ana M. Passos,¹ and Arnold B. Bakker²

¹ ISCTE-IUL, Lisbon, Portugal

² Erasmus University, Rotterdam, The Netherlands

Keywords

team conflict, team work engagement, team performance.

Correspondence

Patrícia L. Costa, Av. Das Forças Armadas, Edifício ISCTE, room 2w8, 1649-026 Lisbon, Portugal;
e-mail: patricia_costa@iscte.pt

Abstract

This article focuses on team conflict's direct influence on both team work engagement and team performance, as well as on its moderator role in the relationship between team resources and team work engagement and in the relationship between team work engagement and team performance. Data were collected from 82 research teams and team leaders, using electronic questionnaires; data on these teams' objective performance was also obtained. We found a direct influence of only task conflict on team work engagement. Moderation analysis revealed that relationship conflict weakens the relationship between team resources and team work engagement, whereas task conflict strengthens the relationship between team work engagement and team performance. Therefore, relationship conflict has a detrimental effect for the development of a positive emergent state of work engagement; on the contrary, discussing ideas positively influences the transformation of the team's level of engagement into objective performance.

This article analyzed the role of both relationship and task conflict within the context of the job demands–resources model (Bakker, Demerouti, & Sanz-Vergel, 2014; Demerouti & Bakker, 2011) at the team level. This model considers work engagement as an important predictor of job performance and as dependent on job resources and job demands. This study considered team conflict as a job demand that directly influences team work engagement and team performance and that also moderates the relationship between team resources and team work engagement, as well as the relationship between team work engagement and team performance. The goal of this study was to understand whether the two types of conflict impact differently on proximal (team work engagement) and distal (team performance) team outcomes, directly; simultaneously, we explore the moderator influence of team conflict on the job demands–resources model. More specifically, relationship conflict was conceptualized as a job demand that undermines the motivational role of team job resources for the emergence of team work engagement; task conflict was conceptualized as a job demand that may, actually, facilitate the performance of engaged teams.

The contributions of this article are twofold. First, it adds to the literature on employee engagement, specifically on team work engagement, a construct that has recently received researchers' attention (Costa, Passos, & Bakker, 2014a; Torrente, Salanova, Llorens, & Schaufeli, 2012), by exploring how its level is influenced by both task and relational conflict. Team work engagement is a new construct that needs to be tested empirically in order to understand its specific contributions to teamwork and team

effectiveness, as well as to validate (or not) the proposed theoretical model behind it. Much is now known about individual-level work engagement (e.g., Bakker & Leiter, 2010), but its study at the team level is still in an embryonic state. Therefore, we aim at broadening the understanding of team work engagement's nomological network.

For the most part, team conflict has been studied in relation to team performance. Also, other studies focus on possible emergent states that mediate the relationship between conflict and performance (e.g., Santos & Passos, 2013). Therefore, this article shifts from a more traditional conceptualization of conflict as a mediator or a direct predictor of individual or team effectiveness outputs, adding to its direct influence the conceptualization of conflict as a more contextual influence on teamwork. According to the most recent meta-analysis performed by DeWit, Greer, and Jehn (2012), from 2003 to 2012, 80 new studies on conflict have appeared in the literature. Some of them have been developed to "better understand the circumstances under which intragroup conflicts, and task conflicts in particular, may either benefit or inhibit group outcomes" (p. 360). Therefore, these studies focus on possible moderators (e.g., task type, setting) in the relationship between conflict and other variables (e.g., performance). However, the role of conflict as a moderator itself is absent from the new studies included in this meta-analysis. The meta-analysis applies "a contingency framework in which the effects of conflict are proposed to depend on the type of conflict, the type of outcomes, and the presence of critical moderating variables" (p. 363), but conflict is always presented as the independent variable. The only commendable exception is when authors consider the co-occurrence of conflict types as a moderator variable in the meta-analysis. Therefore, and considering this meta-analysis is the most recent compilation on what is known within the literature on conflict, we stand by our claim that conceptualizing conflict as a moderator is one of the major contributions of this article.

Finally, this study speaks to team leaders and managers, as it provides insights on how to manage task and relationship conflict to facilitate team effectiveness.

The Job Demands–Resources Model

The job demands–resources model is a model of employee motivation, where engagement mediates the impact of job resources and personal resources on organizational outcomes (Schaufeli & Bakker, 2010). Introduced by Demerouti, Bakker, De Jonge, Janssen, and Schaufeli (2001), the model posits that antecedents of employee well-being can be classified into two general categories, job demands and resources. Job resources refer to those physical, psychological, social, or organizational aspects of the job that may (a) be functional in achieving work goals, (b) reduce job demands and the associated physiological and psychological costs, and (c) stimulate personal growth and development (Demerouti et al., 2001). Job resources are usually operationalized as feedback/results, job control/autonomy, and social and supervisory support (e.g., De Lange, De Witte, & Notelaers, 2008; Mauno, Kinnunen, & Ruokolainen, 2007). Job demands refer to those physical, social, or organizational aspects of the job that require sustained physical or mental effort and are therefore associated with certain physical and psychological costs (e.g., exhaustion). Recently, the demanding aspects of the job have been further divided into hindrances and challenges (Bakker & Sanz-Vergel, 2013; Demerouti & Bakker, 2011). Hindering job demands reflect excessive or undesirable constraints (e.g., role overload), negatively interfering with goal achievement. In contrast, challenging job demands have the potential to promote employees' growth and achievement (e.g., increased responsibility), together with their motivation toward the task at hand. In addition, one central proposition of the JD-R model is that job resources particularly influence engagement when job demands are high (e.g., Bakker, Hakanen, Demerouti, & Xanthopoulou, 2007; Billings, Folkman, Acree, & Moskowitz, 2000; Hakanen, Bakker, & Demerouti, 2005), therefore highlighting the interaction between resources and demands.

The importance of job resources for work engagement has received considerable empirical support. A longitudinal study by Mauno et al. (2007) with a sample of Finnish healthcare professionals concluded

that those who reported higher levels of job control were the ones who reported higher levels of work engagement one year later. A meta-analytic study (Christian, Garza, & Slaughter, 2011) corroborated this positive relationship, finding that job resources are the most relevant predictors of work engagement. At the team level, team work engagement is defined as a shared, positive and fulfilling, motivational emergent state of work-related well-being (Costa et al., 2014a). Engaged teams are energetic when they are working and display active, productive behaviors, such as bouncing back quickly from unexpected negative events (e.g., a sudden decrease in the sales due to the appearance of a new, strong competitor). In addition, in engaged teams, employees are willing to help each other and build on each other's ideas to optimize processes and products. These teams are really enthusiastic about their job and enjoy the moments they work together. Engaged team members consider what they do as meaningful and relevant. As a consequence of their engagement levels, engaged work teams outperform teams low in engagement. The positive relationship between team work engagement and team performance has been reported in some recent empirical studies. For example, Torrente et al. (2012) reported evidence for a mediation role of team work engagement in the relationship between social resources (coordination, team work, and supportive team climate) and performance, with 63 teams from 13 organizations. On the basis of JD-R theory and these previous studies, our first hypothesis was formulated:

Hypothesis 1: Team resources indirectly impact team performance through team work engagement.

Task and Relationship Conflict as Different Job Demands

Team conflict is “the process emerging from perceived incompatibilities or differences among group members” (DeWit et al., 2012, p. 360). These perceived incompatibilities are traditionally divided into two broad types: task and relationship conflict (Jehn, 1992; Priem & Price, 1991). Task conflict encompasses team members' disagreements about the content and the outcomes of the task being performed. Take the example of a team of biology researchers exploring the development of a specific fungus in warm temperatures. When one member believes he or she should grow the fungus for 15 days, and another member believes that 30 days are needed, they may engage in a conflict about their task. Relationship conflict is interpersonally focused and has to do with disagreements about personality differences, different values, or different norms. In the same biology research team, if one member perceives another as being rude and disrespectful, this may lead to a relationship conflict.

Conflict has a long history of being perceived as a hindrance to effective team functioning (e.g., Blake & Mouton, 1984), regardless of what the focus of the perceived incompatibility is. The results from a meta-analysis by De Dreu and Weingart (2003) supported this consistent view of conflict as a negative state for group outcomes: “. . .whereas a little conflict may be beneficial, such positive effects quickly break down as conflict becomes more intense, cognitive load increases, information processing is impeded, and team performance suffers” (p. 746). Ten years after the publication of De Dreu and Weingart's (2003) meta-analysis, both the theory and the data on team conflict have evolved to describe a more complex scenario. New studies have highlighted different influences of task and relationship conflict for different types of group outcomes, as well as possible moderator variables of this relationship. According to a recent meta-analysis (DeWit et al., 2012), both relationship and task conflict have a negative relationship with more proximal team outcomes, therefore functioning as hindering job demands concerning these outcomes. These proximal outcomes are the emergent states of teams, defined as teams' cognitive, motivational, and affective states that change dynamically and permanently, echoing the changes in team inputs, team processes, and team outcomes (Marks, Mathieu, & Zaccaro, 2001), such as trust, cohesion (DeWit et al.), and team work engagement.

When more distal outcomes are considered (i.e., group performance, innovation productivity, and effectiveness), task conflict loses its negative influence and seems to be a neutral phenomenon, whereas

relationship conflict maintains its negative influence. According to DeWit et al. (2012), relationship conflict increases anxiety and hostility, since group members focus on self-concept-related issues. Therefore, relationship conflict impacts negatively on identification, trust, or commitment (more proximal outcomes), as well as reducing collaborative problem-solving as well as the time devoted to the work itself and not to parallel questions, resulting in performance or creativity losses (more distal outcomes). Relationship conflict can, then, be conceptualized as a hindering job demand for all types of outcomes. Concerning task conflict, it may lose its negative influence if perceived as a challenging job demand. According to Demerouti and Bakker (2011), challenging demands can be seen as “rewarding work experiences well worth the discomfort involved” (page 4), with positive implications for the outcomes of the work.

In this article, how task and relationship conflict states may function as hindering and challenging job demands is analyzed. First, we focus on the direct impact of conflict on proximal (team work engagement) and distal (team performance) outcomes, following DeWit et al. (2012) contribution. Second, we analyze the impact of both task and relationship conflict in the relationship between job resources and team work engagement and in the relationship between team work engagement and performance. It is true that, for the most part, team conflict has been studied in relation to team performance. Considering that it has been found that emergent states do mediate this relationship (e.g., Santos & Passos, 2013), it would be likely that the same kind of relationship holds true for team work engagement (TWE), another emergent state. However, we opted for considering team conflict as a contextual variable. Indeed, Bakker, Albrecht, and Leiter (2011) mention that organizations can have a *climate for engagement*, that is, a context in which is highly likely to increase individuals’ work engagement levels. They argue that “when employees perceive that their organization provides a supportive, involving, and challenging climate, and hence accommodates their psychological needs, they are more likely to respond by investing time and energy and by being psychologically involved in the work of their organization” (p. 13). Having conflicted relationships with coworkers or having discussions over their task impacts precisely the perception of support, involvement, and challenge, which is why we focus on its contextual influence. Our model and hypotheses are presented in Figure 1.

Following DeWit et al. (2012), it is expected that relationship conflict will be related negatively to both proximal (TWE) and distal (team performance) outcomes. Team work engagement is considered a

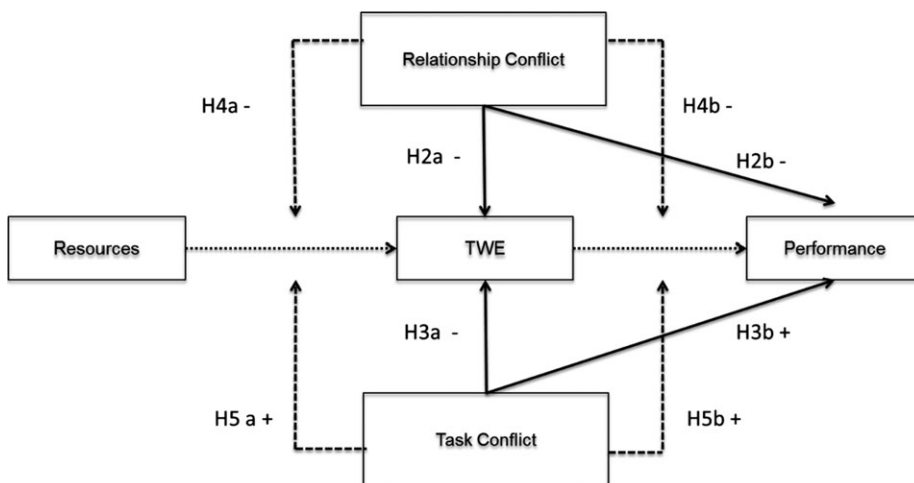


Figure 1. Study model and hypotheses. Dotted arrows represent the hypothesized indirect effect (H1). Solid arrows represent direct effects (H2 and H3). Dashed arrows represent moderation effects (H4 and H5).

motivational construct with a positive affective valence (Costa et al., 2014a; Costa, Passos, & Bakker, 2014b). Relationship conflict, on the contrary, induces negative emotional states, since it influences individuals' self-concept and may be considered a threat to the ego (DeWit et al., 2012): Negative emotional states may increase anxiety (Dijkstra, Van Dierendonck, & Evers, 2005) and hostility between team members. As a consequence, the emergence of positive states, such as identification (e.g., Rispens, Greer, & Jehn, 2007), commitment (e.g., Conlon & Jehn, 2007), and work engagement, is less likely. In addition, engaging in relationship conflict will shift the team members' focus from work to interpersonal quarrels, and their energy will be essentially devoted to trying to solve the conflict and not to the task at hand, resulting in performance losses (Beal, Weiss, Barros, & MacDermid, 2005). To sum up, relationship conflict is perceived as a hindering job demand (Bakker et al., 2014; LePine, Podsakoff, & LePine, 2005) that acts as a barrier to goal attainment. Based on this rationale, and considering the JD-R model for defining control variables, our second hypothesis is as follows (cf. Figure 1):

Hypothesis 2: Relationship conflict is negatively related to (a) TWE, controlling for resources, and to (b) team performance, controlling for TWE.

It is also expected that task conflict will have a negative impact on proximal outcomes (TWE) but a positive impact on team performance. Although task conflict is assumed to involve cognitive processes (Garcia-Prieto, Bellard, & Schneider, 2003), it is also likely to be an emotion-inducing event. The type and degree of emotional response will depend on many aspects (Scherer, 1984). It depends on whether people evaluate the event as causing environmental changes, on the pleasantness of the event, on the perceived impact of the event for goal achievement, and on the perceived control over the event and whether it fits with personal or social norms. When team members believe a given solution is the best to accomplish their goals, contradicting opinions may be perceived as unpleasant and as an obstacle for goal accomplishment, therefore leading to negative emotional states. Also, according to the self-verification theory (Swann, Polzer, Seyle, & Ko, 2004), team members may interpret divergent opinions as a negative assessment of their own abilities and competencies, therefore leading to dissatisfaction. Finally, task conflict entails expressing divergent viewpoints. The existence of differences between team members can hinder the emergence of a shared state, which, by definition, implies homogeneous perceptions of the team's cognitive, affective, or motivational states (Kozlowski & Chao, 2012).

However, in the long run, task conflict may lead to better performance outcomes. Engaging in task conflict allows teams to consider a broader range of solutions and courses of action and creates space for more critical evaluations of possibilities and reduces the likelihood of thought processing biases such as confirmatory biases (e.g., Jehn, 1995; Schulz-Hardt, Brodbeck, Mojzisch, Kerschreiter, & Frey, 2006). An experimental study by Jehn and Shah (1997) showed that critical evaluation (e.g., disagreements about a member's performance, disapproval of a member's suggestion) was positively related to performance in decision-making tasks, but not in simpler motor tasks. DeWit et al.'s meta-analysis (2012) compared the relationship between task conflict and performance at different organizational levels. They concluded that the aforementioned relationship was more positive for top management teams, therefore supporting the idea that task conflict and performance have a more positive relationship when more complex tasks are being performed, such as those undertaken by research teams. Therefore, task conflict may help group performance by synthesizing individual contributions into a better fitting decision, and this is particularly important when teams perform complex cognitive tasks, which is the case of research teams. Our third hypothesis is formulated based on this evidence and considering the JD-R model for defining control variables:

Hypothesis 3: Task conflict is (a) negatively related to TWE, controlling for job resources, and (b) positively related to team performance, controlling for TWE.

Adding to these direct effects of conflict on TWE and on team performance, we propose that it can also act as a contextual variable affecting the relationship between team resources and TWE and between

TWE and team performance. As previously stated, the relationship between resources and engagement is consistently positive. Individuals thrive in resourceful environments, as they lead to increased levels of energy, of attention focus, and of dedication. In addition, according to the JD-R model, job resources lead to engagement, particularly when job demands are high (Bakker et al., 2014). However, not all job demands have an equal impact on that relationship (LePine et al., 2005). On the one hand, challenging demands are perceived as obstacles to overcome in order to achieve goals and to learn and evolve. When faced with challenging demands, employees perceive their job as stimulating, which leverages motivation. On the other hand, hindering demands are perceived as unnecessary obstacles that block goal achievement. With a sample of 64 studies, a meta-analytic review by Crawford, LePine, and Rich (2010) supported a positive relationship between challenging demands and engagement, and a negative relationship between hindering demands and engagement.

Therefore, considering an equally resourceful environment, the existence of task or relationship conflict may condition the emergence of TWE differently, since the two types of conflict represent different job demands. Relationship conflict is a hindering job demand that does not contribute to task completion nor add to the team's potential. On the contrary, task conflict can be considered a challenging job demand that can stimulate individuals' thoughts and decision-making abilities. Therefore, the following hypotheses are formulated:

Hypothesis 4a: Relationship conflict weakens the relationship between team resources and team work engagement.

Hypothesis 4b: Task conflict strengthens the relationship between team resources and team work engagement.

Work engagement leads to an increased in-role performance because it increases a worker's vigor, allowing him or her to work harder and longer, as well as his or her devotion to the job. The relationship between engagement and performance is consistently positive (e.g., the JD-R model; Bakker & Demerouti, 2007). In addition, and despite the direct effects of conflict both on TWE and on performance, conflict states can be conceptualized as the context where that particular relationship develops. A context of high levels of relationship conflict, where team members are constantly picking on each other, may prevent a shared engagement from being translated into actual taskwork (Beal et al., 2005). However, the performance output may benefit when an engaged team also presents high levels of task conflict. Engaged teams are likely to be able to persist in face of difficulties, to be more willing and open to accept different viewpoints, and to channel their divergent viewpoints into an increased focus on work. Therefore, the aforementioned positive consequences of task conflict for thought processing and decision-making are more likely to emerge within engaged teams.

Hypothesis 5a: Relationship conflict weakens the relationship between TWE and team performance.

Hypothesis 5b: Task conflict strengthens the relationship between TWE and team performance.

Method

Participants and Procedure

Data were collected from 82 research teams ($N = 217$ individuals) from a southern European country. An invitation to participate in the study was sent to the principal researcher's email (obtained from an open online database) of all ongoing research projects (funded by the national Foundation for Science and Technology, a public organization) in the country. The same email contained a link to an electronic survey. The principal investigator of each research project was then asked to provide the emails of his or

her research team members to whom we sent another email, with the link to the electronic survey. From the 537 principal investigators emailed, 396 answered our survey (73% response rate). From these, 150 provided the emails of their team members (37%) and, in the end, 82 complete teams (principal investigator and project members) answered the survey. Table 1 indicates the scientific areas of the projects whose teams participated in this study.

The participants' average age was 38.2 years ($SD = 10.29$) and 40.1% were men. The majority of participants had completed their Ph.D. (64.5%) or master's degree (28.1%). Team size was, on average, 3.41 members ($SD = 0.92$), and participants had worked on the project, on average, for 2.46 years ($SD = 0.67$).

Measures

Team resources were measured with six items including the following: performance feedback, social support from co-workers, support from supervisor, and information available (based on Schaufeli & Bakker, 2003). These items were included on a scale where the team members indicated their answers. An example item is "I can ask my co-workers for help whenever I need" (1 = *I totally disagree* to 7 = *I totally agree*; Cronbach's $\alpha = .91$).

Team work engagement was measured with nine items (Costa et al., 2014b). This scale was filled out by team members. Examples of the items are as follows: "When we are working on the project we feel strong and vigorous" or "We are excited about this project" (1 = *Never* to 7 = *Always*; Cronbach's $\alpha = .95$).

Relationship conflict was measured with three items adapted from Jehn (1995). The questionnaire was completed by the team leader (principal investigator). An example of the items is "There are personal conflicts between team members" (1 = *I totally disagree* to 7 = *I totally agree*; Cronbach's $\alpha = .94$).

Task conflict was also measured with three items adapted from Jehn (1995). This questionnaire was completed by the team members. An example of the items is "In this team, there are disagreements about ideas" (1 = *I totally disagree* to 7 = *I totally agree*; Cronbach's $\alpha = .82$).

Team objective performance was computed as the difference between the project's defined number of outputs (obtained from the formal project funding form) and the actual number of outputs reported by the project's principal investigator, controlling for the duration of the project, in years. These outputs

Table 1
Scientific Areas of the Research Centers Involved in This Study

Scientific area	%	Scientific area	%
Agricultural Sciences and Forestry	6.2	Electrical Engineering	1.3
Animal Science and Veterinary	2.5	Engineering Systems	2.5
Architecture	1.3	Environment and Climatic Changes	6.1
Art Studies	1.3	Health Sciences	7.4
Biological Engineering and Biotechnology	6.2	History	1.3
Biological Sciences	8.6	Materials Science and Engineering	7.4
Chemical Engineering	1.3	Mechanical Engineering	1.3
Chemistry and Biochemistry	5.0	Philosophy	1.3
Civil and Mining Engineering	5.0	Psychology	5.0
Communication and Information	1.3	Science of Language and Literature	1.3
Computer Engineering	2.5	Sea Science and Technology	7.4
Earth and Space Sciences	2.5	Sociology	5.0
Economy and Management	2.5	Sports Sciences	2.5
Education	3.8	—	—

Note. $N = 82$ teams.

included the number of publications, oral presentations in congresses, official reports, organization of seminars/conferences, advanced training, models, computational applications, pilot installations, laboratory prototypes, patents, and others. Values range between 0 and 14.5.

Results

Descriptive Statistics and Data Aggregation

Table 2 presents the means, standard deviations, and correlations for all the study variables. All analyses were conducted at the team level ($N = 82$ teams). To statistically justify aggregation, the index of within-group interrater agreement ($rwg_{(j)}$, James, Demaree, & Wolf, 1984) was calculated. Using the value of .70 and above as an acceptable level of agreement (Cohen, Doveth, & Eick, 2001), the mean values of $rwg_{(j)}$ all fall above that value (from .86 for relational conflict to .78 for task conflict). Moreover, intraclass correlations, both ICC(1) and ICC(2) (Bliese, 2000), were calculated. ICC(1) values were between the recommended values of .05 and .20 (DeShon, Kozlowski, Schmidt, Milner, & Wiechmann, 2004), and ICC(2) values were all greater than the ICC(1) values. Therefore, the team members' responses were aggregated both at the item level and at the variable level using the mean of the team members' responses.

Considering the high correlations between TWE and team resources, confirmatory factor analysis was performed to guarantee that the two were different constructs. A two-factor model, where the respective items of TWE and team resources load on two distinct latent factors, was compared with a one-factor model, where all the items load on one common latent factor. Model fit was evaluated considering a combination of comparative fit index (CFI) and standardized root mean square residual (SRMR) indices, according to Hu and Bentler's (1999) recommendation for sample sizes smaller than 250, plus RMSEA. The fit of both models improved significantly after allowing the following constraints: one between the errors associated with the items of TWE, items 1 and 2 (both from the vigor dimension); two constraints associated with the errors of the items of team resources, items 1 and 2 (both measuring feedback); and items 3 and 4 (both measuring support among colleagues). The fit for the two-factor model ($\chi^2 = 143.264$ [86]; $p = .000$; CFI = 0.94; RMSEA = 0.9; SRMR = 0.7) was better than the fit for the one-factor model ($\chi^2 = 200.126$ [87]; $p = .000$; CFI = 0.89; RMSEA = 0.13; SRMR = 0.06). Considering the delta between the chi-square values of the two models ($\chi^2_{\Delta} = 56.862$ [1]), the difference is significant ($p < .001$).

After examining the fit of both models, our hypotheses were tested.

Hypotheses Testing

Hypothesis 1 (team resources indirectly impact on team performance through team work engagement) was tested using MPlus software (Muthén & Muthén, 1998–2010) with 5,000 bootstraps. Our data

Table 2
Means, Standard Deviations, Aggregation Indices, and Correlations Between All Study Variables

	<i>M</i>	<i>SD</i>	Mean of $rwg_{(j)}$	ICC(1)	ICC(2)	1	2	3	4
1. Team resources	6.2	0.69	.85	.07	.24				
2. TWE	5.7	0.68	.82	.05	.18	.78**			
3. Task conflict	3.4	1.0	.78	.10	.31	-.21	-.31*		
4. Relationship conflict	2.0	0.77	–	–	–	-.27*	-.28**	-.28**	
5. Team Performance	3.8	2.9	–	–	–	.18	.24*	-.12	-.09

Notes. $N = 82$ teams.

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

supported our hypothesis.¹ The indirect effect was significant ($\beta = .19, p = .01$; 95% CI: 0.066, 0.319), as well as the effects from team resources to TWE ($\beta = .78, p = .000$; 95% CI: 0.670, 0.904), and from TWE to team performance ($\beta = .25, p = .02$; 95% CI: 0.348, 1.883). Moderation hypotheses were tested in SPSS 18 (2009) after centering both independent variables and calculating the interaction term. The results for task and relationship conflict are presented separately.

The Role of Relationship Conflict

First, Hypothesis 2a (relationship conflict is negatively related to TWE) was tested, controlling for team resources, and then Hypothesis 2b (relationship conflict is negatively related to team performance), controlling for TWE. No support for either of the hypotheses was found. In relation to Hypothesis 2a, only team resources, and not relationship conflict, significantly predicted team work engagement ($\beta = .76; p < .001$). In Hypothesis 2b, only team work engagement significantly predicted team performance ($\beta = .26; p = .031$). Therefore, no direct effects of relationship conflict with TWE or with team performance were found.

Hypothesis 4a (relationship conflict weakens the relationship between team resources and team work engagement) and Hypothesis 5a (relationship conflict weakens the relationship between TWE and team performance) were then tested. Considering Hypothesis 4a, when the interaction was entered in the model, team resources continue to be a significant predictor of team work engagement ($\beta = .80; p < .001$) and the interaction was also significant and negative ($\beta = -.19; p = .009$) (cf. Figure 2). As can be seen in the figure, team resources are positively related to team work engagement and this relationship is stronger when teams have low levels of relationship conflict. Thus, Hypothesis 4a was supported.

Considering Hypothesis 5a, when the interaction was entered in the model, team work engagement continued to be a significant predictor of team performance ($\beta = .27; p = .027$), but the interaction was not significant ($\beta = .12; p = .325$). To sum up, support was only found for the moderating role of relationship conflict between team resources and team work engagement (cf. Table 3).

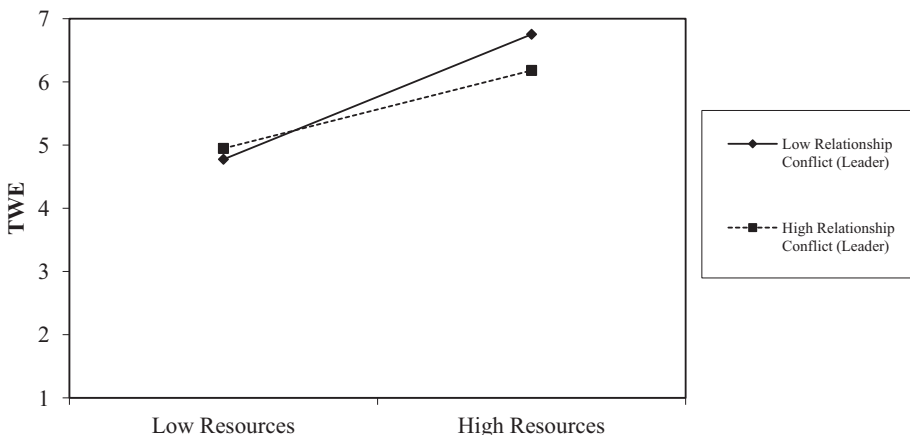


Figure 2. Interaction between team resources and relationship conflict (as perceived by the team leader) in predicting TWE.

¹The tested model was nearly saturated ($df = 1$), and many fit indices showed a perfect fit (CFI = 1; SRMR = 0.004). Therefore, we do not rely on these indices to assess the fit of the model and present the values for each effect instead.

Table 3
Results of the Moderation Analysis of the Role of Relationship Conflict

	β	t	p
DV = TWE			
Team resources	.76	10.567	.000
Relationship conflict	-.80	-1.071	.288
DV = TWE			
Team resources	.80	11.287	.000
Relationship conflict	-.10	-1.426	.158
Team resources*Relationship conflict	-.19	-2.671	.009
DV = Team performance			
Relationship conflict	.05	0.393	.695
TWE	.26	2.198	.031
DV = Team performance			
Relationship conflict	.10	0.760	.450
TWE	.27	2.252	.027
Relationship conflict*TWE	.12	0.991	.325

Notes. DV, dependent variable. $N = 82$ teams. With TWE as DV, $df = 81$; with team performance as DV, $df = 79$. All predictor variables were mean-centered.

The Role of Task Conflict

The role of task conflict was tested in the same way. First, Hypothesis 3a (task conflict is negatively related to TWE) was tested, controlling for team resources, and then Hypothesis 3b (task conflict is positively related to team performance), controlling for TWE. Concerning Hypothesis 3a, both team resources ($\beta = .72$; $p < .001$) and task conflict ($\beta = -.17$; $p < .05$) significantly predicted team work engagement. Hypothesis 3a was therefore supported. In relation to Hypothesis 3b, only team work engagement ($\beta = .29$; $p < .05$) significantly predicted team performance. Therefore, Hypothesis 3b was not supported. The hypothesized moderation role of task conflict in the relationship between team resources and TWE (Hypothesis 4b) and between TWE and team performance (Hypothesis 5b) was tested next. Considering Hypothesis 4b, when the interaction was entered in the model, both independent variables continued to be significant predictors of team work engagement ($\beta = .75$; $p < .001$ for team resources; and $\beta = -.15$, $p < .05$ for task conflict), but the interaction was not significant ($B = -.12$; $p = .099$). Therefore, Hypothesis 4b was not supported. Concerning Hypothesis 5b, when the interaction was entered in the model, team work engagement continued to be a significant predictor of team performance ($\beta = .27$; $p < .05$), and the interaction was significant and positive ($\beta = .21$; $p = .05$) (cf. Figure 3).

Therefore, Hypothesis 5b was supported. Thus, a high level of team work engagement leads to higher levels of team performance and this relationship is greater when teams have high levels of task conflict. In summary and in relation to task conflict, evidence was found for a negative direct relationship with TWE, and for a moderator role in the relationship between TWE and team performance (cf. Table 4).

All of the significant paths are presented in Figure 4.

Discussion

Task and relationship conflict were investigated as moderators in the job demands–resources model at the team level in this study, focusing on their distinct roles as hindering or challenging job demands. More proximal outcomes (TWE), as well as more distal ones (team performance), were considered. Concerning relationship conflict, only support for its moderating role between team resources and team

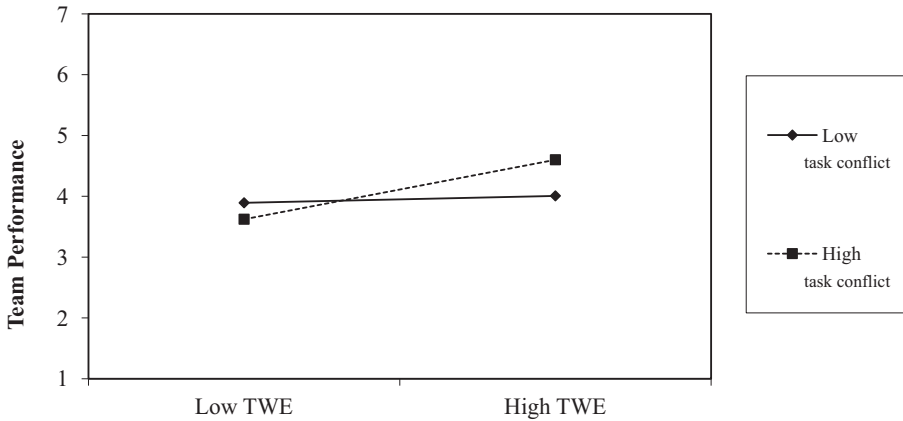


Figure 3. Interaction between TWE and task conflict in predicting team performance. Note: CT = task conflict.

Table 4
Results of the Moderation Analysis of the Role of Task Conflict

	β	t	p
DV = TWE			
Team resources	.72	9.965	.000
Task conflict	-.17	-2.375	.020
DV = TWE			
Team resources	.75	10.190	.000
Task conflict	-.15	-2.020	.047
Team resources*Task conflict	-.116	-1.671	.099
DV = Team performance			
TWE	.29	2.370	.020
Task conflict	.10	0.843	.402
DV = Team performance			
TWE	.27	2.307	.024
Task conflict	.08	0.681	.492
TWE*Task conflict	.22	1.992	.050

Notes. DV, dependent variable. $N = 82$ teams. With TWE as DV, $df = 81$; with team performance as DV, $df = 79$. All predictor variables were mean-centered.

work engagement, that is, for a hindering role for the proximal outcome of TWE when interacting with job resources, was found. Regarding task conflict, evidence was found for a direct negative relationship with TWE, and for a moderator role in the relationship between TWE and team performance. Therefore, it is possible that relationship conflict functions as a hindering demand when TWE is considered, and that task conflict functions as a challenging demand for performance outcomes when interacting with the team’s levels of collective engagement.

The most interesting result of this study concerns the different pattern of influences of each type of conflict in the JD-R model when a moderator role is considered. Conflictual relationships seem to be a more detrimental context when team work engagement is emerging within the team, whereas discussing ideas positively has an impact by transforming a team’s energy and enthusiasm into objective performance. It is possible to consider that team work engagement may act as a shield that prevents relationship conflict from impacting negatively on the team’s dedication toward work and its willingness to go the extra mile in the job. Therefore, once engaged, teams are better able to avoid the negative

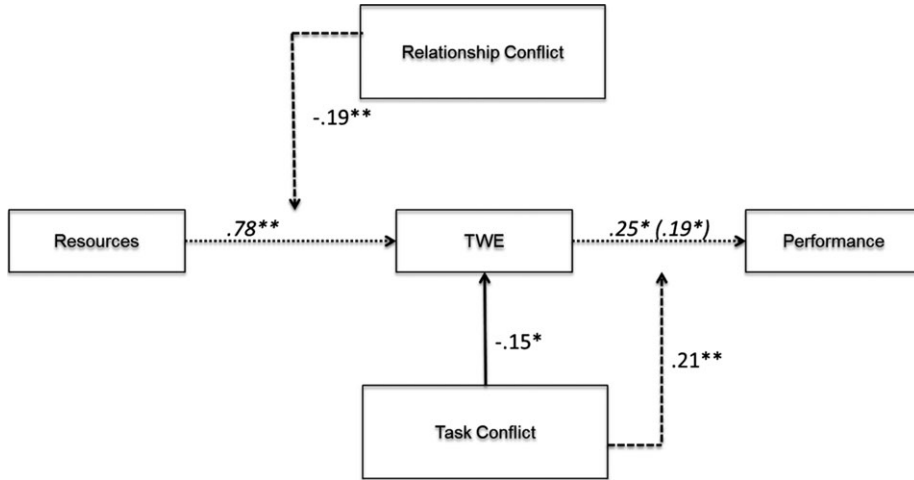


Figure 4. Final model representing supported hypotheses with standardized coefficients. Italic numbers represent standardized coefficients, and indirect effect is within parentheses. Regular numbers represent standardized coefficients obtained when modeling moderation.

consequences of relationship conflict and stay focused on their tasks, as engagement promotes both energy and focus toward work, as well as a positive affective climate in the team (Costa et al., 2014a). What is more, and adding to DeWit et al.’s (2012) findings, task conflict may enhance the benefits of engaged teams concerning performance. Engaged teams are more open to new information (Bakker, 2011) and can integrate their members’ different or even opposing contributions better. At the individual level, recent work has shown that engaged employees are active actors in their environment, changing it according to their needs (e.g., Tims, Bakker, & Derks, 2012; Tims, Bakker, Derks, & Van Rhenen, 2013); the authors coined the term “job crafting” for this active influence over the environment. Through job crafting, engaged employees try to increase job resources, such as mobilizing their social network, as well as (to increase) their (engaged employees’) own challenges or job demands, such as starting a new project. This might explain our results. First, through job crafting, teams may be able to mobilize social resources, thus reducing the negative impact of relationship conflict. Second, the need to conciliate distinct viewpoints may be perceived as a challenging task by engaged teams, rather than as a hindering job demand, therefore functioning as performance leverage.

This study failed to support nearly half of the initial hypotheses. There are some possible explanations for this. First, the sample used has particular characteristics. Research teams are composed of highly educated individuals, who may be more polite and, therefore, may be better able not to engage in relationship conflicts when working (Lazar & Rosen, 1981). Indeed, only task conflict, and not relationship conflict, directly impacted on TWE, reducing its level. This is in line with the low level of average relational conflict these teams reported, compared to the average task conflict level. These types of teams, according to DeWit et al. (2012), may show fewer negative effects of conflict on proximal outcomes. However, task conflict may still generate interpersonal tension among team members, which negatively influences the collective engagement levels. Even if individuals manage to solve complex interpersonal situations politely, the negative affective valence of conflict and its potential ego-threatening nature (and academics are not at all immune to it) has a negative impact on the emergent states of teams. In this particular sample, the ICC(1) values are low for both TWE and team resources. Therefore, these specific teams’ level of agreement on their collective level of engagement and team resources is not optimal for conducting an analysis at the team level, which may also explain why we were unable to support some of our hypotheses, developed at the team level. Despite being grouped together under the same research

project, these teams' levels of interaction or interdependence (the touchstones for developing collective states and perceptions, Kozlowski & Klein, 2000) may be low, as they may be involved in different activities.

Second, conflict (both relationship and task) may be relevant in distinct ways at different performance phases of teams, which was not taken into account in the design of this study. According to Marks et al. (2001), teams are involved in iterative performance episodes. Each performance episode comprises action and transition phases: The former are related to the actual taskwork, doing what they must do to accomplish the task such as building the products and designing the new marketing props; the latter encompass more reflective moments, where members evaluate what they have done so far and plan future steps (e.g., analyzing the monthly sales, defining the new targets for a product). Managing conflict is an interpersonal team process that should be present throughout both the action and transition phases (Marks et al.). However, the influence of conflict on transition phases may be more detrimental for the team's effectiveness, particularly concerning relationship conflict. Positive, high-activated states have been linked to innovative work behavior (Madrid, Patterson, Birdi, Leiva, & Kausel, 2013), and positive emotional states are related to a broader perception of the environment and the ability to create new solutions (Fredrickson, 2001). Conflict is, by definition, an activated state, but it has a negative affective valence associated with it. This may block creative thinking and problem-solving during those moments where teams are reviewing and planning and prevent team members from appreciating each other's perspectives. Conversely, task conflict may have a more positive influence on teams' performance during action phases since, during these phases, teams are more predisposed to focus on the task, and less on personal relationships, therefore welcoming challenging task-related situations.

Third, our findings may reflect some methodological choices. We used a cross-sectional design instead of more longitudinal one that might have captured the relationships in the model better, given the nature of the theoretical rationale or the research topic.

Despite the interesting results, our study also has some limitations that should be recognized. First, as previously stated, the cross-sectional design does not address the longitudinal theoretical model presented. Acknowledging the limitations of cross-sectional designs, its impact on this study's overall data collection and analysis strategy was minimized in two specific ways. These limitations were reduced by having task and relational conflict assessed by different people and by having an objective measure of performance. Therefore, future research should try to replicate this study with a more complex, longitudinal, data collection procedure, that could also make it possible to identify different patterns of results, taking into consideration both the transition and action phases of teamwork.

Second, we focused on the influence of conflict states on team engagement and performance. DeChurch, Mesmer-Magnus, and Doty (2013) highlighted the differences between conflict states and conflict processes. The former are shared perceptions about the intensity of disagreement over tasks or relationships, whereas the latter correspond to the interactions between team members aimed at working through those disagreements, which is commonly labeled *conflict management*. The literature on team work engagement shows that conflict management is one of the interpersonal processes responsible for the emergence of a shared level of work engagement (Costa et al., 2014a). The theory suggests that preventing or reducing the level of interpersonal conflict, particularly concerning relationship conflict, will facilitate the development of team work engagement, because team members will then be more able to provide constructive criticism and become less self-centered and more concerned with the team's collective goal accomplishment and with the task(s) at hand. Therefore, more future research focusing on conflict management processes is needed, namely on its role on the JD-R model. Adequately managing conflict could be conceptualized as a specific job resource, responsible for lowering the negative impact of conflict as a hindering job demand and for fostering the potentially challenging effect of task conflict.

Finally, although support was found for conceptualizing team conflict as a moderator (moving from the traditional mediator perspective), more research is needed to discover whether these

findings can be replicated with different samples. Our sample was very specific, research teams, and composed of highly qualified academic workers. Therefore, generalizing the results to other samples is not advisable.

In relation to practical implications, our study may be of use to team leaders and managers. Relationship conflict, as a hindrance, should always be avoided as a way to promote positive emergent team states. To do so, managers can invest in communication training and in acting as impartial mediators of those situations. Simultaneously, there should be formal moments for generating and expressing divergent opinions about what to do and about how to do it, ensuring the necessary trustful environment without fear of negative consequences. The promotion of task conflict should be done conscientiously and in teams where positive emergent states such as cohesion or engagement have already been established.

Conclusion

In conclusion, our study contributes to understanding of the different roles of both task and relationship conflict within the JD-R model. We found support for a hindering role of relationship conflict concerning proximal emergent states, namely team work engagement. Task conflict seems to have a more complex role, functioning either as a hindering demand for proximal emergent states (TWE) or as a challenging demand for more distal team performance outcomes.

References

- Bakker, A. B. (2011). An evidence-based model of work engagement. *Current Directions in Psychological Science*, 20, 265–269. doi:10.1177/0963721411414534
- Bakker, A. B., Albrecht, S. L., & Leiter, M. P. (2011). Work engagement: Further reflections on the state of play. *European Journal of Work and Organizational Psychology*, 20, 74–88. doi:10.1080/1359432X.2010.546711
- Bakker, A. B., & Demerouti, E. (2007). The Job Demands-Resources model: State of the art. *Journal of Managerial Psychology*, 22, 309–328. doi:10.1108/02683940710733115
- Bakker, A. B., Demerouti, E., & Sanz-Vergel, A. I. (2014). Burnout and work engagement: The JD-R approach. *Annual Review of Organizational Psychology and Organizational Behavior*, 1, 389–411. doi:10.1146/annurev-orgpsych-031413-091235
- Bakker, A. B., Hakanen, J. J., Demerouti, E., & Xanthopoulou, D. (2007). Job resources boost work engagement, particularly when job demands are high. *Journal of Educational Psychology*, 99, 274–284. doi:10.1037/0022-0663.99.2.274
- Bakker, A. B., & Leiter, M. P. (2010). Where to go from here? Integration and future research on work engagement. In A. B. Baker & M. P. Leiter (Eds.), *Work engagement: A handbook of essential theory and research* (pp. 181–196). New York: Psychology Press.
- Bakker, A. B., & Sanz-Vergel, A. I. (2013). Weekly work engagement and flourishing: The role of hindrance and challenge job demands. *Journal of Vocational Behavior*, 83, 397–409. doi:10.1016/j.jvb.2013.06.008
- Beal, D. J., Weiss, H. M., Barros, E., & MacDermid, S. M. (2005). An episodic process model of affective influences on performance. *Journal of Applied Psychology*, 90, 1054–1068. doi:10.1037/0021-9010.90.6.1054
- Billings, D. W., Folkman, S., Acree, M., & Moskowitz, J. T. (2000). Coping and physical health during caregiving: The roles of positive and negative affect. *Journal of Personality and Social Psychology*, 79, 131–142. doi:10.1037/0022-3514.79.1.131
- Blake, R. R., & Mouton, J. S. (1984). *Solving costly organizational conflicts*. San Francisco, CA: Jossey-Boss Publishers.
- Bliese, P. D. (2000). Within-group agreement, non-independence, and reliability: Implications for data aggregation and analysis. In K. J. Klein & S. W. Kozlowski (Eds.), *Multilevel theory, research, and methods in organizations* (pp. 349–381). San Francisco, CA: Jossey-Bass.

- Christian, M. S., Garza, A. S., & Slaughter, J. E. (2011). Work engagement: A quantitative review and test of its relations with task and contextual performance. *Personnel Psychology, 64*, 89–136. doi:10.1111/j.1744-6570.2010.01203.x
- Cohen, A., Doveth, E., & Eick, U. (2001). Statistical properties of the rwg (J) index of agreement. *Psychological Methods, 6*, 297–310. doi:10.1037/1082-989X.6.3.297
- Conlon, D. E., & Jehn, K. A. (2007). *Behind the music: Conflict, performance effectiveness, and behavioral out-comes in punk and new wave rock bands*. Unpublished manuscript.
- Costa, P., Passos, A. M., & Bakker, A. B. (2014a). Team Work Engagement: A model of emergence. *Journal of Occupational and Organizational Psychology, 87*, 414–436. doi:10.1111/joop.12057
- Costa, P., Passos, A. M., & Bakker, A. B. (2014b). Empirical validation of the team work engagement construct. *Journal of Personnel Psychology, 13*, 34–45. doi:10.1027/1866-5888/a000102
- Crawford, E. R., LePine, J. A., & Rich, B. L. (2010). Linking job demands and resources to employee engagement and burnout: A theoretical extension and meta-analytic test. *Journal of Applied Psychology, 95*, 834–848. doi:10.1037/a0019364
- De Dreu, C. K. W., & Weingart, L. R. (2003). Task versus relationship conflict, team performance, and team member satisfaction: A meta-analysis. *Journal of Applied Psychology, 88*, 741–749. doi:10.1037/0021-9010.88.4.741
- De Lange, A., De Witte, H., & Notelaers, G. (2008). Should I stay or should I go? Examining longitudinal relations among job resources and work engagement for stayers versus movers. *Work & Stress, 22*, 201–223. doi:10.1080/02678370802390132
- DeChurch, L. A., Mesmer-Magnus, J. R., & Doty, D. (2013). Moving beyond relationship and task conflict: Toward a process-state perspective. *Journal of Applied Psychology, 98*, 559–578. doi:10.1037/a0032896
- Demerouti, E., & Bakker, A. B. (2011). The Job Demands–Resources model: Challenges for future research. *SA Journal of Industrial Psychology/SA Tydskrif vir Bedryfsielkunde, 37*, 1–9. doi:10.4102/sajip.v37i2.974
- Demerouti, E., Bakker, A. B., De Jonge, J., Janssen, P. P. M., & Schaufeli, W. B. (2001). Burnout and engagement at work as a function of demands and control. *Scandinavian Journal of Work, Environment and Health, 27*, 279–286. doi:10.5271/sjweh.615
- DeShon, R. P., Kozlowski, S. W. J., Schmidt, A. M., Milner, K. R., & Wiechmann, D. (2004). Multiple goal feedback effects on the regulation of individual and team performance in training. *Journal of Applied Psychology, 89*, 1035–1056. doi:10.1037/0021-9010.89.6.1035
- DeWit, F. R. C., Greer, L. L., & Jehn, K. A. (2012). The paradox of intragroup conflict: A meta-analysis. *Journal of Applied Psychology, 97*, 360–390. doi:10.1037/a0024844
- Dijkstra, M. T. M., Van Dierendonck, D., & Evers, A. (2005). Responding to conflict at work and individual well-being: The mediating role of flight behaviour and feelings of helplessness. *European Journal of Work and Organizational Psychology, 14*, 119–135. doi:10.1080/13594320444000254
- Fredrickson, B. L. (2001). The role of positive emotions in positive psychology: The broaden-and-build theory of positive emotions. *American Psychologist, 56*, 218–226. doi:10.1037/0003-066X.56.3.218
- Garcia-Prieto, P., Bellard, E., & Schneider, S. (2003). Experiencing diversity, conflict and emotions in teams. *Applied Psychology: An International Review, 52*, 413–440. doi:10.1111/1464-0597.00142
- Hakanen, J. J., Bakker, A. B., & Demerouti, E. (2005). How dentists cope with their job demands and stay engaged: The moderating role of job resources. *European Journal of Oral Sciences, 113*, 479–487. doi:10.1111/j.1600-0722.2005.00250.x
- Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling, 6*, 1–55. doi:10.1111/1464-0597.00142 10.1080/10705519909540118
- James, L. R., Demaree, R. G., & Wolf, G. (1984). Estimating within-group interrater reliability with and without response bias. *Journal of Applied Psychology, 69*, 85–88. doi:10.1037/0021-9010.69.1.85
- Jehn, K. A. (1995). A multimethod examination of the benefits and detriments of intragroup conflict. *Administrative Science Quarterly, 40*, 256–282. doi:10.2307/2393638

- Jehn, K. (1992). *The impact of intragroup conflict on effectiveness: A multimethod examination of the benefits and detriments of conflict*. Unpublished doctoral dissertation. Northwestern University Graduate, School of Management: Evanston, IL.
- Jehn, K., & Shah, P. (1997). Interpersonal relationships and task performance: An examination of mediating processes in friendship and acquaintance groups. *Journal of Personality and Social Psychology*, *72*, 775–790. doi:10.1037/0022-3514.72.4.775
- Kozlowski, S. W. J., & Chao, G. T. (2012). The dynamics of emergence: Cognition and cohesion in work teams. *Managerial and Decision Economics*, *33*, 335–354. doi:10.1002/mde.2552
- Kozlowski, S. W. J., & Klein, K. J. (2000). A multilevel approach to theory and research in organizations: Contextual, temporal, and emergent processes. In K. J. Klein & S. W. J. Kozlowski (Eds.), *Multilevel theory, research and methods in organizations: Foundations, extensions, and new directions* (pp. 3–90). San Francisco, CA: Jossey-Bass.
- Lazear, E. P., & Rosen, S. (1981). Rank and Order Tournament: An optimal labor contract. *Journal of Political Economy*, *89*, 841–864. doi:10.3386/w0401
- LePine, J. A., Podsakoff, N. P., & LePine, M. A. (2005). A meta-analytic test of the challenge stressor-hindrance stressor framework: An explanation for inconsistent relationships among stressors and performance. *Academy of Management Journal*, *48*, 764–775. doi:10.5465/AMJ.2005.18803921
- Madrid, H. P., Patterson, M. G., Birdi, K. S., Leiva, P. I., & Kausel, E. E. (2013). The role of weekly high-activated positive mood, context, and personality in innovative work behavior: A multilevel and interactional model. *Journal of Organizational Behavior*, *35*, 234–256. doi:10.1002/job.1867
- Marks, M. A., Mathieu, J. E., & Zaccaro, S. J. (2001). A temporally based framework and taxonomy of team processes. *Academy of Management Review*, *26*, 356–376. doi:10.2307/259182
- Mauno, S., Kinnunen, U., & Ruokolainen, M. (2007). Job demands and resources as antecedents of work engagement: A longitudinal study. *Journal of Vocational Behavior*, *70*, 149–171. doi:10.1016/j.jvb.2006.09.002
- Muthén, L. K., & Muthén, B. O. (1998–2010). *Mplus user's guide*. (6th ed.). Los Angeles, CA: Muthén & Muthén.
- Priem, R., & Price, K. (1991). Process and outcome expectations for the dialectical inquiry, devil's advocacy, and consensus techniques of strategic decision making. *Group and Organization Studies*, *16*, 206–225. doi:10.1177/105960119101600207
- Rispens, S., Greer, L. L., & Jehn, K. A. (2007). It could be worse: A study on the alleviating role of trust and interdependence in intragroup conflict. *International Journal of Conflict Management*, *18*, 325–334.
- Santos, C. M., & Passos, A. P. (2013). Team mental models, relationship conflict and effectiveness over time. *Team Performance Management*, *19*, 363–385. doi:10.1108/TPM-01-2013-0003
- Schaufeli, W. B., & Bakker, A. B. (2003). *The Utrecht Work Engagement Scale (UWES)*. Test manual. Utrecht, The Netherlands: Department of Social & Organizational Psychology.
- Schaufeli, W. B., & Bakker, A. B. (2010). The conceptualization and measurement of work engagement: A review. In A. B. Bakker & M. P. Leiter (Eds.), *Work engagement: A handbook of essential theory and research* (pp. 10–24). New York, NY: Psychology Press.
- Scherer, K. R. (1984). On the nature and function of emotion: A component process approach. In K. R. Scherer & P. Ekman (Eds.), *Approaches to emotion* (pp. 293–319). London, UK: Lawrence Erlbaum.
- Schulz-Hardt, S., Brodbeck, F. C., Mojzisch, A., Kerschreiter, R., & Frey, D. (2006). Group decision making in hidden profile situations: Dissent as a facilitator for decision quality. *Journal of Personality and Social Psychology*, *91*, 1080–1093. doi:10.1037/0022-3514.91.6.1080
- SPSS, Inc. (2009). *PASW statistics 18, release version 18.0.0*. Chicago, IL: SPSS.
- Swann, W. B., Polzer, J. T., Seyle, D. C., & Ko, S. J. (2004). Finding value in diversity: Verification of personal and social self-views in diverse groups. *Academy of Management Review*, *29*, 9–27. doi:10.5465/AMR.2004.11851702
- Tims, M., Bakker, A. B., & Derks, D. (2012). Development and validation of the job crafting scale. *Journal of Vocational Behavior*, *80*, 173–186. doi:10.1016/j.jvb.2011.05.009
- Tims, M., Bakker, A. B., Derks, D., & Van Rhenen, W. (2013). Job crafting at the team and individual level: Implications for work engagement and performance. *Group and Organization Management*, *38*, 427–454. doi:10.1177/1059601113492421

Torrente, P., Salanova, M., Llorens, S., & Schaufeli, W. B. (2012). Teams make it work: How team work engagement mediates between social resources and performance in teams. *Psicothema, 24*, 106–112.

Patrícia L. Costa is a researcher at ISCTE-Lisbon University Institute, with a Ph.D. in psychology. She studies team effectiveness in diverse organizations, with a focus on interpersonal team processes and affective phenomena within teams.

Ana M. Passos is a professor at ISCTE-Lisbon University Institute. She is the director of the Doctoral Program in Human Resources Management. Her current research interest focuses on the social psychological mechanisms underlying team processes and performance in different organizational contexts.

Arnold B. Bakker is professor and chair of the Department of Work & Organizational Psychology at Erasmus University Rotterdam, the Netherlands. His research interests include positive organizational phenomena such as work engagement, flow, and happiness at work, with a particular interest in understanding the processes that lead to job performance (e.g., crossover of work-related emotions.)