

## RESEARCH ARTICLE

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# **The mediating role of task conflict and cross-understanding in the relation between transactional leadership and team adaptive performance**

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### **Abstract**

Organizations depend on teams to achieve their proximal or distal objectives. They are required to perform at high level in dynamic contexts and unclear situations. In these environments, teams must be capable to adapt and adjust their performance according to the changes they are facing. This paper examines the relation between transactional leadership and adaptive performance mediated by task conflict and cross-understanding. These two mediators seem to be an important part of team cognition. We analysed 33 real working teams and their leaders, these teams operating in different domains. We found that task conflict and cross-understanding mediated the relation between transactional leadership and adaptive performance. This result contributes to the literature stating that transactional leadership can have benefits on adaptive performance. Another contribution is that we analysed the newly introduced concept of cross-understanding, and we identified situations where task conflict is benefic for adaptive performance.

### **Keywords**

transactional leadership, task conflict, cross-understanding, adaptive performance

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### **Introduction**

Teams are the core building blocks of organizations and are challenged to handle complex tasks such as problem solving, decision making, planning and managing interventions. They are required to perform at their best in ill-defined situations and in highly dynamic contexts. In these settings, the capacity to scan the environment for critical changes, to quickly identify cause and effect relations and adjust individual behaviors, as well as the team's strategies

(Kozlowski, Gully, Nason, & Smith, 1999) are a must. It becomes, therefore, important to explore and understand what are the factors that contribute to the emergence of team adaptive performance. By drawing on the Input-Mediator-Process-Output (Ilgen et al., 2005), I argue that team cognition (i.e. the way the team processes information and develops representations about the external and internal environment) is a critical antecedent of team adaptive performance. Team cognition has received great attention during the last decades (Harrison & Klein, 2007; Kerr & Tindale,

2004) and many concepts and theoretical developments were added to the understanding of how groups process information. Most of team cognition literature focuses on team mental models (Mohammed et al., 2010) and team transactive memory systems in relation to team performance (Lewis, 2004; Zhang et al., 2007), and little is known about the newly introduced concept of cross-understanding. In this paper, I focus on the role that cross-understanding plays for adaptive team performance, as well as on its antecedents: task conflict.

In addition, team leadership has been previously linked to team adaptability (Kozlowski, Watola, Jensen, Kim, & Botero, 2009) and team performance. However, prior evidence indicates that the relationship between leaders' contingent negative reinforcement and followers' actual performance is mixed. Researchers have reported a positive relation (Greene, 1975), a negative relation (Bass & Avolio, 1990; Bass, Walman, Avolio & Bebb, 1987; Hater & Bass, 1988) and no relationship (Hunt & Schuler, 1976; Podsakof et al., 1982; 1984) between leaders' contingent reward behavior and followers' performance. In order to clarify these mixed results, we investigate the relation between transactional leadership and team adaptive behavior and argue that it is serially mediated by task conflict and cross-understanding.

## **Defining the concepts**

### *Teams as complex adaptive systems*

Team researchers have studied the approach of teams as complex, adaptive, dynamic systems (McGrath et al., 2000). Teams exist in dynamic contexts when the adaptive demands at different changes are very high and perform across time facing challenges. Members interact within the team and with others and these interactions could change the process within the teams, the members and even the context in which they perform. McGrath et al. (2000) describes three levels of dynamic causal interactions: local, global and contextual. The complex interaction between these levels of dynamics result in group

effectiveness (McGrath et al., 2000). This approach is widely used in understanding how teams function and achieve their organizational goals (Cohen & Bailey, 1997; Guzzo & Dickson, 1996; and Ilgen, Hollenbeck, Johnson, & Jundt, 2005).

This approach is based on the classic work of McGrath (1984) and Hackman (1987) who support the theory of groups as systems. This theory expresses the link between different components within the team (I-P-O model). An open system takes the resources from the context (input) and transforms, through processes into outputs. This is described by the general approach of groups as open social systems. Research extended this model to a more complex relation I-M-P-O (Input-Mediator-Process-Output, Ilgen et al., 2005). Adding to the initial model, the mediator component, researchers focus on the role of these factors in the relationship. The mediators are emergent states which are interrelated team properties, dynamic and resulting from the interpersonal interactions among the team members, and they are essential for team effectiveness (Curşeu, 2006; Ilgen et al., 2005; Marks, Mathieu & Zaccaro, 2001). In the present paper, we discuss the mediating role of two important emergent states: task conflict and cross-understanding.

### *Transactional leadership and team adaptive behavior*

Transactional leadership is defined as a process of reciprocity, the leaders present the objectives and the followers are rewarded or punished if they meet the objectives (Jung & Avolio, 2000). The leader-follower relation is based on a series of exchanges or bargains between the two. The transactional leader is able to determine the follower' needs and to provide objectives in order to meet them, members are rewarded or punished in accordance to their performance (Jung & Avolio, 2000). According to Bass, transactional leadership is represented by two factors concerning the attitude that leader exhibits and the level of the activity he shows (Howell & Avolio, 1993). *Contingent reward leadership* describes the active and positive exchange between leaders and followers in

terms of rewarding the accomplishment of the task and of the objectives (Howell & Avolio, 1993). The leader can also transact with the followers by focusing on mistakes, delaying decisions, or avoiding to intervene until something has gone wrong (Howell & Avolio, 1993). Such transactions are referred to as *management by exception*, which can be distinguished by either active or passive transaction between the leader and the followers (Hater & Bass, 1988). The transactional leader does not pursue to change followers' personal values or to develop a deep sense of trust and commitment with the followers (Jung & Avolio, 2000), he is the one who operates within the existing system and culture, has a preference for risk avoidance and pays attention to time constraints and efficiency (Bass, 1985).

Team adaptive performance is defined as "an emergent phenomenon that compiles over time from the unfolding of a recursive cycle whereby one or more team members use their resources to functionally change current cognitive or behavioral goal-directed action or structures to meet expected or unexpected demands" (Burke et al., 2006). In other words, team adaptive performance refers to dealing with uncertain and unpredictable work situations where teams step up to take action in creatively ways and use their resources effectively.

Researchers have identified several individual difference factors as predictors of adaptive performance (Baard et al., 2013): cognitive ability demonstrates a positive relationship with adaptive performance (Griffin & Hesketh, 2004; Pulakos et al., 2002), personality variables demonstrated consistent and positive correlations with adaptive performance including consciousness (Griffin & Hesketh, 2004; Shoss, Witt, & Vera, 2012), achievement orientation (Pulakos et al., 2000; Pulakos et al., 2002), openness to experience (Griffin & Hesketh, 2004; Griffin et al., 2007). In spite of these individual differences being identified as predictors of adaptive performance, there is a scarcity of research that has investigated the impact of contextual factors on adaptive performance (Baard et al., 2013). This may be a potential area for synergy between the individual and team level research and the organizational

research, where more of these contextual factors have been examined (Baard et al., 2013).

### *Team cognition – cross-understanding and task conflict*

Team cognition refers to the way team process information regarding the internal and external environment and develops mental models that enable them to accomplish tasks by acting as a coordinated unit. Team cognition enables members to formulate accurate teamwork and taskwork predictions (Cannon-Bowers, Salas & Converse, 1993; Katz & Tushman, 1979), adapt their activities and behaviors in a collaborative way, and thereby increase overall team effectiveness (Cannon-Bowers & Salas, 2001; Lewis, 2003; Salas & Cannon-Bowers, 2001). In the present study we focus on the mediating role of task conflict and cross-understanding, as two concepts pertaining to the umbrella concept of team cognition, in the relation between transactional leadership and team adaptive performance.

In broad lines, team conflict is an emergent state describing the tension experienced by team members because of real or perceived differences among them (De Dreu, Harink & Van Vianen, 1999; Thomas, 1992; Wall & Callister, 1995). There have been studied three types of conflict: relational conflict, process conflict and task conflict, we further focus on the last one. Task conflict describes dissensions among group members about ideas, viewpoints, perspectives being discussed and debated concerning the task in hand (Jehn, 1995). Examples of task conflict are conflicts about the distribution of the resources, procedures and policies, and judgments and interpretation of facts (De Dreu & Weingart, 2003). In the current article, we discuss the idea that task conflict may have positive impact on the emergent state – cross-understanding – and in turn on adaptive performance.

Jehn (1994, 1995, 1997) proposed that although relationship conflict generally decreases satisfaction and interferes with task performance, task conflict could be

beneficial to task performance when working on non-routine tasks. Simons and Peterson (2000) proposed that task conflict in groups encourages better cognitive understanding of the issues, perspectives and this leads to better decision making. In other words, we can consider task conflict as a form of cognitive diversity in groups. Cognitive or informational diversity is defined as “differences in terms of knowledge, experiences and education between members” (Jehn et al., 1999, p. 743). Each member brings his experiences, knowledge into the group and this creates a diverse climate on which the teams have to perform effectively. A metaanalytic evidence suggests that task conflict relates negative to team performance (De Dreu & Weingart, 2003). However, the authors suggested that further research should focus on identifying possible moderators or mediators for the relation between task conflict and team performance (De Dre & Weingart, 2003). Given the evidence that there are factors that could decrease the negative influence of task conflict, De Dreu and Weingart (2003) concluded “conflict may have positive consequences under very specific circumstances and we need to detect those circumstances in new research” (p.748). Answering this call we try to detect those circumstances under which task conflict have a positive impact on performance, in our case, on adaptive performance.

Cross-understanding refers to the extent to which group members have an accurate understanding of one another’s mental models (Huber & Lewis, 2010). This emergent state can evolve through inter-member communications and interaction experiences, from observations of members’ communications or behaviors, from access to members’ biographical information, or from third party descriptions of members’ characteristics (Huber & Lewis, 2010). Cross-understanding is a group-level, compositional construct (Miller, 1978), defined for groups composed of two or more members (Huber & Lewis, 2010).

## **Arguments for the relations**

### *The relation between transactional leadership and adaptive team performance*

One of the most important factors that influence team performance is the style that the leader adopts when managing the team. Three styles of leadership have been extensively studied in relation with team processes and team performance: transformational, transactional and laissez-faire. This study focuses on the impact of transactional leadership on team adaptive performance.

Transactional leadership refers to “followers agreed with, accepted, or complied with the leader in exchange for praise, rewards, and resources or the avoidance of disciplinary action” (Bass et al., 2003). Transactional leadership behaviors are meant to create a climate based on rewards and praises in exchange for team’s acceptance and compliance with the leader’s objectives. Rewards and recognition are meant to be contingent on followers successfully carrying out their roles and achieving their goals (Podsakoff, Todor, & Skov, 1982).

Previous research emphasized that contingent reward style leadership, a component of transactional leadership, is positively related to followers’ commitment, satisfaction and performance (Bycio, Hackett, & Allen, 1995; Hunt & Schuler, 1976; Podsakoff, Todor, Glover & Huber, 1984). Adaptive behaviors have been considered an emergent form of behavior because their content is difficult to define or prescribe in terms of specific actions (Griffin et al., 2007). These adaptive behaviors are typically initiated by individuals rather than directed or imposed by others (Grant & Ashford, 2008; Van Dyne & Cummings, 1995). Therefore leaders should not specify direction or ways employees could adopt in order to be more proactive or adaptive. Leaders should create and support a climate in which adaptive behaviors are likely to emerge. Transactional leadership creates a context in which goals and objectives are clear and so are the rewards or penalties to be expected once the foals are achieved or not by the team (Bass,

1985). The active management by exception component of the transactional leadership, specifies that the leader communicates what constitutes effective and ineffective performance. The positive relation between contingent reward leadership and performance is based on the assumption that by clarifying what performance is the leader directs followers to the performance level she/he desires (Howel & Avolio, 1993). In a similar vein, by presenting a clear, compelling view of the future (hereby in terms of what effective and ineffective performance is), leaders could motivate team adaptability (Griffin et al., 2010) in the sense that it creates the context for the team to choose and adapt various strategies to solve the task at hand (i.e. find innovative ways to solve problems, deal with unpredictable situations, learn and improve work processes, handle stressful situation) as long as they contribute to the desired final state. There, I hypothesize:

**Hypothesis 1: Transactional leadership will have a positive effect on team adaptive performance.**

**The mediating role of task conflict and cross-understanding in the relation between transactional leadership and team adaptive performance**

While I hypothesize a positive relation between transactional leadership and team adaptive performance, I also argue that this effect is serially mediated by task conflict and cross-understanding. We opted for a serially mediation rather than a parallel model because I assume that task conflict influence cross-understanding in teams. In other words, transactional leadership leads team to engage in task conflict, which can be benefic for adaptive team performance through cross-understanding. Task conflict will have a positive influence on adaptive team performance when members have a better understanding of each others' factual knowledge, sensitivities, preferences, cause-effect beliefs.

Transactional leadership may lead to task conflict because such leaders reward the achievement of team goals and objective. Transactional leader thus create a climate that fosters an open sharing and debate of divers ideas regarding the strategies to approach the task at hand so that the team can reach its goals and objectives. By putting an emphasis on the recognition associated with task completion, a transactional leadership style enables members to explore multiple strategies and decide what strategy they are likely to take in order to meet the agreed-upon objectives and targets. In line with these assumptions I argue that transactional leadership will be positively related to task conflict.

In turn, the presence of task conflict within the team (i.e. divergent views regarding the best approach to solving task) is likely to lead to cross-understanding. When considering the other members' regarding the task, when discussing the benefits or drawbacks of diverse opinions and strategies, but also when just observing the other team members' reactions while engaging in task conflict team members get to develop an enriched understanding of each others' mental models. That is, they better understand the factual knowledge that each of them has regarding the task at hand, the beliefs regarding the cause and effect relationships, as well as each other's sensitivities (Huber & Lewis, 2010). Cross-understanding could decrease a potential negative influence of task conflict on team adaptive performance by enabling members to choose concepts and words that are maximally understandable and minimally off-putting to other members (Huber & Lewis, 2010). This might be very important for all kinds of work teams, from decision-making teams to health emergency groups, especially in this dynamic environment where adapting to new and unfamiliar problems is frequently required. In line with the mentioned arguments, task conflict will be positively related to cross-understanding.

When members are aware of what others know, believe, are sensitive to, and prefer, they are able to inquire about the reasons underlying another's knowledge, beliefs, sensitivities, or preferences, by asking for clarification or elaboration on matters related to that member's mental models (Kaplan &

Miller, 1987). Doing so, members will develop multiple and enriched interpretations of issues relevant to the task or the situation, will better understand the “big picture” and agree on a consensus about the key assumptions underlying members’ knowledge, beliefs, sensitivities, or preferences (Mohammed & Ringseis, 2001). One of the matters discussed by several scholars about adaptive team performance is the effectiveness with which employees solve the atypical, poor-defined and complex problems they are facing in today’s work situations (Hatano & Inagaki, 1986). This requires individuals to bring situations and knowledge to their desired end or to develop creative solutions to novel problems (Pulakos et al., 2000), so a better understanding of other members’ mental models could enable the flexibility in dynamic changing situations.

By better understanding what others know, believe, are sensitive to, and prefer, members

are more able to anticipate other members’ behaviors and thereby more effectively coordinate their own actions with the actions of others (Huber & Lewis, 2010). This benefit of cross-understanding can shed light on the matters of adaptive team performance enabling collaboration and coordination in unpredictable situations when members are required to efficiently and smoothly shift their orientation and focus on what is important depending on the circumstances (Pulakos et al., 2000).

Given these arguments listed before, I hypothesize the following:

**Hypothesis 2: The effect of transactional leadership on team adaptive performance is serially mediated by task conflict and cross-understanding.**

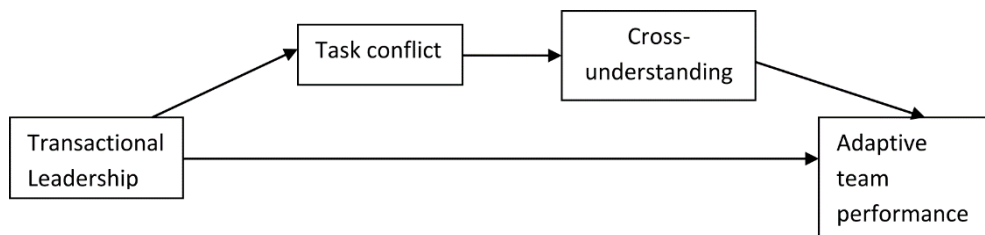


Figure 1. Serially mediated relation between transactional leadership and adaptive team performance by task conflict and cross-understanding

## Method

### Sample

The sample consists of 33 real working teams (118 team members, 60 men) with an average team size of 5.2 (SD = 3.14) and 30 leaders (15 men). The mean age of team members was 39.4 (SD = 10.33) and 39.8 (SD = 10.34) for team leaders. The teams were part of organizations operating in various domains: medical, telecommunication, production, IT, commercial.

### Measurements

*Transactional leadership* was measured using 6 items (i.e. 3 for contingent-reward dimension and 3 for management by exception), from the shortened form of Northouse’ (2001) Multifactor Leadership Questionnaire, Form 6-S (MLQ-6S), as developed by Bass and Avolio (1992). One sample item for contingent reward is: “I tell others what they have to do in order to be rewarded” and one sample item for management by exception is: “Whatever others want to do is OK with me”. Every leader rated their leadership behaviors on

these items, by using a Likert scale from 1 to 5 (1 – totally disagree, 5 – totally agree). The scale has an acceptable reliability, with a calculated Cronbach's alpha of 0.70.

*Task conflict* was measured using 3 items from the scale developed by Jehn (1999). One sample item is: "The team argues pros and cons of different opinions" (with calculated Cronbach's Alpha of 0.81). All team members rated these items on a scale from 1 to 5 (1 – totally disagree, 5 – agree to a great extent) and after computing the rwG(J) index for task conflict ratings according to the recommendations of LeBreton and Senter (2008) and Demaree and Wolf (1984) data was aggregated at the team level.

*Cross-understanding* was measured with the scale developed by Mesclec & Graff (2015). One sample item is: "In this team, members choose and use concepts and words that I understand". All team members rated these items on a scale rating from 1 to 5 (1 – never, 5 – always), and data were further aggregated at the team level after computing the rWG(J) index for according to the recommendations of LeBreton and Senter (2008) and Demaree and Wolf (1984). The calculated Cronbach's Alpha for the scale was 0.70, showing an acceptable reliability.

*Team Adaptive performance* was measured with the scale developed by Marques-Quinteiro and colleagues (2015).

One sample item is: "My team finds innovative ways to deal with unexpected events". Team leaders rated the adaptive performance of their teams on a scale from 1 to 7 (1 – totally inefficient, 7 – totally efficient). The calculated Cronbach's Alpha for the scale was 0.89, showing a good reliability.

## Data analysis

In order to test our hypotheses we used Hayes' PROCESS macro for SPSS, Model 6 with two mediators, which allows obtaining bias correlated confidence intervals (using 1,000 bootstrap sample) for the conditional indirect effects.. Simulation studies show that bootstrapping is one of the most powerful and valid methods testing intervening variable effects (MacKinnon et al., 2004; Williams and MacKinnon, 2008; Hayes, 2009). This procedure yields a percentile-based bootstrap confidence interval for the estimated indirect effect. If zero is not between the lower and the upper bound of the confidence interval per cent confidence (Hayes, 2009).

## Results

The descriptive statistics and variable intercorrelations are presented in Table 1 and graphically represented in Model 2.

Table 1. Descriptive statistics and correlations

Variable	M	SD	1	2	3	4
1. Transactional Leadership	4.36	0.46	<b>.70</b>			
2. Task Conflict	3.76	0.56	.20	<b>.81</b>		
3. Cross-understanding	3.90	0.56	-.25	.30	<b>.70</b>	
4. Adaptive performance	5.77	0.79	.50**	.27	.25	<b>.89</b>

1. Transactional Leadership
2. Task Conflict
3. Cross-understanding
4. Adaptive performance

\*\* . Correlation is significant at the 0.01 level (2-tailed)

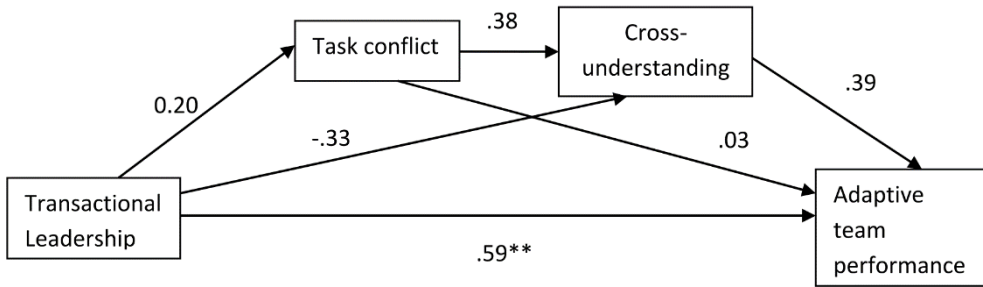


Figure 2. Serially mediated relation between transactional leadership and adaptive team performance by task conflict and cross-understanding with regression coefficients

In order to test our hypotheses, we ran a serial mediation model with transactional leadership style as the independent variable, task conflict as the first mediator, cross-understanding as the second mediator and adaptive performance as the dependent variable. Our results are presented in the following Tables.

Table 2. Direct effect of transactional leadership on team adaptive performance

Effect	SE	t	CI
1.02***	.28	3.66	.45; 1.60

SE = standard error; CI = confidence interval  
 \*\*\* p < .001

As presented in Table 2, our results indicate that the direct effect of transactional leadership on team adaptive performance (H1) is significant with a coeff = 1.02, p = 0.001, CI [.45; 1.60]. Further we examined this relation

serially mediated by two mediators task conflict and cross-understanding. The results are presented in Table 3.

Table 3. Indirect effect of transactional leadership on team adaptive performance via task conflict and cross-understanding

Indirect effect of X on Y			
	Effect	SE	CI
Total	-.16	0.15	-.48; .09
Ind1	0.52	0.47	.00; .21
Completely standardized indirect effect of X on Y			
Total	-.09	.10	-.35 - .06
Ind1	.03	.02	.00 - .11

Ind1 : LeadershipTransactional -> TaskConflict -> Cross-understanding -> Adaptive Performance (serially mediated relation)  
 CI = confidence interval  
 SE = standard error (bootstrap)

Table 4. Indices of models fit and paths analysis

	Df	F	R <sup>2</sup>	p
X -> M <sub>1</sub>	1, 28	1.21	.04	.27
Model fit				
Path analysis	<i>B</i>	<i>t</i>	<i>df</i>	<i>p</i>
	.25	1.10	28	.27
X -> M <sub>2</sub>	Df	F	R <sup>2</sup>	p
Model fit	2, 27	3.45	.20	.04
Path 1 X-> M <sub>2</sub>	<i>B</i>	<i>t</i>	<i>df</i>	<i>p</i>
	-.40	-1.89	27	.06
Path 2 M <sub>1</sub> -> M <sub>2</sub>	<i>B</i>	<i>t</i>	<i>df</i>	<i>p</i>
	.36	.16	27	.03
X -> Y	Df	F	R <sup>2</sup>	p
M <sub>1</sub> -> Y				
M <sub>2</sub> -> Y	3, 36	6.07	.41	.00
Model fit				
Path 1 X-> Y	<i>b</i>	<i>t</i>	<i>Df</i>	<i>p</i>
	1.02	3.66	26	.00
Path 2 M <sub>1</sub> -> Y	<i>b</i>	<i>t</i>	<i>df</i>	<i>p</i>
	.04	.19	26	.84
Path 3 M <sub>2</sub> -> Y	<i>b</i>	<i>t</i>	<i>df</i>	<i>p</i>
	.55	2.35	26	.02

X = transactional leadership

M<sub>1</sub> = task conflict

M<sub>2</sub> = cross-understanding

Y = adaptive team performance

As expected, task conflict and cross-understanding serially mediate the relation between transactional leadership and adaptive team performance (H2), coeff = 0.52, CI [.00 - .21]. In Table 4, are presented the indices for model fit and path analysis.

## Discussion

This research investigated the relation between transactional leadership and adaptive performance of the group. This relationship is serially mediated by task conflict and cross-understanding.

We can infer that transactional leadership style is associated with the emergence of task conflict within the team, and task conflict contributes to the emergence of cross-understanding, which, in turn, is associated with team adaptive performance. This indirect effect of transactional leadership on adaptive team performance through task conflict and cross-understanding show circumstances in which task conflict has a positive impact on team performance, despite the studies that claim the opposite. In other words, by creating

a climate where members are rewarded when they meet the objectives, transactional leadership style generates task conflict among members or debate on diverging ideas regarding the best approach for solving the tasks at hand. This exchange of ideas factors, in turn, the emergence of a better understanding of each other's mental models regarding the task and team. That is, task conflict contributes to the emergence of cross-understanding in teams. Consequently, teams where members have an enriched understanding of their mental models are better able to adapt.

We concluded that transactional leadership has a direct effect on adaptive team performance. A plausible explanation for this direct effect may be that the contingent reward component of transactional leadership style determines the team to quickly adjust and adapt in different situations. This leadership style creates the climate for team to choose and adapt strategies to solve the tasks in terms of finding innovative ways to solve the problems, dealing with unpredictable situations or learning and improving work

processes. But, we also report that transactional leadership affects team adaptive performance through task conflict and cross-understanding. Transactional leadership leads to task conflict because such leaders rewards the achievement of goals, encouraging team members to discuss and debate different ideas and viewpoints as long as the achievement is met. This, in turn, leads to cross-understanding, exploring different viewpoints and perspectives lead to the emergence of cross-understanding. When team members consider the other members' ideals important for the task at hand they develop a better understanding of each others' mental models. Cross-understanding could decrease the potential negative influence of task conflict on team adaptive performance by encouraging members to choose concepts and words that are understandable by all members (Huber & Lewis, 2010).

The first contribution of this paper is that it clarifies the inconsistencies found in the literature on the effect of transactional leadership on adaptive performance. Researchers have reported a positive relation (Greene, 1976), a negative relation (Bass & Avolio, 1990; Bass, Walman, Avolio & Bebb, 1987; Hater & Bass, 1988) and no relationship (Hunt & Schuler, 1976; Podsakof et al., 1982; 1984) between leaders' contingent reward behavior and followers' performance. Transactional leadership influences adaptive performance via task conflict and cross-understanding. This leadership style creates a climate of reward and punishment and in turn, maintains the focus of the teams on the task, the actions that are not directed on the task are punished. In the organizational setting, there are various factors that influence team adaptive performance, and even more that contribute to the effect of the leadership style on team performance. We attempted to identify two contributors to this relation: task conflict and cross-understanding.

Secondly, we contribute to the team cognition literature adding the mediated role of task conflict and cross-understanding. Transactional leadership leads to increased team adaptive performance via team cognition. Cross-understanding is a relatively new concept in team cognition literature and

the empirical evidence of its benefits on team performance is very little. To our knowledge there is only one paper that investigated the role of cross-understanding (Meslec & Graff, 2015). Answering their call we investigate the role of cross-understanding in other relation and in organizational setting: transactional leadership and adaptive performance. We also found a trigger of cross-understanding: task conflict. Task conflict is believed to harm group's performance, but we hypothesized the mediated role of task conflict together with cross-understanding in the relation between transactional leadership and adaptive performance. Transactional leadership through its management by exception component influences the outburst of task conflict. In spite of the conclusions that show negative impact of task conflict on team performance, our analysis showed a positive role of task conflict mediating the relation between transactional leadership and team adaptive performance.

Answering the call of De Dreu and Weingart (2003) who highlighted "conflict may have positive consequences under very specific circumstances and we need to detect those circumstances in new research" (p.748), we aimed to identify specific condition in which task conflict is beneficial for team performance. In line with other authors (Jehn, 1997; Simons & Peterson, 2000) we support the idea that under certain circumstances task conflict has a positive influence on team performance.

#### *Practical implications*

Firstly, managers should pay attention to the development of cross-understanding in their working teams as it is linked to adaptive team performance. It is very important for team members to understand each other's beliefs, preferences and knowledge, these being the key elements for cross-understanding. When cross-understanding emerges team members will be able to anticipate other's action and behavior leading to a better coordination within the team. Another positive and practical aspect of cross-understanding is that it enhances the communication, understanding each other's knowledge, beliefs and preferences each member will know how to

address to his colleague improving their communication.

Secondly, managers should know that conflict is not always a bad thing. A certain level of task conflict, focused on discussing and debating ideas can have a positive impact on team performance. Task conflict is a sign of perspectives and opinions of others being taken into account, a sign of diversity within the team, which can lead to creativity, performance and even satisfaction of members.

Finally, managers should engage in transactional leadership behavior offering rewards and punishment in order to motivate their subordinates to meet the agreed targets. Leaders should inform team members about the standards they have to meet, this enabling members to discuss and debate ideas and opinions in order to achieve their goals. This style of leadership leads to task conflict, which in turn leads to adaptive team performance, via cross-understanding.

#### *Limits and future directions*

One limit of our study is the cross-sectional nature of our data. Future research should explore this model in other organizational settings and using designs that allow for causality claims. Further more, researchers should focus on finding other circumstances under which task conflict has benefits on team performance, and other antecedents for cross-understanding.

#### **Conclusion**

The purpose of this study was to explore the relation between transactional leadership and adaptive performance mediated by team cognition. Our results indicate that the mediation model is valid, meaning that transactional leadership influences adaptive performance via team cognition, represented by task conflict and cross-understanding.

#### **References**

Allworth, E., & Hesketh, B. (1999). Construct-oriented Biodata: Capturing Change-related and Contextually Relevant Future Performance. *International Journal of Selection and Assessment*, 7(2), 97-111.

- Avolio, B. J. (1999). Full leadership development: Building the vital forces in organizations. Sage.
- Baard, S. K., Rench, T. A., & Kozlowski, S. W. (2013). Performance Adaptation: Atheoretical integration and review. *Journal of Management*, 40(1), 48-49. doi: 10.1177/0149206313488210.
- Bass, B. M. (1985). *Leadership and performance beyond expectations*. Free Press; Collier Macmillan.
- Bass, B. M., & Avolio, B. J. (1990). Transformational leadership development: Manual for the multifactor leadership questionnaire. Consulting Psychologists Press.
- Bass, B. M., Waldman, D. A., Avolio, B. J., & Bebb, M. (1987). Transformational leadership and the falling dominoes effect. *Group & Organization Management*, 12(1), 73-87.
- Brown, L. D. (1983). *Managing conflict at organizational interfaces*. Addison Wesley Publishing Company.
- Bryman R. 1992. Charisma and Leadership in Organizations. Sage: London.
- Burke, C. S., Stagl, K. C., Salas, E., Pierce, L., & Kendall, D. (2006). Understanding teamadaptation: A conceptual analysis and model. *Journal of Applied Psychology*, 91(6), 1189. <http://dx.doi.org/10.1037/0021-9010.91.6.1189>
- Byrne, D. E. (1971). *The attraction paradigm* (Vol. 11). Academic Pr.
- Cannon-Bowers, J. A., & Salas, E. (2001). Reflections on shared cognition. *Journal of Organizational Behavior*, 22(2), 195-202.
- Cohen, S. G., & Bailey, D. E. (1997). What makes teams work: Group effectiveness research from the shop floor to the executive suite. *Journal of management*, 23(3), 239-290.
- Coser, L. A. (1956). *The functions of social conflict*. New York: Free Press.
- Curșeu, P. L. (2006). Emergent states in virtual teams: a complex adaptive systems perspective. *Journal of Information Technology*, 21(4), 249-261.x
- Daft, R. L. (1999). *Leadership: Theory and practice*. Harcourt College Pub.
- De Dreu, C. K., & Weingart, L. R. (2003). Task versus relationship conflict, team performance, and team member satisfaction: a meta-analysis. *Journal of applied Psychology*, 88(4), 741.
- De Dreu, C. K., Harinck, F., & Van Vianen, A. E. (1999). Conflict and performance in groups and organizations.
- Deutsch, M. (1973). Conflicts: Productive and destructive. *Conflict resolution through communication*, 25, 155.
- Gardner, H. K., Gino, F., & Staats, B. R. (2012). Dynamically integrating knowledge in teams: Transforming resources into performance. *Academy of Management Journal*, 55(4), 998-1022.
- Greene, C. N. (1976). A longitudinal investigation of performance-reinforcing leader behavior and subordinate satisfaction and performance. *Proceedings of the Midwest Academy of Management Meetings*, 157-18
- Griffin, B., & Hesketh, B. (2004). Why openness to experience is not a good predictor of job performance. *International Journal of Selection and Assessment*, 12 (3), 243-251. doi: 10.1111/j.0965-075X.2004.278\_1.x

- Griffin, M. A., Parker, S. K., & Mason, C. M. (2010). Leader vision and the development of adaptive and proactive performance: A longitudinal study. *Journal of Applied Psychology, 95*(1), 174.
- Griffin, M. A., Neal, A., & Parker, S. K. (2007). A new model of work role performance: Positive behavior in uncertain and interdependent contexts. *Academy of management journal, 50*(2), 327-347.
- Guzzo, R. A., & Dickson, M. W. (1996). Teams in organizations: Recent research on performance and effectiveness. *Annual review of psychology, 47*(1), 307-338.
- Hackman, J. R., & Morris, C. G. (1975). Group tasks, group interaction process, and group performance effectiveness: A review and proposed integration. *Advances in experimental social psychology, 8*, 45-99.
- Hackman, L., & Warnow-Blewett, J. (1987). The documentation strategy process: a model and a case study. *The American Archivist, 50*(1), 12-47.
- Harrison, D. A., & Klein, K. J. (2007). What's the difference? Diversity constructs as separation, variety, or disparity in organizations. *Academy of management review, 32*(4), 1199-1228.
- Hatano, G., & Inagaki, K. (1986). Two courses of expertise.
- Hater, J. J., & Bass, B. M. (1988). Superiors' evaluations and subordinates' perceptions of transformational and transactional leadership. *Journal of Applied psychology, 73*(4), 695.
- Hayes, A. F. (2009). Beyond Baron and Kenny: Statistical mediation analysis in the new millennium. *Communication monographs, 76*(4), 408-420.
- Hayes, A. F. (2012). PROCESS: A versatile computational tool for observed variable mediation, moderation, and conditional process modeling.
- Hinsz, V. B., Tindale, R. S., & Vollrath, D. A. (1997). The emerging conceptualization of groups as information processors. *Psychological bulletin, 121*(1), 43.
- Howell, J. M., & Avolio, B. J. (1993). Transformational leadership, transactional leadership, locus of control, and support for innovation: Key predictors of consolidated-business-unit performance. *Journal of applied psychology, 78*(6), 891.
- Huber, G. P., & Lewis, K. (2010). Cross-understanding: Implications for group cognition and performance. *Academy of Management Review, 35*(1), 6-26.
- Hunt, J. G., & Schuler, R. S. (1976). Leader reward and sanctions: Behavior relations criteria in a large public utility. *Unpublished manuscript, Department of Administrative Sciences, Southern Illinois University at Carbondale*.
- Ilgén, D. R., & Pulakos, E. D. (1999). The Changing Nature of Performance: Implications for Staffing, Motivation, and Development. *Frontiers of Industrial and Organizational Psychology*. Jossey-Bass Inc., Publishers, 350 Sansome Street, San Francisco, CA 94104.
- Ilgén, D. R., Hollenbeck, J. R., Johnson, M., & Jandt, D. (2005). Teams in organizations: From input-process-output models to IMO models. *Annu. Rev. Psychol., 56*, 517-543.
- Jehn, K. A. (1994). Enhancing effectiveness: An investigation of advantages and disadvantages of value-based intragroup conflict. *International journal of conflict management, 5*(3), 223-238.
- Jehn, K. A. (1995). A multimethod examination of the benefits and detriments of intragroup conflict. *Administrative science quarterly, 256*-282.
- Jehn, K. A. (1997). A qualitative analysis of conflict types and dimensions in organizational groups. *Administrative science quarterly, 530*-557.
- Jehn, K. A., Northcraft, G. B., & Neale, M. A. (1999). Why differences make a difference: A field study of diversity, conflict and performance in workgroups. *Administrative science quarterly, 44*(4), 741-763.
- Jehn, K. A., Northcraft, G. B., & Neale, M. A. (1999). Why differences make a difference: A field study of diversity, conflict and performance in workgroups. *Administrative science quarterly, 44*(4), 741-763.
- Jung, D. I., & Avolio, B. J. (2000). Opening the black box: An experimental investigation of the mediating effects of trust and value congruence on transformational and transactional leadership. *Journal of organizational Behavior, 21*(8), 949-964.
- Jung, D. I., & Avolio, B. J. (2000). Opening the black box: An experimental investigation of the mediating effects of trust and value congruence on transformational and transactional leadership. *Journal of organizational Behavior, 21*(8), 949-964.
- Kaplan, M. F., & Miller, C. E. (1987). Group decision making and normative versus informational influence: Effects of type of issue and assigned decision rule. *Journal of Personality and social psychology, 53*(2), 306.
- Kerr, N. L., & Tindale, R. S. (2004). Group performance and decision making. *Annu. Rev. Psychol., 55*, 623-655.
- Klimoski, R. J., & Hayes, N. J. (1980). Leader behavior and subordinate motivation. *Personnel Psychology, 33*(3), 543-555.
- Kozlowski, S. W., Gully, S. M., Nason, E. R., & Smith, E. M. (1999). Developing adaptive teams: A theory of compilation and performance across levels and time. *Pulakos (Eds.), The changing nature of work performance: Implications for staffing, personnel actions, and development, 240*, 292.
- Kozlowski, S. W., Watola, D. J., Jensen, J. M., Kim, B. H., & Botero, I. C. (2009). Developing adaptive teams: a theory of dynamic team leadership. *Team effectiveness in complex organizations: Cross-disciplinary perspectives and approaches, 113*-155.
- Levine, J. M., Resnick, L. B., & Higgins, E. T. (1993). Social foundations of cognition. *Annual review of psychology, 44*(1), 585-612.
- Lewis, K. (2004). Knowledge and performance in knowledge-worker teams: A longitudinal study of transactive memory systems. *Management science, 50*(11), 1519-1533.
- MacKinnon, D. P., Lockwood, C. M., & Williams, J. (2004). Confidence limits for the indirect effect: Distribution of the product and resampling methods. *Multivariate behavioral research, 39*(1), 99-128.
- Marks, M. A., Mathieu, J. E., & Zaccaro, S. J. (2001). A temporally based framework and taxonomy of team processes. *Academy of management review, 26*(3), 356-376.

- Marques-Quinteiro, P., Ramos-Villagrasa, P. J., Passos, A. M., & Curral, L. (2015). Measuring adaptive performance in individuals and teams. *Team Performance Management*, 21(7/8), 339-360.
- McGrath, J. E., Arrow, H., & Berdahl, J. L. (2000). The study of groups: past, present, and future. *Personality and Social Psychology Review*, 4(1), 95-105.
- McGrath, J. E., Kelly, J. R., & Machatka, D. E. (1984). The social psychology of time: Entrainment of behavior in social and organizational settings. *Applied social psychology annual*.
- Meslec, N., & Graff, D. (2015). Being open matters: the antecedents and consequences of cross-understanding in teams. *Team Performance Management*, 21(1/2), 6-18.
- Miller, J. G. (1978). *Living systems*. New York: McGraw-Hill
- Mohammed, S., & Ringseis, E. (2001). Cognitive diversity and consensus in group decision making: The role of inputs, processes, and outcomes. *Organizational behavior and human decision processes*, 85(2), 310-335.
- Mohammed, S., Ferzandi, L., & Hamilton, K. (2010). Metaphor no more: A 15-year review of the team mental model construct. *Journal of Management*, 36(4), 876-910.
- Nemeth, C. J. (1986). Differential contributions of majority and minority influence. *Psychological review*, 93(1), 23.
- Podsakoff, P. M., & Schriesheim, C. A. (1985). Leader reward and punishment behavior: A methodological and substantive review. *Research in organizational behavior*. San Francisco: Jossey-Bass.
- Podsakoff, P. M., Todor, W. M., & Skov, R. (1982). Effects of leader contingent and noncontingent reward and punishment behaviors on subordinate performance and satisfaction. *Academy of Management Journal*, 25(4), 810-821.
- Pondy, L. R. (1967). Organizational conflict: Concepts and models. *Administrative science quarterly*, 296-320.
- Pulakos, E. D., Arad, S., Donovan, M. A., & Plamondon, K. E. (2000). Adaptability in the workplace: development of a taxonomy of adaptive performance. *Journal of Applied Psychology*, 85(4), 612-624. <http://dx.doi.org/10.1037/0021-9010.85.4.612>
- Pulakos, E. D., Schmitt, N., Dorsey, D. W., Arad, S., Borman, W. C., & Hedge, J. W. (2002). Predicting adaptive performance: Further tests of a model of adaptability. *Human Performance*, 15 (4), 299-323. doi:10.1207/S15327043HUP1504\_01
- Schulz-Hardt, S., Jochims, M., & Frey, D. (2002). Productive conflict in group decision making: Genuine and contrived dissent as strategies to counteract biased information seeking. *Organizational Behavior and Human Decision Processes*, 88, 563-586.
- Shoss, M. K., Witt, L. A., & Vera, D. (2012). When does adaptive performance lead to higher task performance? *Journal of Organizational Behavior*, 33(7), 910-924.
- Simons, T. L., & Peterson, R. S. (2000). Task conflict and relationship conflict in top management teams: the pivotal role of intragroup trust. *Journal of applied psychology*, 85(1), 102.
- Tajfel, H. (1981). *Human groups and social categories: Studies in social psychology*. CUP Archive.
- Thomas, K. W. (1992). Conflict and conflict management: Reflections and update. *Journal of organizational behavior*, 13(3), 265-274.
- Tjosvold, D. (1997). Conflict within interdependence: Its value for productivity and individuality. In C. K. W. De Dreu & E. Van de Vliert (Eds.), *Using conflict in organizations* (pp. 23-37). London: Sage.
- Turner, J. C. (1982). Towards a cognitive redefinition of the social group. *Social identity and intergroup relations*, 15-40.
- Wall, J. A., & Callister, R. R. (1995). Conflict and its management. *Journal of management*, 21(3), 515-558.
- Wall, J. A., & Callister, R. R. (1995). Conflict and its management. *Journal of management*, 21(3), 515-558.
- Walton, R. E. (1969). *Interpersonal peacemaking: Confrontations and third party consultation*. Reading, MA: Addison Wesley.
- Williams, J., & MacKinnon, D. P. (2008). Resampling and distribution of the product methods for testing indirect effects in complex models. *Structural Equation Modeling*, 15(1), 23-51.
- Yammarino, F. J., & Bass, B. M. (1990). Transformational leadership and multiple levels of analysis. *Human relations*, 43(10), 975-995.
- Zhang, Z. X., Hempel, P. S., Han, Y. L., & Tjosvold, D. (2007). Transactive memory system links work team characteristics and performance. *Journal of Applied Psychology*, 92(6), 1722.