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Individual learning goal orientations in self-managed team-based organizations: A study on individual and contextual variables

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Previous research has shown the importance of individual learning goal orientation for both job and task performance and consequently organizational performance. Despite its importance, knowledge on the antecedents of learning goal orientation remains scarce, especially in the context of self-managing team-based organizations. In fact, most of the research on goal orientation antecedents has been focused on individual characteristics, belief, and ability, while the contextual factors that might influence them remain unspecified. We build on and further extend earlier studies by jointly exploring the role of individual and contextual factors affecting individual learning orientation. In particular, this study combines individual informal social network, self-efficacy, performance feedbacks, and team identification into a model that explains individuals' learning goal orientation within self-managing team-based organizations. The model was empirically tested on a sample of 104 individuals belonging to an R&D organization relying on self-managing teams. Results show that performance feedback has a negative direct effect, while team identification has a positive direct effect on individual learning goal orientation. In addition, we found that individual self-efficacy is a mediator of the relationships between performance feedback and brokerage in the advice network and individual learning goal orientation. Finally, we did not find a relationship between centrality in the friendship network and individual learning goal orientation.

KEYWORDS

learning goal orientation, self-efficacy, self-managed team, social network, team identification

1 | INTRODUCTION

Organizations are increasingly seeking to create conditions to stimulate individual creativity and learning (Oldham, 2003), as they are sources of innovation and competitive advantages (e.g., Amabile, 1996; Oldham & Cummings, 1996). For these purposes, firms have adopted

new organizational forms that rely primarily on self-managed teams in the past few decades (e.g. Patanakul, Chen, & Lynn, 2012; Sethi & Sethi, 2009).

In theory, self-managed teams allow for greater agility and flexibility in decision-making, greater access to knowledge, and better resource consumption (Johnson, Hollenbeck, DeRue, Barnes, &

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Jundt, 2013). However, the empirical results on the implementation of self-managed teams are more ambiguous (e.g. Langfred, 2004; Magpili & Pazos, 2018; Patanakul et al., 2012; Rousseau & Aubé, 2010). Self-managed teams are characterized by an internal paradox: the individual identifies with a common goal, and individual autonomy in which employees make independent decisions on how to develop their skills, evaluate their performance, formulate strategies and engage in problem-solving (e.g. Humphrey, Nahrgang, & Morgeson, 2007; Magpili & Pazos, 2018; Yang & Guy, 2011). "Too much" autonomy may backfire when individuals are not motivated to exploit their talents or remain unclear about the purposes of innovation (Langfred, 2004, 2007). While some employees are motivated to learn new skills and provide new ideas, others may pursue their self-interest, and thus jeopardize the success of self-managed team-based organizations.

Additionally, employees may differ in their degree of learning goal orientation. Learning goal orientation is related to the actions that individuals may intend to pursue to improve their competence, and hence to lead to learning (Benjamin & Flynn, 2006; Kruglanski et al., 2000) and innovation (Amabile & Gryskiewicz, 1987). In "seek[ing] to increase their competence, to understand or master something new" (Dweck, 1986, p. 1040), people can be understood to have a learning goal orientation. Past studies show that learning goal orientation can be a relevant motivational force that leads to learning, knowledge mastery, and creativity (e.g. Bell & Kozlowski, 2002; Dweck, 1986; Gong, Huang, & Farh, 2009; Hirst, van Knippenberg, Chen, & Sacramento, 2011; Hirst, van Knippenberg, & Zhou, 2009) and individual-level outcomes more generally (e.g., Rhee & Choi, 2017).

Despite its importance, knowledge on the antecedents of learning goal orientation remains scarce (Mumtaz & Parahoo, 2019), especially in the context of self-managed team-based organizations.

Self-managed team-based organizations represent a peculiar organizational context that provides a combination of control and autonomy. Previous studies show that the role of both individual characteristics, such as education, personal background, and social capital, and of organizational factors such as human resource systems affect individual learning goal orientation directly or indirectly (Gibson & Birkinshaw, 2004; Hirst et al., 2009; Patel et al., 2012; Prieto-Pastor & Martin-Perez, 2015). However, these studies do not address the relative importance of personal and situational characteristics in an individual's learning goals orientation, though Hirst et al. (2009) and Hirst et al. (2011) do so in the context of the learning goal-creativity relationship.

Our study moves from the above premise to develop and test a conceptual framework explaining the learning goal orientation of individuals within self-managed team-based organizations. Rather than measuring the effectiveness and innovation outcomes of self-managed teams, this study examines the impact of personal and situational factors within the organizational boundaries on the learning goal orientation of employees belonging to self-managed team-based organizations. We analyze primary data gathered from 104 individuals in an R&D organization that adopted a self-managed team-based

configuration. Past research highlights that individual learning orientation enables the acquisition and assimilation of knowledge, which in turn activates the processes of absorptive capacity, and then leads to product and service innovation (e.g., Hirst et al., 2009; Janssen & van Yperen, 2004). However, past studies do not account for the effects of individual social networks and her position within those on social meaning, and therefore on an individual's disposition (Pachucki & Breiger, 2010). We build on and further extend such studies by jointly exploring the effect of personal and situational characteristics on an individual's learning goal orientation. Hence, we develop and test a model that hypothesizes that individuals in self-managed team-based organizations have higher learning orientations: (i) when they receive performance goal feedback, (ii) when they identify with their team, and (iii) when they occupy a central role in the friendship network and a brokerage position in an advice network. Finally, we explore the mediating role of individuals' self-efficacy to clarify the contradictory results that emerge in the literature. Empirically, we test our hypotheses based on data from individuals belonging to an R&D organization that adopted self-managed teams. Our results show that performance feedback has a negative direct effect and that team identification and brokerage in the advice network were positively related to individual learning goal orientation. In addition, we find that self-efficacy mediates the relationships between both performance feedback and brokerage in the advice network and individual learning goal orientation. Finally, we did not find a relationship between individual centrality in the friendship network and individual learning goal orientation.

Overall, our study contributes to the under-researched stream of research on the antecedents of individual learning goal orientation in self-managed team-based organizations by embracing a person-in-situation approach to analyze how personal and situational characteristics may affect the expression of individual differences (see Woods, Edmonds, Hampson, & Lievens, 2020) in learning goal orientation within self-managed team-based organizations. Finally, our study answers a recent call to analyze personal and network variables together to offer a fuller explanation of organizational phenomena (i.e. Casciaro et al., 2015, p. 1126; see also Monti & Soda, 2014). We argue that individual and network variables are complementary and can synergistically improve our understanding of the organizational phenomenon.

2 | THEORETICAL FRAMEWORK

Learning goal orientation is described as the desire to boost one's task competence (Farr, Hofmann, & Ringenbach, 1993). Thus, when an individual with learning goal orientation completes a task, he or she struggles to "think about what it is that they need to do in order to improve their skills" (Heyman & Dweck, 1992, p. 235). People with a high learning goal orientation spend their effort not only on accomplishing current tasks, but also on developing their ability to execute future tasks (Button, Mathieu, & Zajac, 1996; Farr et al., 1993).

Although a growing number of studies on learning goal orientation exist, theoretical and methodological limitations suggest that further work is necessary (Cortina, Aguinis, & DeShon, 2017). Learning goal orientation is theorized as either an individual trait/disposition (e.g., a type of prosocial act or attitude) that is presumably stable across time and situations or a way of acting that can be adjusted or manipulated to fit the context (Duda & Nicholls, 1992; Dweck, 1989). In this latter case, the personality system is viewed as consisting of a large set of "if-then" relations. If the situation stimulates a particular set of "ifs", then a resulting set of behavioral "thens" are generated (Mischel & Shoda, 1995). Thus, understanding an individual's action is not sufficient to comprehend the person or the context. To define context, we follow Johns (2017) and define context as "situational or environmental constraints and opportunities that have the functional capacity to affect the occurrence and meaning of organizational behavior" (p. 577). To comprehend an individual's action, we must comprehend how the person's goal structure influences his or her perception of the context and how this perception, in turn, triggers goals that result in actions (DeShon & Gillespie, 2005). Therefore, the consequent obvious challenge is to identify specific trait-context combinations that influence learning goal orientation.

In that regard, person-in-situation theories (Chen & Kanfer, 2006; Tett & Burnett, 2003) emphasize the relevance of examining the interplay between individuals and the context to anticipate the effect on individual dispositions, such as learning goal orientation. Based on this need, we analyze the interplay between the individual and the context in the case of a self-managed team and look for a unique trait-context combination that affects the learning goal orientation of individuals within self-managed team-based organizations. This perspective on individual dispositions such as individual learning goal orientation shifts the focus from individual-centered antecedents to a relational process that develops through the emergent interactions between organizational actors (DeRue & Ashford, 2010; Uhl-Bien, Marion, & McKelvey, 2007).

Prior studies do not provide empirical results on the contextual factors affecting a team's dynamic and few studies explore both the contextual and personal variables that influence learning goal orientation (Chiaburu, Van Dam, & Hutchins, 2010).

Self-managed team-based organizations represent collectives of highly skilled employees who seek to reach a common goal (e.g., product innovation), but are given autonomy to plan and manage tasks (Humphrey et al., 2007; Leach, Wall, Rogelberg, & Jackson, 2005; Yang & Guy, 2011). The decentralization of their decision making and the low formalization of their tasks indicate that the organizational design in this context is an emergent process, with the organizational form being the result of complex interactions between individuals and social environments.

Thus, although research on self-managed team-based organizations focuses primarily on self-managed teams, we depart from this view and consider self-managed team-based organizations rather than teams, as team members' movements in and out of the team constitute an essential element of their self-management. In self-managed team-based organizations, team members need to fight for informal

dominance, or at least be active in the daily battle for survival, since their formal positions do not give them security in these configurations (Diefenbach & Sillince, 2011). Therefore, this organizational form adds a second layer of indirect informal hierarchical structuring to the direct formal hierarchy of line management (Diefenbach & Sillince, 2011; Humphrey et al., 2007). In this setting, the informal hierarchical order outside the team boundaries complements the formal hierarchy the organization provides through team structures (Diefenbach & Sillince, 2011).

Therefore, we argue for the importance of studying an individual's position within informal relationships in the organization and its effect on an individual's learning goal orientation. To date, we are not aware of any study that examines this relationship directly. In particular, we argue that the relative position of an individual in the informal contact networks, specifically the friendship and advice networks, and the type of interactions that exist within the organization also determine an individual's learning goal orientation. This argument departs from and complements the founding research of Bower (1970) and Ghoshal and Bartlett (1994), who describe organizational context mainly through process variables influenced by changes in structure and systems or by an array of macro- and micro-level interventions initiated by managers at all levels of the organization. Specifically, our analysis focuses on the way the work environment changes due to the informal interactions of individual events and actions.

Additionally, learning goal orientation is associated with the individual belief that skills can be developed and that spending effort is a relevant strategy for achieving successful task performance (VandeWalle, Cron, & Slocum, 2001). Linked to this argument is the concept of self-efficacy which refers to the belief that a person has the capacity to organize and accomplish the action needed to achieve the desired result (Bandura, 1997). In general, beliefs that people have about themselves are crucial elements in the exercise of control and personal agency (Bandura, 2010). Individuals generate beliefs about what they can do; they assign goals for themselves and decide to embrace courses of action designed to achieve valued futures (Bandura, 2010). Therefore, self-beliefs of efficacy have a primary role in self-regulation of behavior (e.g. Pintrich & Schunk, 1995).

Learning goal orientation is also fundamentally about the self-regulation of behavior (Button et al., 1996; DeShon & Gillespie, 2005). It leads people to select, either consciously or subconsciously, certain types of behaviors in achievement situations. For instance, individuals with high learning orientation may decide to embrace adaptive behavior patterns such as choosing challenging tasks, setting difficult goals, and showing perseverance when meeting obstacles.

Another primary mechanism in behavior regulation among individuals is the evaluation of and reaction to a feedback-standard comparison. Several prominent theories, such as goal setting theory (e.g., Latham & Locke, 1991) and control theory (e.g., Carver & Scheier, 1981), also propose this argument. Both of these theories assume that performance feedback has a crucial role in self-regulation (Wood & Locke, 1990) by viewing behavior as goal-directed.

These last two elements become fundamental in knowledge-intensive organizations (e.g., Parker, Halgin, & Borgatti, 2016), where

the use of self-managing teams is widespread and autonomy, uncertainty, and the need for interactions between individuals are high. In such context, the individuals' goal-oriented decision-making and information to achieve their goals can be informed and motivated mostly by both the need to monitor their progress (Lord, Diefendorff, Schmidt, & Hall, 2010) through to the performance feedback results (Kluger & DeNisi, 1996) and the belief in their own capabilities (Gist & Mitchell, 1992).

Finally, we consider team identification as a powerful sense-making tool that gives direction and motivates the individual within self-managing teams (Annosi, Foss, Brunetta, & Magnusson, 2017; van Knippenberg & van Schie, 2000).

Having identified the core variables (performance feedback and team identification) that aim to control and orient individual behaviors, as well as the social ties with "friends" and "advisers" that aim to provide external and discretionary support (Magpili & Pazos, 2018), as well as the role of self-efficacy as essential antecedents of learning goal orientation. We next discuss the relationships among these variables with learning goal orientation in the context of self-managed teams. In the following paragraphs, we develop hypotheses related to our theoretical model (Figure 1).

2.1 | The relationship between performance feedback and learning goal orientation

The lens of "learning goal orientation" pertains to individuals focused on knowledge acquisition and involved in the development of "deep-processing strategies" that lead them to master challenging tasks (Elliot & McGregor, 2001). The focus on skill development implies an intrinsic interest in the task itself (Dweck, 1999), a willingness to invest effort and commitment (Amabile, 1996), all of which lead to a more intense engagement with the task.

Learning goal orientation is also primarily about self-regulating behavior (Button et al., 1996; DeShon & Gillespie, 2005). To achieve goals or standards, people use feedback (whether provided by an intervention or not) to evaluate their performance relative to their goals. However, individuals can have different behavioral options when reacting to a feedback-standard discrepancy: they can strive to attain the goal, change the goal, reject the feedback, or abandon their commitment to the goal.

Elliot and Harackiewicz (1996) propose that receiving negative performance feedback might amplify the influence of goal orientation. Their understanding is consistent with Dweck and Leggett's (1988) results with children. They find that when children received negative feedback, their learning goal orientation lets them pursue an adaptive response pattern of persistence with the task accompanied by improved effort. Higgs and Wood (1999) also suggest that when individuals pursuing a task engagement strategy that corresponds to learning goal orientation achieve success and receive positive feedback, they enjoy the challenge, which leads them to consider even more challenging goals. In the case of negative feedback, they are likely to be more proactive in embracing new initiatives and strategies, which allows them to continue striving to achieve their goals. Individuals tend to be stimulated and to pursue new challenges when they receive negative feedback related to new and novel tasks (LePine, Podsakoff, & LePine, 2005). In fact, individuals with learning goal orientation believe that they need negative feedback as it gives information about how to solve problems (Elliot & Dweck, 1988). From this discussion, we see that both positive and negative feedback can enhance individual learning goal orientation because performance feedback enables individual learning and can make individuals relatively unconcerned about appearing incompetent (e.g., VandeWalle & Cummings, 1997). In fact, constant performance feedback is likely to consolidate into improved learning goal orientation, as individuals embrace continuous learning and improvement as a norm of their team (Ghoshal & Bartlett, 1994; Gibson & Birkinshaw, 2004). The latter argument is consistent with past studies on performance systems, which argue that performance feedback is a powerful coordination mechanism that incentivizes individuals' knowledge search and sharing (e.g. Mathieu, Maynard, Rapp, & Gilson, 2008).

However, this knowledge search and sharing will be focused on responding to the specific gaps and performance standard rewarded in the system (Bartol & Locke, 2000), which in turn will negatively affect individual learning goal orientation. In fact, in organizations with clear and reiterated performance goals, individuals are not left to their spontaneous initiative (DeNisi & Pritchard, 2006; Geister, Konradt, & Hertel, 2006), which may or may not translate into broader learning goal orientations.

We can reconcile these contrasting effects by looking at the role of self-efficacy in the relationship between performance feedback and individual learning goals. Self-efficacy refers to the belief that a person

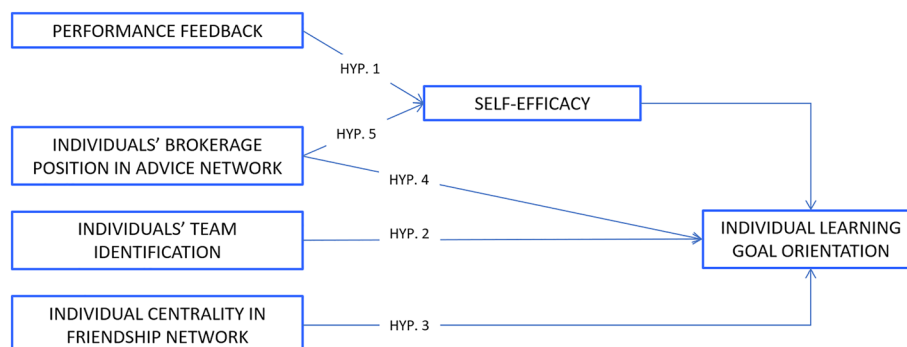


FIGURE 1 Test of the hypotheses [Colour figure can be viewed at wileyonlinelibrary.com]

can organize and accomplish the action needed to achieve the desired result (Bandura, 1997). Previous studies clearly establish that general self-efficacy, the belief in one's capacity to accomplish across a wide range of situations and tasks (Chen, Gully, & Eden, 2001), is positively related to individual learning goal orientation (for a meta-analysis, see Payne, Culbertson, & Beaubien, 2007).

Indeed, the impact of performance feedback operates entirely through perceived efficacy (Bandura & Locke, 2003). Perceived self-efficacy also mediates the effects of positive and negative feedback on the goals that individuals set for themselves (Bandura & Locke, 2003). Positive performance feedback could improve an individual's skills, and consequently, their self-perceptions of efficacy (Bandura, 1993; McNatt & Judge, 2008). Therefore, we hypothesize the following:

Hypothesis 1. *Self-efficacy mediates the relationship between performance feedback and an individual's learning goal orientation.*

2.2 | The relationship between team identification and individuals' learning goal orientation

Social identity theory (Tajfel, 1978; Tajfel & Turner, 1986) suggests that a person's identity consists of both an individual and a social dimension. The first dimension is based on individual characteristics, whereas the second forms as a result of the sense of belonging to social groups and has important consequences from a cognitive, emotional, and behavioral point of view (e.g. Bergami & Bagozzi, 2000; Ellemers, De Gilder, & Haslam, 2004). The managerial literature traditionally defines identification following Ashforth and Mael (1989, p. 21) as "the perception of oneness with or belongingness" to the organization, while Dutton, Dukerich, and Harquail (1994, p. 242) consider identification as "the cognitive connection between the definition of an organization and the definition a person applies to him- or herself". This self-awareness or self-knowledge of belonging to an organization is then one way that a person achieves a social identity (for a review, see Ashforth, Harrison, & Corley, 2008). Finally, self-categorization theory explains the mechanisms leading individuals to identify with different social groups (Turner, Hogg, Oakes, Reicher, & Wetherell, 1987). According to Turner et al. (1987), "the fundamental idea is that group behavior is the behavior of individuals acting on the basis of a categorization of self and others at a social, more 'inclusive' or 'high' order level of abstraction" (p. 2). An individual within the organization can therefore identify with his/her workgroup, department or organization as a whole. Finally, prior studies demonstrate that work group identification (e.g., lower-order identity) is stronger than organization identification is (e.g., high-order identity; van Knippenberg & van Schie, 2000). This is in line with the fact that identities lower in the hierarchy are by definition more idiosyncratic. The members are, therefore, more likely to identify themselves more intensely with these smaller or less inclusive groups (e.g., one's team) because they represent a lesser threat to an individual's distinctiveness (see also Brewer, 1991). Second, this identity is very likely to

result in more significant contact with people with whom one shares values and interests, rather than with people in higher social groups (see also Ashforth & Johnson, 2001; Kramer, 1991; van Knippenberg & van Schie, 2000).

Put more abstractly, when individuals identify strongly with a social group, they tend to perceive themselves and others as interchangeable members of this social group (Haslam, Powell, & Turner, 2000). This leads to a heightened sense of group-based trust and reciprocity (Kramer, 1991) which can, in turn, lead them to adopt cooperative orientations with other members (Dukerich, Golden, & Shortell, 2002).

Additionally, individuals who identify highly with the organization tend to be more committed and ready to devote their efforts to reaching the goals of the organization and to align their behaviors with its norms (e.g. Dutton et al., 1994; for a review, see Ashforth et al., 2008), thereby contributing positively to both individual and organizational outcomes (e.g. Bergami & Bagozzi, 2000).

Individual identification with the team is associated with the elaboration of task-relevant information to improve their individual performance and to provide peers with relevant knowledge to improve the group's performance (Adarves-Yorno, Postmes, & Haslam, 2006; Cheng, Sanchez-Burks, & Lee, 2008; Postmes, Haslam, & Swaab, 2005). In line with this reasoning, van der Vegt and Bunderson (2005) provide direct evidence that an individual's team identification has a positive direct effect on team learning behaviors. Therefore, we propose the following:

Hypothesis 2. *An individual's team identification positively correlates with individual learning goal orientation.*

2.3 | The relationship between centrality in the friendship network and learning goal orientation

In organizational settings, relationships with peers significantly influence key employee outcomes (Chiaburu & Harrison, 2008). Two broader sets of tie contents can be found in a relationship between employees. The first set is usually related to the exchange of task-oriented resources and support (e.g., Ibarra & Andrews, 1993) and considered as cognition-based interactions that usually lack affect (Umphress, Labianca, Brass, Kass, & Scholten, 2003). On the contrary, the second set of relationships is considered affect-based (Ibarra, 1992; Lincoln & Miller, 1979; Mehra, Kilduff, & Brass, 2001) and mostly related with positive personal relationship such as friendship (for an exception, see Labianca & Brass, 2006 and Pillemer & Rothbard, 2018). In particular, friendship is a form of open-ended support not directly connected to work tasks (Lazega & Pattison, 1999). Workplace friendship (beside or in addition to instrumental relationships) is a widespread organizational phenomenon (e.g., Ingram & Zou, 2008) the importance of which for individual and organizational outcomes is well recognized both in the academic (Chiaburu & Harrison, 2008; Lu et al., 2017) and practitioner fields (e.g., Rath, 2006; Riordan, 2013).

Individuals might be connected to other individuals in the organization in different structural ways, that is, be connected to all of its members and have frequent interactions with them (high centrality) or be isolated from most members and have only sporadic interactions (low centrality) (Hu & Randel, 2014; Maurer & Ebers, 2006). Extensive research shows that the individuals' centrality in their social environments has great impact on their attitudes and behaviors (for a meta-analytic account, see Brennecke & Stoemmer, 2018; Fang et al., 2015).

A large body of work has focused on how the number of friendship ties affect attitude and behaviors. For example, Methot, LePine, Podsakoff, and Christian (2015) showed that centrality in friendship network positively affects the felt emotional support of individuals and task performance, while Ho and Levesque (2005) found that friendship ties influence similarity in the attitudes toward organization-wide promises. Finally, Chiaburu and Harrison (2008) found in their meta-analysis that coworker support affected positively organizational commitment and job involvement since affective support broadens the spectrum of individual's action beyond the dyadic relationship (Fredrickson, 1998).

Overall, these effects derives from the social resources drawn from friendship ties which include emotional attachment (Brass, 1992), intimacy and a sense of belonging (Lazarsfeld & Merton, 1954; Wiseman, 1986), and social information processing (Salancik & Pfeffer, 1978), and affect-based trust (Chua, Ingram, & Morris, 2008).

Moreover, the strength of the ties reflects an inherent friendship quality of these relationships (e.g., Krackhardt, 1992) which generates a number of outcomes, such as more time spent on elaborating and sharing information, fewer interpersonal risks, and greater reciprocity (e.g. Rost, 2011; Tortoriello, Reagans, & McEvily, 2012). Individuals can use their connections within the social network to find otherwise inaccessible knowledge. An individual's centrality means that the individual belongs to a context that not only expects one to seek knowledge and learn, but also supports him/her in practice (e.g. Gargiulo & Benassi, 2000). Individuals connected with more people are more likely to find best practices and learning lessons than are individuals connected with fewer people. Central individuals might perceive the search and absorption of new knowledge to be easier when they can "exploit" the connections of multiple "friends"; they will thereby also be more motivated to pursue continuous learning (Coleman, 1990; Reagans & McEvily, 2003).

Furthermore, an individual's centrality means that it is riskier for peers not to share their knowledge and learning lessons with him/her. The team would quickly perceive any opportunistic behaviors by other team members, which would damage relationships. Considering these factors, one can argue that individuals with greater centrality in a friendship network are more likely to (i) channel social pressure into their knowledge search, sharing, and continuous learning; (ii) facilitate learning because knowledge is accessible via multiple personal connections; and (iii) generate sanctions against peers' opportunistic behaviors, hence making learning less risky. Exposed to such a positive environment for learning,

individuals might be more willing and able to develop learning goal orientations. Hence, we hypothesize:

Hypothesis 3. *An individual's centrality in a friendship network positively correlates with individual learning goal orientation.*

2.4 | The relationship between brokerage position in the advice network and learning goal orientation

The advice network, a structure in which individuals interact with each other to share knowledge, represents an ideal mechanism for learning (Ibarra, Kilduff, & Tsai, 2005). More generally, one can understand organizational networks as devices that enable knowledge exchanges and learning (Crossland, Kilduff, & Tsai, 2004). While the former hypothesis refers to the benefits of strong ties for knowledge absorption, this hypothesis refers to an individual's relationship with structural holes (e.g., Burt, 1992) in the organization, and hence the effect of weak ties on the knowledge search (Baer, 2010; Granovetter, 1983; Hansen, 1999).

In particular, a vast amount of research has shown that by linking otherwise disconnected individuals, brokers are exposed to non-redundant information (e.g., Burt, 1992) that can help the individuals to produce novel ideas (e.g., Ahuja, 2000; Burt, 2004, 2010; Zaheer & Soda, 2009). Social network positions rich in structural holes enhances individuals' performance by granting individuals informational and control benefits (e.g., Burt, 1992; Gargiulo & Benassi, 2000; Granovetter, 1973; Soda, Tortoriello, & Iorio, 2018). Individuals connected to multiple external actors through weak ties are more likely to find non-redundant sources of knowledge (Burt, 1992, 2004; Hansen, 1999; Moran, 2005). The "others"—who are not necessarily regularly and strongly connected with the individuals—are more likely to have a knowledge set distinct from that of the focal individual. By contrast, existing research demonstrates that actors connected only to friendship networks may find redundant knowledge. Friendship ties may make learning easier and more effective in terms of knowledge absorption—in that the individual can spend more time and suffer fewer interpersonal risks with a friendly tie—but at the same time it is not necessarily effective in terms of diversity of knowledge acquired, and may even engender cognitive lock-in effects. The advice network, in turn, may make learning easier and more effective in terms of the knowledge search in that the individual is more likely to find new data and information from more distant ties (Anderson, 2008; Levin & Cross, 2004; Moran, 2005; Wong, 2008). As Levin and Cross (2004) observe, some weak ties provide distinct information and can be trusted because there is a strong relational component underneath; hence, they bear the benefits of both weak and strong ties. Consequently, the terms friendship and advice ties distinguish the network according to the function of the tie for the individual, rather than the strength of the relationship. More specifically, friendship ties represent relationships that individuals use for relational reasons, such as trust and emotional support, while advice ties represent relationships that individuals use for more informative reasons, such as technical

support. With regard to the advice network, we suggest that individuals connecting two or more otherwise disconnected others (who have a structural hole between them), and therefore hold a brokering position in the advice network, have more opportunities to find another person with non-redundant knowledge, and thus a person with such a brokerage position can be reassured that he or she can learn more by exploring these kinds of ties (e.g. Brown & Konrad, 2001; Gargiulo & Benassi, 2000; Granovetter, 1983; Hansen, 1999) and thus be more oriented toward learning. Therefore, we hypothesize:

Hypothesis 4. *An individual with a brokerage position in an advice network positively correlates with individual learning goal orientation.*

Overall, the previous hypotheses suggest that self-managed configurations, and in particular teams, provide individuals with several opportunities and constraints that enable a learning goal orientation. We hypothesize a direct relationship based on different mechanisms between individual positions in both expressive and instrumental network and an individual's learning goal orientation. However, prior research frequently suggests that individuals respond differently to the opportunities their organizations or team contexts provide according to individual factors. In particular, several studies establish the importance of individuals' self-efficacy (Bandura, 1993). As we noted earlier, social network theory states that brokerage positions in the advice network provide greater access to novel and unique information (e.g. Burt, 2004; Hansen, 1999). This, in turn, should provide greater levels of confidence and efficacy. In essence, more access to novel and unique information should lead to a greater sense of self-efficacy (e.g. Vardaman, Amis, Dyson, Wright, & Van de Graaff Randolph, 2012), which will in turn positively affect an individual's learning goal orientation. In line with the discussion above, we propose the following:

Hypothesis 5. *An individual's self-efficacy mediates the relationship between an individual's brokerage position in the advice network and the individual's learning goal orientation.*

3 | METHODOLOGY

3.1 | Research site

We conducted this research in an R&D organization of a multinational corporation operating in the telecommunication sector. The organization had 104 employees and was working on new product development activities. It was organized into 17 permanent teams made up of four or five people in each team. The R&D organization was headed by its top management team consisting of three middle managers who were responsible for the performance of their development teams, the head of the organization who acted as a bridge between the R&D organization and the multinational corporation, and two managers responsible for the relationships with their internal and

external customers and for the performance of some special research projects. Middle managers were appointed to implement organizational innovation processes and lead the operational development programs by setting proper performance standards and procedures for the R&D organization. Employees, organized mainly in teams, were allocated to develop the software for unique, innovative, and stand-alone telecommunication switching nodes for the multinational corporation. Having complete responsibility for the development of these products, employees depended very little on others in the multinational corporation. The size of the R&D organization remained almost the same in the three years prior to this study. Three years before the collection of our data, the organization had a very turbulent period, as the organization was involved in a huge organizational innovation process. The firm decided to move from a traditional organizational form that relied on a vertical distribution of power and a centralized form of information development, toward a flat hierarchy, self-governing teams, and general empowerment practices. This allowed employees to be involved in the company's decisions and necessitated the heavy use of temporary structures (e.g. task forces), the practice of horizontal communication among peers within the teams and across teams, and the intensive development of decentralized knowledge-based systems. Due to the organizational transformation, the nature of work in the organization changed radically due greatly to the strategic intention of the management team to accentuate the proactive perspective of employees' work. Team members were explicitly asked to take initiative to shape their job designs and work contexts, and to learn. Also, after the organizational transformation, learning and innovation remained strongly in focus, given the character and the global mission of the organization. The company implemented a series of feedback loops among peers to correct the adopted solutions to create conditions for individuals and teams to better learn and to improve their performance.

Compared to the former organizational configuration, middle managers also had a smaller scope of control over employees, replacing their usual request for direct reports with more coaching and feedback activities, thereby improving all employees' ability to engage in a relational form of coordination. Given the amount of interaction within and across teams to access the decentralized knowledge and request support and coaching activities, the organization transformed itself into a network of contacts where the urgency and the emergence of interactions occurred to satisfy internal and external organizational customers and project development goals. Friction between the managers and teams was also common, as they argued over the long-term organizational goal to adapt to external challenges and over the need for the employees to consequently become more proactive and to strengthen their learning goal orientation.

3.2 | Data collection and sample

We included all team members working in the software development teams. Managers and team stakeholders were also included, given

their informal interactions with teams to facilitate the spread of knowledge within the organization.

The survey was written in English, the language commonly used in the organization. It was widely adopted for the internal documentation and for the product information released to their customers. External and internal official communication messages were always in English, given the multinational setting of the company. All the employees had been adequately trained and were evaluated as proficient in English by the organization.

Participation was voluntary, and respondents were guaranteed that their responses would be kept confidential and shown at aggregate level by the research team in their report to the organization. Furthermore, all the administered surveys were sent directly back to the researchers to reduce the likelihood of biased answers. Data collection started with two pilot tests involving five team members in total, with the aim to conduct an instrument validation and to reduce the duration of the survey, given the managerial pressure to reduce its impact on the employees' workload. The head of the organization had namely insisted that employees not be asked to fill out long questionnaires taking more than 25 minutes, so the pilot tests were organized to ensure this. After each pilot, the team members involved were interviewed to obtain information on the time incurred, on their perceived complexity about the constructs used, and on the usability of the instrument itself. Based on team members' comments, minor additions and clarifications were made and questions were reworded to make the survey easier to complete. Data collection was coordinated through an internal person employed as a quality manager. That person acted as a "gatekeeper", meeting with the research team at different times to update the research team and discuss issues regarding the collection of the data. He facilitated the administration of the survey by reporting to the research team the constraints and requirements that the top management team was raising regarding the survey, and acted as an advocate for the relevance of the survey to the organization. Before its launch, the survey was also endorsed by the head of the organization, who presented it as part of an established program of research on organizational excellence that the organization intended to pursue to improve the organizational performance. The programs had the ambition to create better and more favorable conditions for individuals to perform.

After the pilot-testing phase, the survey was administered. All the organizational measures of networks were collected at the same time. A total of 74 of the 104 employees (71 percent) completed the survey. Sixteen incomplete surveys were excluded, yielding a final response rate of 56 percent. The respondents were predominantly male (72 percent, $N = 42$), with an average age of 43.4 years (ranging from 29 to 60 years). Organizational tenure ranged from 4 years to 26 years, with an average of 13.3 years.

Even though our response rate can be considered in line with many naturalistic studies, we examined the risk of nonresponse bias in several ways. First, we discussed the results and the demographic breakdown of the respondents (e.g., age, education, tenure, and gender) with firm representatives, who assured us there were no biases differentiating those responding to the survey from the overall

distribution of employees in terms of their demographics. Second, we ran a formal test of differences between the respondents and non-respondents based on demographic characteristics (i.e., age and tenure), and the result was nonsignificant.

3.3 | Variables and measures

3.3.1 | Network data

The network relationships included in this study are advice and friendship, and both were measured with a binary response scale using a roster (i.e. complete list of the organizational members) and the free choice method. This technique increases the quality of the data (i.e., Marsden, 1990). The advice network was assessed by asking participants to select individuals "to whom you go for work-related advice" (Brass, 1984). The friendship network was measured by asking respondents to indicate whether an employee on the roster was "a good friend of yours, someone you socialize with during your free time" (Ibarra, 1993). Finally, we arranged the network data provided by employees in asymmetric matrices in which cell X_{ij} equaled one if actor i (ego) selected actor j (alter) for a particular type of relationship, and likewise, cell X_{ji} equaled one if actor j (ego) selected actor i for a particular type of relationship.

3.3.2 | Dependent measure

Individual learning goal orientation was assessed using the measure proposed by Button et al. (1996). The respondents were asked to express their degree of agreement with eight statements using a 7-point Likert scale ranging from 1 = "not at all agree" to 7 = "completely agree" and with a midpoint of 4 = "moderately agree". Sample items are "The opportunity to do challenging work is important to me" and "When I fail to complete a difficult task, I plan to try harder the next time I work on it." The overall reliability of the scale (i.e., Cronbach's alpha) was 0.89 (see Table 1 for a detailed description of all variables used).

3.3.3 | Independent measures

Self-efficacy was measured using a three-item scale proposed by Chen et al. (2001). Again, all items were rated using a 7-point Likert scale ranging from 1 (fully disagree) to 7 (completely agree). To measure *performance feedback*, we used two items adapted from Patterson et al. (2005). The selection of the items considered both their ability to explain the underlying construct and the pre-test and interviews conducted at the company. Cronbach's alpha for this scale was 0.87 (see Table 1 for the items).

To calculate *individuals' brokerage position in the advice network* (i.e., ego's structural holes), that is, the role of connecting individuals who are not yet connected to each other, we used Burt's constraint

TABLE 1 Construct factor loadings and reliability^a

| Constructs | Estimates | Cronbach's alpha |
|--|-----------|------------------|
| INDIVIDUAL LEARNING GOAL ORIENTATION | | 0.89 |
| The opportunity to extend the range of my abilities is important to me | 0.882 | |
| The opportunity to do challenging work is important to me | 0.875 | |
| I try hard to improve on my past performance | 0.825 | |
| When I have difficulty solving a problem, I enjoy trying different approaches to see which one will work | 0.803 | |
| I prefer to work on tasks that force me to learn new things | 0.793 | |
| When I fail to complete a difficult task, I plan to try harder the next time I work on it | 0.660 | |
| The opportunity to learn new things is important to me | 0.642 | |
| I do my best when I'm working on a fairly difficult task | 0.601 | |
| SELF-EFFICACY | | 0.87 |
| I am self-assured about my capabilities to perform my work activities | 0.919 | |
| I am confident about my ability to do my job | 0.918 | |
| I have mastered the skills necessary for my job | 0.846 | |
| PERFORMANCE FEEDBACK | | 0.89 |
| My performance is measured on a regular basis | 0.951 | |
| I usually receive feedback on the quality of work I have done | 0.951 | |

^aOnly multi-item constructs are reported in this table. AVE = average variance extracted.

measure (Burt, 1992, p. 55), which was implemented in UCINET version 6.491 (Borgatti, Everett, & Freeman, 2002). This measure was calculated considering only the ego's first contacts in the advice networks. The values for this measure range from 0 to 1. As an individual's score nears zero, the number of structural holes in this person's relationship structure increases. We focused on instrumental ties such as the advice network, since we are interested in exploring how individuals' positions in the networks that were relevant for getting the job done influence the individuals' self-efficacy and learning goal orientation related to their work.

We calculated *individual centrality in friendship network* using UCINET version 6.232 (Borgatti et al., 2002). The more coworkers that chose a focal employee, the higher that employee's *in-degree centrality*.

Individual's team identification was chosen as a variable since it is the most proximal target of identification for the respondent and the

most relevant context in terms of accomplishing a task (e.g., Ashforth & Johnson, 2001). We used the visual item proposed by Bergami and Bagozzi (2000) to assess individuals' identification with their team. Finally, identification is associated with many positive outcomes, such as learning behaviors and the ability to share and acquire knowledge (e.g., Kane, 2010; Monti & Soda, 2014).

3.4 | Model specification

As a preliminary step, an exploratory factor analysis was performed for all scales to highlight the latent constructs of the first and second order. Given the small sample size, several precautions were taken to ensure that the size of the sample would not affect the hypothesized model. Therefore, we considered only the exploratory factors that had reached a cumulative explained variance of at least 60 percent (MacCallum, Widaman, Zhang, & Hong, 1999), while for the composition of the factors, we considered only the items that had a factor loading higher than .60 (Osborne & Costello, 2009). According to the authors cited, we can claim that the sample size does not limit the analysis. Then, Cronbach's alpha (α) was calculated for each construct. We accepted a reliability index higher than 70 as a satisfactory outcome for all the variables.

Finally, our hypothesized mediation model was tested using SPSS (version 22) and the macro PROCESS (version 2.13), which was implemented by Hayes (2013). We used a bootstrapping resampling strategy of 20,000 and followed the approach of Preacher and Hayes (2004, 2008), as recommended by Zhao, Lynch, and Chen (2010). With this model, we estimated the total, direct, and indirect impacts of our causal variables (perceived feedback and advice brokerage position) on the dependent variable (learning goal orientation) through the effect of the mediator (*Self-efficacy*). As a further precautionary measure, the regression model includes six explanatory variables to avoid bias related to the sample size (see Hair, Ringle, & Sarstedt, 2011).

4 | RESULTS

The descriptive statistics, including the means and standard deviations of the variables, are presented in Table 2, along with the intercorrelations of the constructs. The procedure for the mediation model includes a bias-corrected bootstrap random resampling of 20,000 iterations, which is applied to the sample ($N = 55$; three cases were eliminated in the final analysis due to missing data) to test the hypotheses. The unstandardized betas, standard errors of the hypothesized relationships and R^2 values of the endogenous and dependent variables are reported in Table 3, and those for the indirect effect are reported in Table 4.

H1 predicted a positive indirect effect of performance feedback loops through self-efficacy. First, performance feedback loops are positively and significantly correlated with self-efficacy ($b = 0.3685$, $p < .001$; Model 1) but non-significantly related to learning goal

TABLE 2 Means, standard deviations and correlations

| Construct | Mean | Std. dev. | 1 | 2 | 3 | 4 | 5 | 6 |
|---|--------|-----------|--------|--------|--------|-------|-------|---|
| Individual learning goal orientation | 6.2295 | 0.61744 | 1 | | | | | |
| Self-efficacy | 5.6848 | 0.87116 | .375** | 1 | | | | |
| Performance feedback | 4.8091 | 1.22660 | .022 | .489** | 1 | | | |
| Individuals' brokerage position in the advice network | 0.4401 | 0.21732 | -.289* | -.148 | .102 | 1 | | |
| Individuals' team identification | 6.3455 | 1.20521 | .364** | .270* | .434** | -.180 | 1 | |
| Individual centrality in friendship networks | 0.1000 | 0.04974 | .076 | -.107 | .010 | -.265 | -.038 | 1 |

*Correlation is significant at the 0.05 level (2-tailed). **Correlation is significant at the 0.01 level (2-tailed). ***Correlation is significant at the 0.001 level (2-tailed).

TABLE 3 Results for the mediation model

| | Self-efficacy (Model 1) | | | Learning goal orientation (Model 2) | | |
|---|-------------------------|------------|---------|-------------------------------------|------------|---------|
| | Coeff. | Std. error | P-value | Coeff. | Std. error | P-value |
| Constant | 4.6966 | 0.716 | 0.0000 | 4.0008 | 0.686 | 0.0000 |
| Self-efficacy | | | | 0.3146 | 0.0993 | 0.0026 |
| Performance feedback | 0.3685 | 0.0957 | 0.0003 | -0.1788 | 0.0762 | 0.023 |
| Individuals' brokerage position in the advice network | -1.001 | 0.5849 | 0.056 | -0.2441 | 0.3728 | 0.5157 |
| Individuals' team identification | -0.0048 | 0.0947 | 0.9613 | 0.1985 | 0.069 | 0.0059 |
| Individual centrality in friendship networks | 0.3685 | 0.7705 | 0.1529 | 4.0008 | 0.686 | 0.3435 |
| Adjusted R ² | 0.2524 | | | 0.2657 | | |
| F (df) | 5.5571(4) *** | | | 4.9072(5) *** | | |

N = 55;

***p < .001

TABLE 4 Direct and indirect effect of the independent variables

| Direct effect of x on Y | Effect | Std. error | P-value | |
|---|---------|------------|----------|----------|
| Performance feedback | −0.0628 | 0.0726 | 0.3909 | |
| Individuals' brokerage position in the advice network | −0.5591 | 0.3904 | 0.1584 | |
| Indirect effect of X on Y through Self-efficacy | Effect | Boot SE | BootLLCI | BootULCI |
| Performance feedback | 0.1159 | 0.0491 | 0.0333 | 0.224 |
| Individuals' brokerage position in the advice network | −0.3149 | 0.1949 | −0.7623 | −0.0178 |

^aBootstrap resampling = 20,000.

orientation if we consider the total effect model (see the first panel of Table 4). Second, the indirect effect (Table 4; second panel) of performance feedback through self-efficacy—that is, the difference between the total and direct effects—is significant, with a point estimate of 0.1159 (Boot s.e. = 0.0491) and a 95 percent BCa bootstrap confidence interval (CI) of 0.0333 to 0.2240 (i.e., we can claim this because zero is not in the CI). Therefore, we confirmed H1. Additionally, we found a negative association between performance feedback and learning goal orientation. The results of the second stage (Model 2) support this prediction, as the coefficient of performance feedback is negative and statistically significant ($b = -0.1788$, $p < .05$).

H2 predicted a positive association between an individual's identification with the team and learning goal orientation. The results of the second stage (Model 2) support this prediction, as the coefficient

of team identification is positive and statistically significant ($b = 0.1985$, $p < .001$).

H3 and H4 considered the role of informal networks in individual learning goal orientation. Specifically, H3 predicted a positive association between an individual's centrality in the friendship network and learning goal orientation, while H4 predicted a positive association between an individual's brokerage position in the advice network and learning goal orientation. The results presented for Model 2 did not confirm such a relationship ($b = 4.0008$, $p = 0.3435$ and $b = -0.2441$, $p = 0.5157$, respectively).

In contrast, we found support for our last hypothesis (H5). In fact, the indirect effect of brokerage through self-efficacy is significant and positive, with a point estimate of -0.3149 (boot s.e. = 0.1949) and a 95 percent BCa bootstrap CI of -0.7623 to -0.0178 (Table 4; second

panel). We also found a positive and significant impact of brokerage position on self-efficacy ($b = -1.0010$, $p < .10$). Finally, self-efficacy significantly and positively affected learning goal orientation, with a point estimate of 0.3146 and $p < 0.01$.

Overall, the variables included in the first-stage regression were able to explain 25 percent of the variance in individuals' self-efficacy and 27 percent of the variance in individuals' learning goal orientations (second stage). In order to increase our confidence in the results, we ran a series of robustness checks to ascertain if demographic variables and specific dynamics within the team could have affected our mediation and final outcome variables. We therefore run several separate regression models. We run a model with only control variables, including teams' codes on learning goal orientation, and none of them became significant. We obtained the same results when we controlled for organizational tenure, gender and whether the team members assumed a leadership role in our full model. Additionally, none of the teams and demographic controls turned out to be significant in influencing self-efficacy. Overall, these additional analyses increased the robustness of our findings.

5 | DISCUSSION AND CONCLUSION

In this study, we develop and test a model to clarify and predict the learning goal orientation of individuals belonging to self-managed team-based organizations. Our model shows how personality traits such as individual learning goal orientation is developed within a team through the lens of person-environment fit. It explains how team members proactively learn, and describes how learning goal orientation changes in team members acting on themselves in response to their environment. The model represents a situation where a team member, despite her/his being part of a team, has not gravitated to or selected that environment. Within self-managing teams, there are high-level interactions among team members and a high level of interdependency among team members. Additionally, given the informal interactions and absence of social structure, team members have to fight to justify their existence and contribution within the team (Diefenbach & Sillince, 2011). These conditions can lead individuals to experience their motivational states differently. External forces (e.g., socialization; organizational contexts) can influence their vocational choices and decisions. Team members may therefore find it necessary to work in a manner that is not a natural fit to their trait. We propose that team members in this situation adjust their actions to reflect job-relevant behavior. Satisfaction of personal needs and commitment to social foci can create conditions for a close relationship (high commitment) with the feedback giver when the latter is internal or strongly related to the team activities. We can assume that an individual's presence within a team can induce a further increase in individual regulatory focus, but with a more normative than discretionary behavior. In addition, we recognize that the effect of performance feedback and the bases of individual engagement in the learning task are also influenced by their level of expertise. Given the nature of team work, cross-product and cross-functional team

members are always novices. Repeated activation of job-relevant behavior in place of trait-consistent behavior leads to strengthening of traits that people select into occupational environments, which are developed further by experience of those environments.

We consider personal (self-efficacy, team identification) and situational characteristics within the organizational boundaries (e.g. the existence of performance feedback, centrality in the friendship network, and a brokerage position within the advice network) to formulate specific hypotheses. We find that self-efficacy mediates the relationship between performance feedback, advice networks and individual learning goal orientation. We also find that performance feedback negatively affects individual learning goal orientation and that team identification positively affects individual learning goal orientation.

This study raises three important points for both theory and practice. First, the theoretical literature has long stated that the analysis of learning goal orientation requires an examination of personal and situational influences (Latham & Yukl, 1975; Locke, 1975; Payne et al., 2007; Steers & Porter, 1974). We adopt a person-in-situation approach to analyze how situational influences may affect the expression of individual differences (see Tett & Burnett, 2003) in learning goal orientation within self-managed team-based organizations. In line with the definition of learning goal orientation as a relatively stable trait subject to the influence of situational characteristics (Button et al., 1996; Murayama & Elliot, 2009), we consider learning goal orientation as influenced by a combination of personal (team identification and self-efficacy) and situational characteristics within the organization. Specifically, we identify two classes or types of situational characteristics influencing learning goal orientation. They both relate to relational processes that develop through the emergent interactions between individuals and the organization's context: one describes individual connectivity and social position within the organization, and the other, performance feedback, refers to the dyadic interactions between individuals and the organizational context. Combining both personal (self-efficacy and team identification) and network elements, we are also able to combine two streams of literature that developed separately, but are in need of integration to provide a fuller explanation of organizational functions (Casciaro et al., 2015; Kilduff & Brass, 2010).

In particular, we build on and go beyond previous studies linking performance feedback, self-efficacy, and learning goal orientation (e.g. Payne et al., 2007; VandeWalle, Ganesan, Challagalla, & Brown, 2000) by expanding their nomological network while jointly studying the effect of both personal and situational factors within the organization. For example, we add to the meta-analytic analysis of Payne et al. (2007) on the roles of both individuals' team identification, and friendship and advice networks in influencing learning goal orientation. Our results shed new light on this topic by showing the direct positive and significant effect of team identification, above and beyond self-efficacy, and the positive indirect effect of brokerage on learning goal orientation, while confirming the non-significant role of factors like tenure and gender. We also extend the work of VandeWalle et al. (2001), who find that learning goal orientation was

significantly and positively correlated with task-specific self-efficacy at time 2, and that performance feedback is also related to task specific self-efficacy. While the longitudinal design of these studies is an advantage compared to our cross-sectional approach, the authors did not test alternative models of performance feedback and learning goal orientation at time 1. Additionally, we examine general self-efficacy rather than task self-efficacy, making our cross-sectional design more coherent (see also Chen et al., 2001). In our study, we show a complex picture in which performance feedback has a direct positive effect on self-efficacy, but also a direct negative effect on learning goal orientation, which is of great importance, both from a theoretical and managerial point of view. We will discuss the managerial point of view later in this section. Moreover, in testing our model in a company setting compared to a student one, we were able to show the important effect of the individual's informal position in the advice network on the individual's self-efficacy above and beyond performance feedback.

Second, our study contributes to the self-efficacy literature by providing information about the possible antecedents of self-efficacy in self-managed team-based organizations. In a self-managed work context, self-efficacy is even more important as it enables team members to effectively overcome personal and social obstacles to their job performance (Bandura, 1986, 1997). Self-efficacy may directly affect individual autonomy, in the sense that individuals with high self-efficacy proactively pursue high-autonomy jobs (van Mierlo, Rutte, Vermunt, Kompier, & Doorewaard, 2007). Bandura (1986) argues that maturation and socialization experiences influence self-efficacy; however, little direct evidence exists connecting the elements of organization design and favoring the socialization process over self-efficacy. In fact, few empirical studies of socialization processes address the question of how specific socialization practices impact individual self-efficacy. More clarification is therefore needed to understand how the information organizations provide through their socialization practices may affect the formation of self-efficacy. Our study suggests that self-efficacy is established and maintained through multiple formal and informal complementary processes between individuals within teams and the organization itself. We find that through performance feedback, individuals come to understand the nuances of their job and become more confident that they can perform well in their role at work (Tierney & Farmer, 2002). On the other hand, we also find a positive correlation between being a broker in the advice network and self-efficacy skills. Gist and Mitchell (1992) also argue that individuals may lack information that will help them successfully achieve a task, while Parker et al. (2016) further suggest that self-efficacy mediates the relationship between performance feedback and social capital, but did not measure self-efficacy and therefore did not test it. We add to previous studies by showing for the first time that being a broker in the advice network can provide individuals with data and information that they can use to evaluate and increase their own self-efficacy.

Finally, our study responds to a recent call for an analysis of personal and network variables together to offer a fuller explanation of organizational phenomena (i.e. Casciaro et al., 2015, p. 1162; see also Monti & Soda, 2014). Our results clearly show that individuals'

brokerage positions in the advice network have both a direct effect on self-efficacy and an indirect effect on individual learning goal orientation, above and beyond individual dispositions such as team identification and organizational factors such as performance feedback. On the other hand, team identification has a direct effect on learning orientation, while the informal social network does not. This study adds to the few existing studies that advance our understanding of the complex relationships between individual disposition and network position in affecting individuals' behavior, specifically their learning goal orientation.

Overall, our theoretical contributions derived from our findings suggest the importance of using a person-situation influence approach. In clarifying and combining different personal and situational elements that can be relevant in the context of self-managed team-based configurations, we were able to show the complexity of individuals' learning goal orientation and to inform our results in comparison with previous literature while highlighting the peculiarity of the context itself.

Our results offer two main implications from the managerial perspective. First, we confirm the importance of performance feedback, especially in a highly autonomous context such as a self-managed team. Our results, however, tell managers about a potential paradox that they should address carefully. Giving feedback, whether positive or negative, can positively influence the individual's ability to perform a task and therefore also boost their self-efficacy. At the same, giving feedback can have a direct negative effect on the employees' learning goal orientation, fostering the repetition of the same behaviors and reducing their motivation to learn new things or to improve on past performance in a way similar to incentives (for a review on how to motivate employees, see Schroeder & Fishbach, 2015), but also a positive indirect effect through self-efficacy. The question then is how to reduce the negative effect of performance feedback. Managers can directly foster employees' self-efficacy by offering training opportunities related not only to the task at hand, but also to broaden the employees' knowledge. With respect to the potential to influence the formation of specific ties so employees increase their self-efficacy, we are concerned about the suggestion of training employees to become "brokers" (for a discussion, see Battilana & Casciaro, 2012). Instead, we see an opportunity for managers to train employees and offer formal and informal opportunities for them to diversify their network, including organizational members who are members of their own and other teams, as well as parts of the organization that can offer complementary knowledge. A formal way to do so is through internal newsletters, where it is possible to post an "expert corner" where employees can present their skills and hobbies. Informally, it is possible to create social events and competitions that mix employees from different teams and departments in order to increase their opportunities to meet different people. Finally, a direct way to reduce the negative effect of performance feedback is to increase employees' sense of belonging to their teams. Managers can positively affect such perceptions by increasing the cohesiveness, positive image, and sense of importance of the team (e.g. Dutton et al., 1994).

However, this study has several limitations. First, our cross-sectional design prevents us from drawing causal inferences regarding our proposed model. Another problem related to the cross-sectional design is common method variance, which can inflate the correlations (Podsakoff, MacKenzie, & Podsakoff, 2012). However, this was unlikely in our study because we adopted procedural remedies in the design and administration of our surveys, including using different scale types (Chang, van Witteloostuijn, & Eden, 2010). Additionally, by construction, our social network measures are not self-reported, increasing the confidence in our results. Nonetheless, more studies are needed to investigate the complementary dynamics in organizations, such as by using a longitudinal design and replicating the study in different organizational contexts, including more hierarchical ones. While we use the most established type of network and the most updated measures, future studies should analyze and compare the effects of other types of networks that may contribute to learning goal orientation, such as legitimacy and negative ties. The use of valued network to measure the intensity of these relationships could increase the nuances of our understanding. Another limitation of this study is the lack of differentiation between positive and negative feedback; distinguishing between these two in future studies could lead to a more nuanced view of the effect of performance feedback. Additionally, future research could extend our findings by exploring the moderating influence of organizational identification and members' prototypicality on individuals' motivation to learn new skills and their network choices (Monti & Bergami, 2014; Monti & Soda, 2014) beyond, or in interaction with, team identification.

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