



Team work engagement: A model of emergence

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Research has shown that work engagement, both at the individual and team levels, is relevant to understand employee performance and well-being. Nonetheless, there is no theoretical model that explains the development of work engagement in teams that takes into consideration what is already known about team dynamics and processes. This study addresses this gap in the literature, presenting a model for the emergence of team work engagement. The model proposes team inputs, outputs, and mediators as predictors of team work engagement and highlights their recursive influences over time. This conceptual work provides a starting point for further research on team work engagement, allowing for distinguishing individual and team constructs.

Practitioner points

- The degree of energy and enthusiasm of teams depends on the way they interact.
- The affective and motivational dynamics of teams have consequences for their performance and well-being.
- The emergence of team work engagement is better understood within the literature of teamwork.

The last decade has established work engagement as an important construct for both employee performance and well-being (Halbesleben, 2010). Engaged employees display a positive attitude towards work and high energy levels, which leads them to actively intervene in their work environment. They tend to show high levels of self-efficacy (Bakker, 2009) and organizational commitment (Demerouti, Bakker, De Jonge, Janssen, & Schaufeli, 2001). In addition, engaged workers are inclined to work extra hours (Schaufeli, Taris, & Van Rhenen, 2008) and help their colleagues if needed (Halbesleben & Wheeler, 2008); they also manage to stay healthy in stressful environments (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001).

Parallel to the studies on work engagement at the individual level, some researchers have also started to explore the construct at the team level (Bakker, van Emmerik, & Euwema, 2006; Salanova, Llorens, Cifre, Martinez, & Schaufeli, 2003; Torrente, Salanova, Llorens, & Schaufeli, 2012a,b). These studies suggest that, at the team level, work engagement has positive relationships with task and team performance, collective positive affect, and efficacy beliefs. Team work engagement is also positively related to individual work engagement.

Despite the acknowledgement of its relevance in the context of work teams, the vast majority of studies have not presented a theoretical model framing the construct and

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explicating the mechanisms responsible for its existence. This is one major gap in the work engagement literature. The one commendable exception is the work by Torrente *et al.* (2012b) that proposes team social resources (supportive team climate, team work and coordination) as possible antecedents of team work engagement. The latter idea is tightly linked to the literature on individual work engagement and rooted in the job demands–resources model (Bakker & Demerouti, 2007), the conceptual model for individual work engagement. To our knowledge, there have been no scholars reflecting on whether and how team work engagement can be equated within the specific literature on groups and teams,¹ teamwork, and team effectiveness, which would allow for a better understanding of teamwork, and create the theoretical rationale for studying team work engagement. The goal of this study is to present a model for the emergence of team work engagement, embedded in the literature on teams. It provides a theoretical model for the emergence of the collective construct that accounts for both team inputs and outputs and for team processes, highlighting their dynamic interplay overtime.

The dialogue between the two domains of individual work engagement and team effectiveness contributes to several positive outcomes. First, it will strengthen the theoretical conceptualization of work engagement at the team level, accounting for what is already known in terms of team functioning and enriching its nomological network. Second, it will address legitimate concerns related to eventual construct proliferation (Cole, Walter, Bedeian, & O'Boyle, 2012), distinguishing team work engagement from other team-level constructs and from individual work engagement, by presenting a specific team-level model of engagement. Third, this article will set the stage for future research on work engagement in teams, providing a model that may be tested empirically. Finally, it will allow for importing the knowledge acquired by team scholars in designing interventions to foster collective engagement.

Work engagement

Work engagement is a positive, fulfilling state of work-related well-being. Following Schaufeli and Bakker (2010), we define work engagement as an affective–cognitive state characterized by vigour, dedication, and absorption. Engaged employees are energetic and enthusiastic about their work, which leads them to perform better than non-engaged employees, and to invest more effort in work than is formally expected (Halbesleben & Wheeler, 2008). The most often used framework for studying engagement is the job demands–resources model (Bakker, 2011; Bakker & Demerouti, 2007). Studies using this model have shown that job demands and resources trigger two different psychological processes that are the roots of work engagement and burnout: an energy impairment process caused by excessive job demands and a positive motivational process that is triggered by job resources. Job resources such as performance feedback, job control/autonomy, and supervisory support are then conceptualized as the major antecedents of work engagement (Hakanen, Bakker, & Schaufeli, 2006; Richardsen, Burke, & Martinussen, 2006; Schaufeli & Bakker, 2004), and they appear to enhance engagement especially when job demands are high (Bakker, Hakanen, Demerouti, & Xanthopoulou, 2007). In addition to job resources, personal resources have also been found to predict work engagement (Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2007). Examples of these

¹ Following the work by Guzzo and Dickson (1996), we use the terms *groups* and *teams* interchangeably throughout the article.

personal resources are personality traits, such as high extraversion and low neuroticism (Langelaan, Bakker, Schaufeli, & Van Doornen, 2006), and lower-order personality characteristics including self-efficacy, optimism, hope, and resilience (Sweetman & Luthans, 2010; Xanthopoulou *et al.*, 2007).

Thus, work engagement is particularly influenced by resources in the work environment and in the person. These resources have the strongest impact on engagement when job demands are high. Work engagement, in turn, is an important predictor of positive attitudes towards the organization and job performance. In other words, engagement mediates the impact of job and personal resources on organizational outcomes (Schaufeli & Bakker, 2010), such as organizational commitment, personal initiative, and extra-role behaviour (Bakker, Demerouti, & Verbeke, 2004).

Team work engagement

Teams are ‘a distinguishable set of two or more people who interact, dynamically, interdependently, and adaptively towards a common and valued goal/objective/mission, who have been assigned specific roles or functions to perform, and who have a limited lifespan of membership’ (Salas, Dickinson, Converse, & Tannenbaum, 1992, p. 4). Working in a team has specificities that distinguish it from working alone. Team members need to coordinate and synchronize their actions, and every member has a critical role for their collective action. Consequently, the success of teams is dependent on the way team members interact with each other to accomplish the work (Marks, Mathieu, & Zaccaro, 2001).

These major differences between working alone and working in a team should account for conceptualizing work engagement and team work engagement differently. Whereas individual work engagement is essentially dependent on job resources and demands, team work engagement, as a collective construct, is dependent on the individual actions and cycles of interaction responsible for creating a shared pattern of behaviour (Morgeson & Hofmann, 1999). Therefore, with the same resources and in an equally challenging environment, some teams might develop a higher level of engagement than others, because the affective, cognitive, and motivational outcomes of different patterns of interaction are likely to be different. Commenting enthusiastically on new equipment or energetically inciting team members to suggest new marketing strategies after the entrance of a new competitor in the market is significantly different from neutrally informing team members of that same equipment acquisition and angrily referring to that new competitor.

Despite these variances, the existing research on team work engagement has failed to incorporate these team phenomena and processes. Studies either do not account for the differences between individual and team work engagement, or do not put forward specific team-level models of engagement. For example, Tyler and Blader (2003) depart from the engagement definition developed by Kahn (1990) – engaged employees bring their full affective, physical, and cognitive self to the workplace – and propose that a strong identification with the group will lead members to invest personal energy to aid group success. This identification, in turn, depends on the respect and pride team members have for their team. Tyler and Blader’s proposal on group engagement is heavily based on social identity theory (Tajfel & Turner, 1979) and does not present any distinctive features of team work engagement that represent specific team dynamics. Early studies such as the one by Salanova *et al.* (2003) and the one by Bakker *et al.*

(2006) lack a clear definition of the team-level construct. The first one frames team work engagement as a 'positive aspect of collective well-being in work groups' (p. 48) and analyses the results considering the three dimensions of individual work engagement: vigour, dedication, and absorption. The second one measures collective engagement with the individual-level scale (Schaufeli & Bakker, 2003), and the percentage of engaged employees per team is used as a representation of collective engagement. The absence of a team-specific definition, framed by the knowledge from the literature on teams, may lead researchers to question whether team work engagement does exist as a distinct construct from work engagement.

Nonetheless, work engagement is likely to be relevant at the team level, as a molar motivational construct that comprises affective and cognitive components. Accounting for individual trait differences, work events and the work environment are likely to influence team members in a similar way, not only in terms of the affective experiences but also in what motivation is concerned. Team members usually share the same resources, the same team leader, the same customers, the same events, the same co-workers, and even the same workspace. According to affective events theory (Weiss & Cropanzano, 1996), it is likely that people experiencing the same events have similar affective experiences. Some evidence has been reported on mood convergence between people who work together: group affective tone (George, 1996), mood linkage (Trottedel, Kellett, & Briner, 1998), or emotional contagion (Hatfield, Cacioppo, & Rapson, 1994). Norms of emotional expression (Sutton, 1991), that are conveyed to everyone in the same team, may also be considered relevant for the emergence of a common affective state, facilitating ('everyone should be cheerful and energetic') or inhibiting ('we do not talk about our feelings, good or bad') its development. Finally, several theories of work motivation highlight the interaction of person and situation, arguing that some work characteristics might foster motivation (Hackman & Oldham, 1976; Lawler, 1994). When sharing working characteristics, it is likely, then, that the level of motivation of team members will converge.

Considering these ideas, it is not unlikely that team members develop similar affective, cognitive, and motivational states. However, should researchers consider that work engagement at the team level is qualitatively different than the weighted mean of individual work engagement?

Some authors have already started to consider certain dynamics and variables that may characterize engagement at the team level. Bakker, Albrecht, and Leiter (2011) propose that collective engagement refers to the engagement of the team/group (team vigour, team dedication, and team absorption), as perceived by individual employees and that it might exist due to emotional contagion (Hatfield *et al.*, 1994) among team members. This perspective on team work engagement highlights essentially an affective dimension of the collective construct, and not so much a cognitive or motivational one. Torrente *et al.* (2012a) also state that emotional contagion could be the mechanism underlying team work engagement. They further propose a specific definition of team work engagement as a positive, fulfilling, work-related, and shared psychological state characterized by team vigour, dedication, and absorption. Through structural equation modelling, and using 62 teams from 13 organizations, they reported evidence for a mediation role of team work engagement between social resources (supportive team climate, coordination, and team work) and team performance, as assessed by the supervisor. This model is the first one that accounts for team-level variables in explaining the existence of team work engagement and for its relationship with team performance. Even so, previous research had already linked some social resources with individual work engagement. For example, Hakanen

et al. (2006) report higher levels of work engagement in Finnish teachers with high levels of social resources, such as supportive social climate. Schaufeli, Bakker, and Van Rhenen (2009) replicated this finding among managers from a Dutch telecom company in a longitudinal study. These findings suggest that social resources are not an exclusive antecedent of team work engagement. Also, Torrente *et al.*'s (2012b) model fails to integrate what we already know about team processes and team effectiveness, and essentially represents a homologous (Kozlowski & Klein, 2000) transposition of the individual-level model of engagement, therefore overlooking possible important differences between levels.

Overall, previous research on work engagement in teams has some limitations. Most studies do not present a clear definition of the construct or a theoretical model for team work engagement that accounts for variables exclusively relevant in the context of teams. Even when considering team-relevant variables and team members' interaction, research on team work engagement has not yet been integrated within the specific literature on teams. In the next section, we attempt to overcome these limitations, by presenting a model for team work engagement emergence based on the existing team effectiveness literature.

Defining team work engagement

Team work engagement is as a shared, positive and fulfilling, motivational emergent state of work-related well-being. Just like individual-level work engagement (Schaufeli & Bakker, 2004; Schaufeli & Bakker, 2010), team work engagement is proposed as a multidimensional construct characterized by affective and cognitive dimensions: team vigour, team dedication, and team absorption. Team vigour stands for high levels of energy and for an expression of willingness to invest effort in work and persistence in the face of difficulties (e.g., conflict, bad performance feedback); for example, team members enthusiastically encourage demoralized colleagues and explicitly express their desire to continue working. Team dedication is a shared strong involvement in work and an expression of a sense of significance, enthusiasm, inspiration, pride, and challenge while doing so; for example, team members talk to each other and to others (external to the team) about the importance of their work and about the thrill they feel concerning their work. Team absorption represents a shared focused attention on work, whereby team members experience and express difficulties detaching themselves from work, such as team members talk about their work during breaks, commenting on time passing quickly, and not engaging in non-work-related interactions when working.

Keeping functional equivalence with the work engagement definition proposed by Schaufeli and Bakker (2003), this emergent state will lead to team effectiveness. However, this definition allows for the conceptualization of a different construct's structure, based on the interaction patterns among the team members and reflects two essential constructs rooted in the literature on teams and teamwork: emergent states and shared constructs.

Emergent states

Whereas Torrente *et al.* (2012b) define team work engagement as a shared psychological state, we propose that team work engagement is an emergent state, something that is exclusive to teams and cannot be found in individuals. The idea of an emergent state has been explored in theories of chaos, self-organization, and complexity as important to

understand how individuals contribute to organizational effectiveness (Kozlowski, Chao, Grand, Braun, & Kuljanin, 2013; Kozlowski & Klein, 2000). Marks *et al.* (2001) distinguish between team processes and team emergent states, discriminating two different aspects of the life of work teams fundamental for their understanding. Team processes are ‘member’s interdependent acts that convert inputs to outcomes through cognitive, verbal, and behavioural activities directed towards organizing taskwork to achieve collective goals’ (p. 357). Team processes involve the interaction of team members with each other and with their task environment and are used to direct, align, and monitor what members are doing. For example, strategy formulation, coordination, and tracking resources are team processes. On the other hand, emergent states are properties of the team that are dynamic in nature and that vary as a function of: team context, inputs, processes, and outcomes. Emergent states describe cognitive, motivational, and affective states of teams. Constructs such as collective efficacy, cohesion, or team potency are emergent states (Kozlowski & Chao, 2012) because they refer to team qualities that represent members’ attitudes, values, cognitions, and motivations and not interaction processes.

Team work engagement is considered an emergent state that ‘originates in the cognition, affect, behaviours, or other characteristics of individuals, is amplified by their interactions, and manifests at a higher level’ (Kozlowski & Klein, 2000, p. 55). Its structure depends on team experiences, namely on their members’ interactions during team processes. For example, a certain sales team may have a low level of team work engagement (e.g., low motivation to work, low levels of persistence, and low pride in their work) in a context of a diminished amount of sales, constant conflicts between team members, a lack of feedback and orientation, and aggressive and depreciative comments from the leader. The same team’s level of engagement may start to increase when one of those elements change: a new leader who is capable of clear goal setting and who tends to display an energetic mood, a boost of the sales, a better management of the conflicts, among others. These changes in team work engagement are not directly dependent on objective events, but rather on the changes those events bring to the interaction between team members.

It is the fact of being an emergent state that departs the construct of team work engagement from individual-level work engagement – it does not depend on job resources but essentially on the complex interplay of team’s inputs, processes, and outputs, and on team members’ interactions. This conceptualization of team work engagement is more complex than the ones previously presented in the literature. Yet, it reflects the complexity inherent to human systems and is embedded in actual models for conceptualizing teamwork.

Shared

The second main difference between team and individual work engagement is the assumption of sharedness, already present in previous definitions of team work engagement. The implication of being a shared state is that team members must have similar perceptions about their collective degree of work engagement. According to Kozlowski and Klein (2000), emergent constructs may be the result either of composition (following additive or averaging combination rules) or compilation (following nonlinear combination rules such as proportion or indices of variance) processes. The combination rules of the lower-level units to form the higher-level emergent state should be consistent with the previous theoretical conceptualization of

emergence. In the case of team work engagement, its conceptualization reflects a composition process, because it is assumed that every team member is influenced by what is happening to and within the team in a similar way.

When assessing their collective energy and involvement, team members must consider the behaviour of all team members and how they all interact during team processes. Therefore, every member is assessing a common observable experience and not how they, individually, feel. Team members all base their judgement on the same cues and, thus, are likely to display a common understanding of what they perceive. For example, if they attend a meeting where one team member is highly exited when describing a new product, while many others are absently looking at their phones or tablets, all are able to perceive that, collectively, their energy and dedication is not very high. This is what Kozlowski and Klein (2000) define as ‘convergent emergence’: Contextual factors and interaction processes constrain emergence in such a way that individuals contribute the same type and amount of elemental content (the perception of their team’s level of engagement). It follows logically that the conceptualization proposed in this study is not an isomorphic transposition of individual work engagement levels to the team level, but rather from the perceptions of team work engagement from the lower units (individuals) to the higher unit (the team).

Using individual levels of engagement to compute team work engagement (either through composition or compilation) would be misleading. It would not to represent a team property and researchers cannot assume its sharedness, because each member could make a different contribution to the collective engagement level. Instead, the referent-shift composition model (Chan, 1998) is consistent with the proposed rationale. This is a composition model that uses within group consensus (the agreement of team members’ on their team’s level of work engagement) to compose the collective construct, by asking individuals collectively formulated items (e.g., ‘we’).

Proposition 1: Team work engagement is a shared motivational emergent state characterized by team vigour, team dedication, and team absorption.

A model for the emergence of team work engagement

Considering team work engagement as a shared emergent state not overlapping with work engagement allows for proposing a model of emergence that considers other variables, different from the job demands–resources model, as its antecedents and correlates. Our model (cf. Figure 1) is based on the input–mediator–output–input framework or IMOI (Ilgen, Hollenbeck, Johnson, & Jundt, 2005). This framework considers team processes and emergent states as mediating mechanisms between team inputs and team outputs. We depart from the assumption that teams go through a series of IMOI iterative episodes over time where the outputs of one episode may become inputs of subsequent ones. For example, a decrease in the amount of sales at the end of 1 month, an outcome, may be important input information for planning the next month’s commercial action.

We do not overlook the fact that individual and contextual variables may influence the way team members interact and, consequently, team processes. Nonetheless, we argue that the emergence of team work engagement is essentially linked to team interpersonal processes and less related to individual and contextual variables. In similar environments, with similar tasks and organizational structure, the emergence of team work engagement

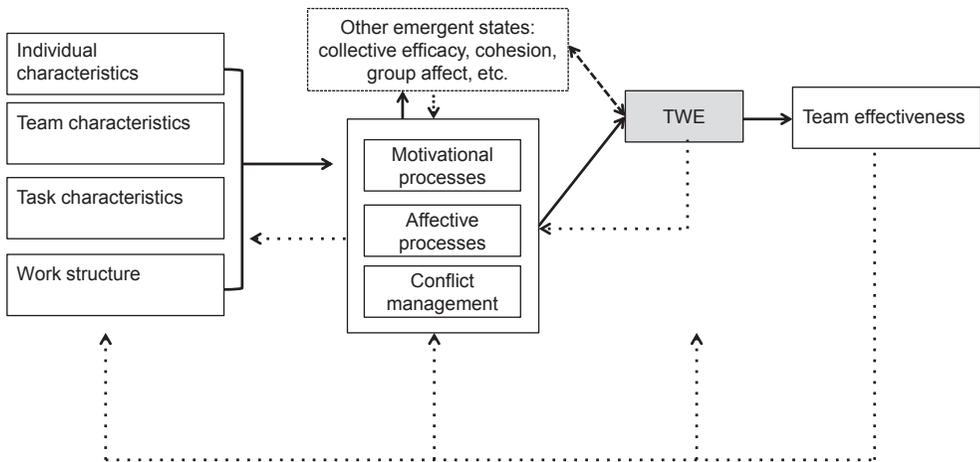


Figure 1. Model for the emergence of team work engagement. Solid arrows signal direct effects. Dotted arrows signal feedback loops. Dashed arrow signals a correlational relationship.

will rely heavily on team interpersonal processes. In the next section, we develop these ideas in depth.

Inputs

Since Gladstein's (1984) inputs–processes–outputs model of team effectiveness, the last 30 years of research have provided scholars and practitioners with a multiplicity of useful models to understand teams and teamwork. However, 'while there exists a general consensus about the nature of the broad categories of input variables, the specific constructs proposed to be encapsulated within these categories varies' (Salas, Stagl, Burke, & Goodwin, 2007). When integrating the different proposals, four major umbrella variables are most commonly put forward: individual characteristics, team characteristics, task characteristics, and work structure (cf. Figure 1). All of these input variables can be considered for the emergence of team work engagement, either having a more direct influence or an indirect one, by their effect on the way team members interact.

According to Salas *et al.* (2007), individual characteristics include variables such as team orientation and personality. Team orientation is the propensity to consider the other's behaviour when interacting and also the belief in the importance of common (team) goals over individual members' ones (Salas, Sims, & Burke, 2005). Therefore, the more team members are high in team orientation, the more likely they are to invest effort in their work, and to avoid conflictual interactions. In what personality is concerned, extraversion (Costa & McCrae, 1985; Eysenck, 1998) is considered an important predictor of positive feelings (Watson & Clark, 1997). For example, Emmons and Diener (1986) found that extraversion significantly correlates with positive affect but not with negative affect. Additionally, positive affective states and a high activation are positive correlates for extraverts (Kuppens, 2008). Finally, the individuals' level of work engagement might work as an input variable for team work engagement, because individuals will already be more predisposed to feel and display vigour, dedication, and absorption towards work.

Team characteristics include team's culture and climate and the power structure of the team. Bakker *et al.* (2011) proposed that teams with a climate for engagement will favour collective engagement. Climate for engagement involves the shared perception of a

challenging, resourceful, and supportive environment and encompasses the six areas of worklife proposed by Maslach and Leiter (2008): realistic and challenging workload, control, reward, community and collaboration, fairness, and values.

In what task characteristics are concerned, different tasks may require different degrees of interdependence between team members, which is considered the touchstone of emergent states. Being involved in team processes requires interaction, and the more team members interact, the more likely they are to develop shared cognitive, affective, and motivational states, such as team work engagement. The degree of interaction between team members has been related to the affective responses of team members. For example, Van der Vegt, Emans, and van der Vliert (2001) showed that individual-level task interdependency and job complexity were related to individual job satisfaction and team satisfaction, and to job and team commitment in a sample of technical consultants. These relationships were moderated by the degree of outcome interdependence of the work group, with high outcome interdependent groups showing a higher positive relationship between the variables. Also, Anderson, Keltner, and John (2003) studied emotional convergence in couples and roommates and concluded that their responses on emotional content scales became more similar within a year, reflecting a longer interaction period.

Finally, the work structure is also considered important input. Work structure is related to work assignment, the formal and informal norms of teams, and to their communication structure. Work structure defines who has access to what information and when, as well as the behaviours that are considerate appropriate, and these two aspects will shape the nature of team members' interaction.

Proposition 2: Team work engagement will be a function of the following team inputs: individual characteristics, team characteristics, task characteristics, and work structure.

Team processes

More than one proposal on what processes are fundamental for team effectiveness can be found in the literature. For example, Zaccaro, Rittman, and Marks (2001) distinguish four major groups of processes: cognitive (e.g., shared mental models, Cannon-Bowers, Salas, & Converse, 1990), motivational (e.g., group cohesion, performance norms), affective (e.g., affective climate), and coordination (e.g., orientation, systems monitoring) processes. Marks *et al.* (2001) divide team processes in three categories, illustrating different performance phases of teams: transition phase processes (e.g., mission analysis, goal specification), action phase processes (e.g., monitoring progress, systems monitoring), and interpersonal processes (motivation and confidence building, affect management, and conflict management), that occur throughout the action and transition phases.

For the emergence of team work engagement, interpersonal processes, focused on motivating, affect management, and conflict management, might be pivotal (cf. Figure 1). These processes not only denote interaction but are relatively independent from specific tasks or performance phases.

Motivational processes

At the individual level, the relevance of some motivational constructs for work engagement has been established – directly or indirectly – over the years. For example, the work of

Bandura (1997) highlights the importance of both self and collective efficacy for performance: believing in one's capacity for the successful accomplishment of a certain task leads to increased effort and persistence, both characteristics of engagement. Bandura proposes that two of the ways by which efficacy is developed are experiencing success and/or receiving positive feedback. These ideas are in line with Amabile and Kramer's (2011) proposal of the progress principle. Accordingly, experiencing progress is the most important booster of motivation and creativity. Therefore, small daily 'wins' should be promoted among employees to facilitate engagement and positive emotions at work. Luthans, Avolio, Avey, and Norman (2007) discuss psychological capital, an individual motivational propensity that accrues from efficacy, hope, optimism, and resilience. Psychological capital has also been proposed as a predictor of individual work engagement (Sweetman & Luthans, 2010), either directly or through positive emotions. Finally, the existence of specific, challenging and attainable goals has a motivational effect on workers, resulting in better performance, a consequence of an increase in efficacy beliefs (Locke & Latham, 1984, 2002). The work of Wegge and Haslam (2004) and Wegge, Schmidt, and Hoch (2009) supports the adequacy of goal-setting theory in a group context. These authors' empirical research supports the argument that specific and difficult group goals lead to better group performance because such group goals encourage communication during group processes, foster intrinsic motivation, and prevent the use of inefficient task strategies. Group goals also facilitate the emergence of positive states such as collective efficacy or team cohesion. Therefore, it is likely that team motivational processes, focused on generating or preserving collective confidence, motivation, and task-based cohesion (Marks *et al.*, 2001), are represented by interactions promoting those motivational responses.

Different types of interactions are accounted for under the designation of 'motivational processes'. A sense of collective efficacy can be facilitated by referring to what team members have accomplished so far ('We have already done *x* and *y*, well done! Now, let's move on to the next phase!'), or by validating members' competences ('We have Peter who is a great programmer and Christine who is the best graphic designer, we will make this a great website!'). The kind of interactions can also result in shared positive attributions about the future and in perseverance and therefore in increased shared energy and involvement with work. Positive feedback (e.g., 'Great job, we made an outstanding proposal!') and constructive criticism are also examples of motivational interactions that may increase the salience of meaningful small progress made by the team. Team members may stress the advantages of goal achievement ('Just some extra effort and then we will gain this customer's loyalty over our competitors!'), as well as stress the attainability of their goals, despite its degree of challenge ('We don't have much time to do this project, but if we follow our initial plan we will be able to deliver it by Monday!'). Finally, exhorting members to work hard, either informally ('Come on, today we will finish this project!') or formally, by the existence of performance norms and consequent mutual monitoring may also account as a motivational interaction aimed at increasing the teams' energy and involvement.

Affective processes

Affective processes include regulating members' emotions (Marks *et al.*, 2001). Affect regulation is 'the process of initiating, maintaining, modulating, or changing the occurrence, intensity, or duration of internal feeling states' (Eisenberg, Fabes, Guthrie, & Reiser, 2000, p. 137). Team work engagement is a shared positive emergent state of work-related well-being and, thus, implies the existence of a positive affective tone within

the team. Managing affect and promoting a positive affective tone may occur through three (not mutually exclusive) processes.

First, team members might use controlled interpersonal affect regulation strategies of affect improving (Niven, Totterdell, & Holman, 2009) such as positive engagement and acceptance. Positive engagement is related to involving the other with his or hers situation or affect in order to improve his or hers affect. When presented with a difficult task, team members may try to change the way others think about that situation, suggesting that they will be able to succeed and giving advice on possible courses of action; they may point out the positive characteristics of the team or of specific members, following negative feedback; faced with irritated co-workers, team members can make themselves available to listen to what is bothering him or her, allowing him or her to vent his or her emotions. Acceptance is a relationship-oriented strategy that implies communicating validation to the other person. Team members express their caring for the team and its members and try to make them feel special (e.g., by celebrating individual and team accomplishments, spending their off-work time doing activities with the other team members). Within acceptance strategies, using humour and jokes may also foster an improvement in the team members' affect.

Affect regulation within teams can also represent a controlled attempt to exert interpersonal influence over attitudes and behaviours of team members, and not over their affective experience *per se*. For example, teams develop a set of implicit and/or explicit norms about which emotions should be displayed in the context of work and about how those norms should be displayed (Rafaeli & Sutton, 1987). For example, Sutton (1991) found that bill collectors were selected, socialized, and rewarded for following the norm of conveying high arousal and slight irritation to customers (a sense of urgency). Focusing on the construct of team work engagement, display rules will impact its emergence in two ways. When team members express their emotions in a very explicit way, it will facilitate an accurate evaluation of their affective state by others. Consequently, it will more likely result in a shared perception, because it will be less contaminated by personal interpretations, because it will be based on explicit information. At the same time, if display rules focus on the expression of positive emotions, the emergence of team work engagement may be facilitated – more team members will express positive affect and act congruently with the definition of team work engagement, displaying enthusiasm and energy. This display will, in turn, reinforce team members' perception of the teams' high level of engagement.

Finally, the affective climate of the group may be due to emotional contagion (Bakker *et al.*, 2006; Torrente *et al.*, 2012b). This is based on the transmission of non-verbal signs of emotion (tone of voice, facial expressiveness, and tempo of discourse) that are automatically and subconsciously reproduced by the other, which ends by experiencing similar emotional states (Hatfield *et al.*, 1994). Expressing emotions using non-verbal information leads team members to become more similar in terms of affect (Barsade, 2002). When that expression is focused on positive emotions, it will enhance the teams' level of team work engagement.

Conflict management is related to the handling of conflict situations either before or after they have arisen (Marks *et al.*, 2001). Interpersonal conflict may directly worsen team members' affect, because individuals are rude to each other, accuse others of inappropriate behaviour, or reject each other's feelings, and motivation, because individuals are unable to give constructive criticism and become more self-centred and less concerned with the teams' collective goal accomplishment (DeWit, Greer, & Jehn,

2012) and therefore, undermine the emergence of team work engagement. Preventing or reducing interpersonal conflict may facilitate the emergence of team work engagement. For example, teams can develop norms for cooperation, promote procedural justice (Naumann & Bennett, 2000), or *a priori* establish the rules about how to handle conflict. When it is not possible to prevent relational conflict, teams who are able to compromise, accept different opinions, and try new solutions will be in a better position to develop team work engagement.

According to Marks *et al.* (2001), emergent states can be considered both team inputs and proximal outcomes. Therefore, team work engagement can itself work both as output and input of team processes. For example, an increase in team work engagement may lead to an increased investment in strategic planning and energetic interactions, because team members feel more vigorous and dedicated which, in turn, may lead to better outcomes. Better outcomes, in turn, will foster future team work engagement. At the same time, a decrease in team work engagement may lead to a decrease in motivating behaviours from team members, because the lack of energy and lack of involvement with work may reduce the teams' confidence in their capabilities (dashed arrows in Figure 1).

Proposition 3: Team work engagement will be a function of interpersonal team processes (affect management, conflict management, and motivational processes).

Proposition 4: The level of team work engagement at a given moment will lead to changes in prior inputs, outputs, processes, and other emergent states.

Emergent states

The same interpersonal processes (affect management, motivation building, and conflict management) may also be responsible for the development of other emergent states. Team work engagement is linked to those other emergent states in a dynamic and recursive way (dotted arrow in Figure 1). A team with a high level of collective efficacy, for example, is likely to display high levels of vigour, dedication, and absorption because they believe their team has the necessary competences to be successful. Simultaneously, energetic and enthusiastic teams may behave in a way that fosters efficacy beliefs. It follows that a team's level of engagement is not a static 'trait' but is instead a dynamic property. This dynamic property changes continuously, reflecting the equally dynamic changes on inputs, and on individual interactions and associated attitudes (Breevaart *et al.*, 2014; Cronin, Weingart, & Todorova, 2011). Considering that these emergent states and team work engagement are positively related, it is relevant to theoretically describe their mutual influences and also to distinguish them. We will focus on four particular emergent states that may co-occur with team work engagement: collective efficacy, team potency, cohesion, and group affect.

Collective efficacy and group potency

Motivating team members and building their confidence may lead to a sense of *collective efficacy* and of *group potency*. Collective efficacy is a group's shared belief that they can execute their tasks successfully (Bandura, 1997). Whereas collective efficacy has a specific temporal focus and is sensitive to specific situations, team potency generalizes the

belief to 'any task or demand a group may confront' and has an enduring temporal focus and broad outcome emphasis (Stajkovic, Lee, & Nyberg, 2009). Collective efficacy has a history of being linked both to performance and to positive affective states. For example, a recent study by Salanova, Rodríguez, Cifre, and Schaufeli (in press) reports a reciprocal positive relationship between collective efficacy and collective flow, defined as 'a collective state that occurs when a group is performing at the peak of its abilities' (Sawyer, 2003, p. 167). In what work engagement is concerned, a study by Salanova, Llorens, and Schaufeli (2011), at the individual level, reports that efficacy beliefs reciprocally influence engagement through positive affect. At the team level, both collective efficacy and group potency enhance the likelihood that team members will persist, approach, and succeed in their tasks; they enhance the likelihood of finding vigorous, dedicated, and absorbed teams. Simultaneously, having a high level of team work engagement can contribute to the teams' perception of collective efficacy because team members display willingness to work and to persist even when difficulties arise. However, having collective efficacy beliefs and being collectively engaged are different states. One is essentially cognitive (a belief) and may both *lead* to an increased focus on work or be *influenced* by that increased focus and energy; the other has a motivational nature and *is* that increased energy and involvement.

Cohesion

Cohesion relates to 'a group property with individual manifestations of feelings of belongingness or attraction to the group' (Lieberman, Yalom, & Miles, 1973, p. 337). The more group members are attracted to the group, the more they will be willing to invest in pursuing the group's goals. Although members of high teamwork engaged teams are likely to feel attracted to the group and to want to stay in the team, team work engagement goes beyond the simple attraction to the group – it encompasses a positive affective state, a desire to work and be productive, and a high focus on tasks.

Task-based cohesion (Festinger, Schacter, & Back, 1950) represents the shared commitment of team members with reaching valuable goals, because the success of the group is a precondition for the attainment of collective and individual goals. The existence of an attraction to the group and of task-based cohesion may lead individuals to be more dedicated to their work and to display higher levels of vigour. Simultaneously, when teams are engaged and dedicated to work, its members will be more inclined to help each other (Halbesleben & Wheeler, 2008). However, team members may work hard together in the pursuit of important goals, without feeling positively or fulfilled by their work. For example, teams can be highly committed to meeting a client's deadline (an important and valuable goal), but may simultaneously experience negative affective states such as distress, guilt, and hostility.

Group affect

When performing similar tasks and receiving the same kinds of outcomes, work teams may share a common affective state. One of the first definitions for this common affective state is the one proposed by George (1996): 'consistent or homogeneous affective reactions within a group' (p. 77). Trottedel *et al.* (1998) and Totterdell (2000) found evidence for the existence of a shared affective state between team members. Specifically, they found significant associations between the reported moods of members of two kinds of work groups (nurses and accountants). Totterdell *et al.* also found that professional

sport players' moods were more strongly correlated with the current aggregate mood of their own team than with the current aggregate mood of other teams, or with the aggregate of their own team's moods at other times. Bartel and Saavedra (2000) argue that members of work groups experience 'group moods' when their individual moods can be detected by other members, and their study with 70 work groups confirmed the existence of mood convergence. Finally, Barsade (2002) showed that groups having a happy confederate reported more pleasant moods than groups with an unhappy confederate and that the former groups showed greater cooperation and reduced conflict. The existence of positive group affect will correlate highly with team work engagement, because this emergent state has a positive affective nature: teams with positive group affect are more likely to exhibit team work engagement than teams with negative group affect because the nature of team work engagement and of a positive affective state converges. At the same time, engaged teams will tend to collectively display positive emotions such as joy and pride while working.

However, the two constructs can be differentiated. In addition to its positive affective nature, team work engagement has also a strong motivational component, and the construct is inseparable from taskwork. This means that whereas group affect can have no real application towards work, team work engagement is a collective positive affective state at work that drives team members to focus energetically and enthusiastically in their tasks. Therefore, having a positive group affect is not enough to define team work engagement: a team may experience collective positive affect that does not translate into increased effort in work but, instead, is reflected in longer, fun, and playful breaks.

Proposition 5: Team work engagement is positively related to the following emergent states: collective efficacy, group potency, cohesion, and group affect.

Outputs

Team effectiveness after a performance episode will, by the cyclical feedback notion of episodic performance episodes, become the input to subsequent episodes, influencing team processes and emergent states in later time (Beal, Weiss, Barros, & MacDermid, 2005).

According to Hackman (1987), team effectiveness is a threefold construct encompassing three criteria: team performance, satisfaction, and viability. The first criterion has to do with the productive output of the group. It depends on whether the team is able to meet or exceed the performance standards defined for their tasks. The second criterion relates to the balanced degree of satisfaction or frustration of personal needs that the group members experience. The third criterion, team viability, refers to the capability of team members to work together on subsequent tasks.

Overall, succeeding in a given work task can spark feelings of joy, elation, and enthusiasm (Amabile, Barsade, Mueller, & Staw, 2005). Hence, a good performance and feelings of satisfaction and desire to keep on work together will facilitate motivation-focused interactions, as well as interactions with a positive affective valence.

Proposition 6: The level of team work engagement in a given time moment will be a function of previous team effectiveness.

Time dynamics and team work engagement

If teamwork should be considered within temporal cycles, team processes and emergent states necessarily change over time. According to Kozlowski and Chao (2012), emergence is dynamic and changes in form overtime. The change is not only due to the nature of the phase of taskwork (action or transition), but also to changes in inputs and outputs. These changes will inevitably bring upon changes on team members' interaction and, consequently, on the interpersonal processes. For example, following a great performance team evaluation, team members are likely to express happiness and positive feelings and to express their confidence regarding the team's ability and skills. As a consequence, the level of team work engagement might go up. In contrast, negative feedback by the team leader could lead to an increase in interpersonal conflict, in the form of the expression of hostility and blaming each other. As a result, the level of energy and dedication might drop. Team work engagement is, then, a dynamic state that fluctuates between performance episodes and taskwork phases.

At the individual-level, recent research validated the conceptualization of work engagement as a fleeting state, with oscillations over time (Breevaart, Bakker, Demerouti, & Hetland, 2012; Sonnentag, Dormann, & Demerouti, 2010). It changes over days and even within a day. Also, affective states are, by definition, transient psychological experiences (Frijda, 1993). Therefore, affective processes are necessarily not static, because they are influenced by the affective states of individuals and groups.

Proposition 7: Team work engagement fluctuates over time as a function of team inputs/ outputs, team processes, and other emergent states, rather than being a static state.

Another fundamental assumption of the study of teams is that teams perform in a series of recursive performance episodes (Marks *et al.*, 2001), where time plays a central role. Each episode refers to a cycle of goal-directed activity (e.g., designing a marketing campaign, auditing a company), at the end of which it is possible to obtain an evaluation of team's performance and feedback. During a performance episode, teams may have to engage in two different types of taskwork: acts that directly contribute to goal accomplishment, such as extinguishing a fire by firemen (action phases) and planning and/or evaluating activities, such as deciding on a surgical procedure by a medical team (transition phases). During each performance episode, and depending on their specific nature, different processes may have different importance. For example, goal specification is more relevant in transition phases, whereas monitoring progress is fundamental in action phases.

Considering this framework, team work engagement's role is likely to be different over these two stages of team performance. Considering that engagement is simultaneously a positive and high-activation state (Bakker *et al.*, 2011), it is expected that team work engagement is globally more relevant during action phases. A high level of team work engagement will generate action readiness to work hard towards the goals of a team (Russell, 2003). More specifically, it is expected that the vigour dimension of team work engagement is the one that will contribute the most to the success of the team during action phases, when teams need sufficient energy to carry on their concrete tasks. During transition phases, nonetheless, the dedication component is expected to play a relevant role. Expressing a shared involvement in work will help team members' focus on what can be improved and considering alternative courses of action. Simultaneously, a state

defined by positive feelings and by high-activation facilitates the generation, promotion, and realization of novel ideas in the workplace (e.g., workplace innovation; Madrid, Patterson, Birdi, Leiva, & Kausel, 2013). More specifically, generating novel ideas depends on the broadening of cognition when feeling positive affect (Fredrickson, 2001) associated with the increased action tendencies that high-activation states promote. Therefore, a high level of work engagement will facilitate teams' creativity when planning future action or when evaluating past achievements.

Proposition 8: The effects of team work engagement on team performance will be more salient during action phases.

Discussion

The present paper introduces the construct of team work engagement within a theoretical model of emergence. Theoretically, this paper represents an underlying discussion on multilevel constructs: studying a higher-level construct is not just a methodological or data analysis question, but is essentially a theoretical one. Collective constructs that are derived from individual-level ones often lack a solid theoretical base that supports their existence. Considering engagement as a team variable necessarily leads to the proposal of other antecedents different from the traditional job demands–resources model (Bakker & Demerouti, 2007). The team level also implies the consideration of team dynamics and of team members' individual behaviours as important antecedents. It follows logically that the conceptualization proposed in this paper is not an isomorphic transposition of work engagement from a lower to an upper level. It should be clear that we are proposing a construct that is different from individual work engagement. Following Morgeson and Hofmann (1999), when developing a construct at the collective level, we can distinguish between its structure and its function. The structure of a collective construct has to do with how the construct emerges within a group of people, the individual actions, and cycles of interaction responsible for creating a shared pattern of behaviour. On the other hand, the function of a construct is about its outcome that is thought to remain the same across levels. We propose that work engagement and team work engagement are functionally equivalent but not structurally equivalent: they have similar functions (fostering individuals' and teams' performance and effectiveness) but a different structure.

This should make researchers question the way collective constructs such as team work engagement should be measured. According to Hofmann and Jones (2004), determining the level of the entities from which data are derived depends on the answer to the question 'is the researcher interested in describing a collection of individuals or in describing a collective phenomenon?' (p. 308). The answer depends on the research question and is not either right or wrong on its own. We add that it is also a consequence of the theory level and of the construct definition made, namely about the predicted homogeneity or heterogeneity of the collective construct (Klein, Dansereau, & Hall, 1994). Because our theoretical conceptualization of team-level work engagement is homogeneous (i.e., group members have a shared perception of their team's level of work engagement), the focus should be placed on the variation between groups. Moreover, it refers to an emergent state of a team, which is different than an individual work-related state of well-being: what is central to the construct is not how one individual feels about his or her work in terms of energy, affect, and motivation but how individuals perceive

their team's level of work engagement as a whole entity. Therefore, data should be collected from numerous groups, obtaining a single score representing the group as a whole and maximizing between-group variability.

The main decision in constructing a scale, or in adapting the individual-level one is, then, to select the subject of the sentence. There are three main hypotheses: (1) to use the first-person singular ('I'), where the subject is the respondent him or herself (e.g., 'At [my] work, [I think that] my team is/we are bursting with energy'); (2) to use the first-person plural ('we'), where the subject is the collection of individuals composing the team, including the 'I' ('At [our] work, we are bursting with energy'); (3) to use the third-person singular ('the team'), where the subject is the team as an entity ('At [our] work, the team is bursting with energy'). The first hypothesis is easily excluded, because we are not looking for an individual propositional attitude about the enunciation but for a collective one. Choosing between the other two hypotheses is less clear, although because in both the referent is collective. Nonetheless, and reflecting the referent-shift composition model (Chan, 1998), we suggest that the second hypothesis (first-person plural) should be used. According to linguistics (Cintra & Cunha, 1984), it is assumed that when using the first-person plural ('we'), the speaker includes him or herself in the group that is being described more strongly than when using a more neutral formulation such as 'the team'. Hence, as the 'groupness' of a group can be defined, among other conditions, by whether the people involved consider themselves as part of a group and whether they recognize one another and distinguish members from non-members (Arrow, McGrath, & Berdahl, 2000), we believe that using the first-person plural best describes this reality.

In what future work is concerned, researchers should aim at empirically validating this construct. We need more research that operationalizes team work engagement, that investigates its convergent and discriminant validity, and that explores its factor structure, within a theoretical base. This has already been attempted by Torrente *et al.* (2012a,b), but with the referent 'my team' and outside a specific conceptualization of team work engagement. Secondly, the nomological network of the construct should be analysed. Therefore, we suggest that researchers validate the model by showing significant relationships with variables such as team orientation (as predictor) or team performance (as output). Thirdly, it urges us to look into the black box of team processes, particularly the interpersonal ones. This implies that research designs gain an extra complexity that allows for observing the interaction of team members over time: not only longitudinal designs but probably a more qualitative approach that will help to characterize systematically the way team members interact. In 1950, Bales proposed a method called interaction process analysis, aimed at coding each act of behaviour occurring in face-to-face groups. This method proposed two main broad categories (task area and social-emotional area) and 12 subcategories reflecting six types of 'problems': orientation, evaluation, control, decision, tension-management, and integration. This is likely to be an interesting starting point for studying team processes. Fourth, work on the facial expression of emotion (Ekman & Davidson, 1993) could also be an exciting avenue for research on the emergence of team work engagement: Are expressive teams more likely to develop a high level of team work engagement than low expressive ones? Fifth, and considering that there are many teams who interact mainly virtually (email, conference call, etc.), it would be interesting to investigate whether interacting virtually impacts affective and motivational processes and, consequently, the emergence of team work engagement. Finally, efforts should be directed at understanding how team work engagement develops over time. Researchers should develop longitudinal designs

encompassing the notion of cycles of interaction and performance to best describe the fluctuations of team work engagement and its relations with team-relevant events.

From a practical point of view, our team work engagement model (Figure 1) emphasizes the need to consider specific questions when leading a team. If team managers rely only on what is known at the individual level, they may overlook important variables that exert influence within teams. Therefore, the model points out the mediators that should be considered when working with teams and highlights their interactional nature. For high levels of team work engagement, team leaders must be attentive to how team members interact and guarantee that team members are able to motivate each other, while maintaining a positive affective state.

We have, so far, emphasized the strengths of the proposed model. However, it may have some limitations. The model may not be generalized entirely to teams who interact exclusively virtually, particularly when video is not available. Face-to-face and computer-mediated communication differ in many ways (Okdie & Guadagno, 2008). For example, in computer-mediated communication, social visual cues (voice inflection, eye gazing, etc.) are absent, and the latency of the response may be longer (when using asynchronous methods such as the email), allowing the parts to have a greater control over the pace of the communication. Taken together, these differences might impact the social influence processes involved in interaction and, as a consequence, hinder the development of a shared motivational state.

Finally, cultural differences may also play a role in team work engagement. At the individual level, Shimazu, Schaufeli, Miyanaka, and Iwata (2010) reported a significantly lower level of work engagement in a sample of Japanese workers, when compared to fifteen other countries. These lower values, according to the authors, may be due to the tendency of the Japanese to suppress the expression of positive affect (Iwata, Roberts, & Kawakami, 1995), and not necessarily to a real low level of vigour, dedication, and absorption with work. At the team level therefore, the emergence of team work engagement may be compromised in cultures where expressing positive affect is not commendable. At the same time, however, teams could be considered more important in collectivistic rather individualistic cultures. Hence, team members might as well be invested in working towards collective goals therefore being willing to work hard, being proud of their job and being immersed in their work – being work engaged. In these cultures, different mechanisms than the ones presented in this paper may underlie the emergence of team work engagement.

Conclusion

This paper opens a motivating avenue for research. We proposed a model of team work engagement including where team interpersonal processes play a fundamental role as proximal antecedents of team work engagement. The model presented should be considered not only as a theoretical output but also as an input for a fruitful research agenda on the promising concept of team work engagement.

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