Received: 25 May 2023 | Accepted: 25 January 2024

DOI: 10.1111/apps.12526

REVIEW

APPLIED PSYCHOLOGY IAAP

Self-determination theory and its implications for team motivation

Simon Grenier[1] | **Marylène Gagné**[2] | **Thomas O'Neill**[3]

[1]Université de Montréal, Montreal, Quebec, Canada

[2]Curtin University, Bentley, Perth, Australia

[3]University of Calgary, Calgary, Alberta, Canada

Correspondence
Simon Grenier, Department of Psychology, Université de Montréal, Quebec, Canada.
Email: simon.grenier.4@umontreal.ca

Funding information
Australian Research Council Discovery Project, Grant/Award Number: DP210101031; Social Sciences and Humanities Research Council of Canada; Fonds de Recherche du Québec-Société et Culture; Institut de Recherche Robert-Sauvé en Santé et en Sécurité du Travail; *Social Science and Humanities Research Council of Canada*; *Fonds Québécois de la Recherche sur la Société et la Culture*; *l'Institut de recherche Robert-Sauvé en santé et en sécurité du travail*; *Insight Grant* from the *Social Science and Humanities Research Council of Canada*

Abstract

Despite decades of research on teams, there are still gaps in our understanding of motivational dynamics within teams and the emergence of team-level motivation. We advance a new team motivation model that invokes self-determination theory (SDT), multilevel theory, emergence processes, and identity construction. Using the conceptualization of motivation offered by SDT, we define team motivation as a collective source of energy driving the direction, intensity, and persistence of team activities. By using SDT to develop the process-based team motivation emergence model, we describe the role of human psychological needs that are involved in the emergence of this collective construct. An interpersonal feedback loop intertwined with a team process feedback loop predict how team members' individual motivations converge and then transform into team-level motivation through a process of identity construction. Propositions for testing the model are advanced, as well as suggestions for methodological and analytical considerations.

The authors are listed in order of contribution, Simon Grenier, Department of Psychology, Université de Montréal; Marylène Gagné, Future of Work Institute, Curtin University; Thomas O'Neill, Department of Psychology, University of Calgary.

KEYWORDS

identity, motivation, psychological needs, self-determination theory, work teams

INTRODUCTION

Today's workplace is increasingly characterized as complex, dynamic, and non-routine where the need for high performance teamwork has become ubiquitous (O'Neill & Salas, 2018). Work teams are groups of individuals that must collaborate and work interdependently to achieve shared objectives (Hollenbeck et al., 2012), and team members need to be energized to plan and coordinate their actions with other team members (Marks et al., 2001). Team motivation is consequently a factor critical to team effectiveness (Chen & Kanfer, 2006) and has been defined using various constructs including goal choice, goal striving, goal orientations, efficacy, expectancy, engagement, and empowerment (Chadwick & Raver, 2015; Chen & Kanfer, 2006; Costa et al., 2014; DeRue et al., 2010; Hirst et al., 2009; Huffmeier et al., 2017; Katz-Navon & Erez, 2005; Tasa et al., 2007).

Whereas goal setting and goal pursuit regulatory processes focus on the "what and how" of motivation (Kanfer & Chen, 2016), they typically tell us little about the "why" of motivation. Although the constructs of collective engagement and psychological team empowerment address some of the reasons why teams become motivated (Barrick et al., 2015; Costa et al., 2014; Kirkman & Rosen, 1999; Kleinaltenkamp et al., 2019; Seibert et al., 2011), they do not address other potential sources of team motivation, such as those invoked through coercive means typically promoted through management control systems (e.g., rules, monitoring, and incentives; Merchant & van der Stede, 2007). In other words, these approaches treat team engagement as an overall team motivational state that represents the team's energy levels (defined a variety of ways), not the *source* of the team's energy. They do not unpack important questions such as whether extrinsically motivated teams will have different outcomes than teams motivated more intrinsically, and how teams come to have different sources of motivation in the first place.

We propose, based on self-determination theory (SDT; Ryan & Deci, 2017), a model addressing the role of psychological needs and types of team motivation (reflecting collective sources of energy) to predict how effectively a team will engage in team goal pursuit. SDT is an influential theory of motivation that is well established in psychology (Ryan & Deci, 2017) and organizational behavior (Gagné & Deci, 2005; Kanfer & Chen, 2016). Despite numerous meta-analyses addressing matters such as the proposed motivational dimensions and their work-related outcomes at the individual level (Howard et al., 2017; Van den Broeck et al., 2021) and the important role of psychological needs and their support in the workplace (Slemp et al., 2018; Van den Broeck et al., 2016), SDT has not considered the concept of team motivation. Implications of applying SDT to teamwork are three-fold. First, need satisfaction or frustration often occurs through social interactions in which actors support or thwart each other's needs (Ryan, 1995); team member interactions have been overlooked by research in favor of a focus on need support and thwarting within hierarchical forms of relationships (e.g., manager-subordinate, teacher-student, and coach-athlete). Second, SDT conceptualizes motivation on a continuum of self-determination that includes intrinsic and extrinsic sources of motivation (Gagné et al., 2015; Gagné & Deci, 2005; Howard et al., 2017). This conceptualization of motivation has not yet been applied at the team level, where it could be used to better understand the

implications of teams drawing energy from contingency-based external sources, reputation-based sources, meaning-based sources, and enjoyment-based sources (cf. Gagné & Deci, 2005). In turn, these different sources of team motivation may be important for team processes and outcomes.

Third, interpersonal interactions in teams are dynamic in nature, the complexity of which often leads to violations of the assumption of isomorphism (Kozlowski & Klein, 2000). Park et al. (2013) criticized past models for deriving largely isomorphic team-level motivational processes that assume homology across individual- and team-level constructs and their interrelationships. These authors also recommended that future research pay attention to the role of psychological needs in team motivation. Using SDT, we propose that need satisfaction and frustration resulting from social interactions among team members leads to the emergence of team motivation in a non-isomorphic manner (cf. Chan, 1998; Cronin & Vancouver, 2019). We draw on the multi-level theory of bottom-up emergence, which explains the emergence of group-level phenomena through the complexity of habitual patterns of member interactions and interdependent work execution (Morgeson & Hofmann, 1999).

In short, we offer new emergence mechanisms rooted in the satisfaction of needs specified in SDT, we distinguish between sources of motivation, and we tie these sources to team effectiveness. We begin by explaining SDT, followed by a discussion of team motivation and emergence. Then, we introduce a new process-based model of team motivation emergence composed of two feedback loops and a series of testable propositions. We finish with a discussion of theoretical contributions, how the model could be tested through research, and the practical implications for the management of teams in organizations.

SELF-DETERMINATION THEORY

SDT uses an organismic perspective that views organisms as having tendencies toward both differentiation and integration (Ryan, 1995). Such a view is widely accepted in developmental psychology and is known as dynamic systems theory (Witherington, 2007). SDT defines natural human tendencies to want to both understand and master one's environment through curiosity and exploration (i.e., differentiation; labeled the intrinsic motivation tendency) as well as to assimilate social norms in order to function as social beings (i.e., integration; labeled the internalization tendency; Deci & Ryan, 2000). These two tendencies form the basis for proposing different types of motivation that regulate behavior and result from one's interactions with a social context. SDT also uses a "dialectical" approach to understanding the influence of the environment on individual motivation, proposing specific psychological mechanisms (i.e., psychological needs for competence, autonomy, and relatedness) that are influenced by contextual factors, and by proposing that individuals also reciprocally influence their environment (Ryan & Deci, 2017). The satisfaction or frustration of psychological needs thus becomes central to whether individuals will *optimally* differentiate and integrate experience (or not) and ultimately transform their motivation over time and across contexts.

Types of individual motivation

Intrinsic motivation is defined as doing something for its own sake; out of interest and enjoyment of the activity itself. *Extrinsic motivation* involves engaging in behaviors that are

instrumental to achieving a goal outside of doing the activity for its own sake. SDT further divides extrinsic motivation into different types based on the process of internalization (Ryan, 1995). A non-internalized form of extrinsic motivation, *external regulation*, defines behavior done to obtain a reward or avoid a punishment that is externally controlled (e.g., by a manager or other team members). A partially internalized type of extrinsic motivation, *introjected regulation*, defines behavior done out of ego-involvement, to avoid shame or to gain self-pride. Introjected regulation involves internalizing rewards and punishments and applying them to oneself and usually develops out of external pressures (e.g., social approval or criticism). A more fully internalized type of extrinsic motivation, *identified regulation*, defines behavior done out of perceived importance or meaning. In this case, external demands have been accepted and are endorsed by the person who engages in the behavior volitionally rather than out of externally or internally applied pressure. Finally, *amotivation* reflects a lack of reason to engage in an activity and thus a lack of energy toward it.

Over 50 years of individual-level research on motivation has now shown that autonomous types of motivation yield better performance, goal persistence and attainment, creativity, problem-solving, learning, well-being, and retention than controlled types of motivation (Ryan & Deci, 2017). In a meta-analysis of work motivation research, intrinsic motivation was most associated with active engagement (e.g., proactive work performance, affective commitment, and negatively with counterproductive work behavior), with well-being (e.g., job satisfaction, and negatively with burnout) and turnover intentions (negatively), while identified regulation was most strongly associated with overall work performance and organizational citizenship behavior. Introjected regulation was most strongly associated with normative commitment and organizational citizenship behavior, while external regulation was most strongly associated with continuance commitment (Van den Broeck et al., 2021). Given the substantial impact that autonomous versus controlled motivation has on individual performance and well-being across multiple life domains (Ryan & Deci, 2017), it is likely that there are important implications for team functioning as well. Therefore, developing the concept of team motivation, using SDT, is likely to help us evolve our understanding of team functioning.

Psychological needs

The internalization and intrinsic motivation tendencies are promoted through the satisfaction of universal psychological needs for autonomy, competence, and relatedness (Deci & Ryan, 2000; Ryan, 1995). These needs are considered basic and essential to optimal functioning just like water, soil, and light are considered essential to the growth and survival of a tree (Deci, 1995), with evidence suggesting that they are cross-culturally invariant (e.g., Chen et al., 2015; Chirkov et al., 2003). The organismic metaphor takes its importance here: We do not pull on a tree to make it grow, but rather we give it nutrients like good soil, water and light; similarly, for an employee, we need to support their competence, autonomy and relatedness (e.g., feedback, decision-making power, and empathy) and let these nutrients energize the person into action.

The needs for competence, autonomy, and relatedness were identified by empirically examining how their satisfaction versus frustration influenced internalization, intrinsic tendencies (exploration, manipulation and understanding of the environment, and the need to assimilate social norms), and optimal functioning (defined as the manifestation of intra- and interpersonal growth and development in terms of well-being, attitudes, and behavior; Deci &

Ryan, 2000; Ryan & Deci, 2017; Sheldon et al., 2001; Van den Broeck et al., 2019). While need support leads to psychological growth and well-being, need frustration can lead individuals to endorse compensatory motives or need substitutes, such as materialism or ego involvement, which in turn lead to experience ill-being (Deci & Ryan, 2000).

Competence is defined as feeling effective when manipulating one's environment (White, 1959), akin to the effort-performance expectancy proposed in expectancy theory (Vroom, 1964) and the self-efficacy concept proposed in social learning theory (Bandura, 1982). It has evolutionary advantage for survival because it supports learning and adaptation to new environmental conditions (Deci & Ryan, 2000). Evidence for its importance stems from experimental findings suggesting that feelings of competence manipulated through positive and negative feedback on task performance influence intrinsic motivation (Vallerand & Reid, 1984), performance (Stajkovic & Luthans, 1998), and well-being (Seligman, 1975).

Autonomy, also referred to as perceived locus of causality, is defined as feeling volitional and like the agent of one's behavior, rather than feeling compelled to act by external forces, (deCharms, 1968). Autonomy also has adaptive advantages through the development of a self-regulated being (e.g., less impulsive) that can prioritize actions relative to environmental resources, even in the absence of authority, in a way that supports survival (Maturana & Varela, 1992). Experimental work provides evidence for the importance of the need for autonomy, as the thwarting of the need for autonomy—either through the administration of tangible contingent rewards (Deci et al., 1999) or through surveillance, evaluation, lack of choice, and the use of controlling language—leads to decreased intrinsic motivation, internalization, and well-being (e.g., Harackiewicz et al., 1984; Lepper & Greene, 1975; Zuckerman et al., 1978) and lower creativity, problem-solving, and conceptual processing (Amabile, 1982; Grolnick & Ryan, 1987; McGraw & McCullers, 1979). In addition, enhancing support for autonomy has been found to increase intrinsic motivation, internalization, and well-being (e.g., Deci et al., 1994; Koestner et al., 1984; Slemp et al., 2018).

Relatedness is defined as the need for feelings of connection and caring from others (e.g., team members), which has adaptive advantages for survival through the sharing of essential resources and protection from threats. Evidence for its importance stems from research on attachment, social support, inclusion, and ostracism, which shows that satisfying the need for relatedness promotes intrinsic motivation, exploratory behaviors, performance, and well-being (e.g., Baumeister et al., 2002; Baumeister & Leary, 1995; Frodi et al., 1985; LaGuardia et al., 2000; Lustenberger & Jagacinski, 2010). Relatedness might be particularly important in a team context as SDT posits "that people will tend naturally to internalize the values and regulations of their social groups" (Deci & Ryan, 2000, p. 238). Hence, a team context supporting or threatening the need for relatedness is likely to influence the development of team motivation.

Defining team motivation with self-determination theory

Chen and Kanfer (2006) defined team motivation as "the collective system by which team members coordinate the direction, intensity and persistence of their efforts" (p. 233). Based on Park et al.'s (2013) review on team motivation, we realized that so far, scholars paid attention to both the what (team goals) and the how (team regulation) of team motivation. We add a multidimensional conceptualization of the sources of team motivation that addresses the "why" of motivation. Shamir (1990) alluded to different sources of collectivistic motivation by describing calculative considerations, values, and identities as influencing a person's contribution to

collective action, and a study by Wang et al. (2016) explored the role of team intrinsic motivation, defined as team members enjoying performing a team task, on team creativity. An SDT perspective on team motivation leads us to define it as "*the collective sources of energy driving the direction, intensity and persistence of team members' efforts toward team goals*." This definition differs in two ways from Chen and Kanfer's: (1) it considers team motivation to be multidimensional and (2) it excludes coordination, which is considered a stand-alone team process in the team literature (Marks et al., 2001). Excluding coordination in the definition of motivation allows us to examine how sources of motivation might influence (or be influenced by) it (which we propose later on).

Transposing the individual types of motivation proposed by SDT at the team level (see Figure 1), amotivation reflects a team that does not have any reason or energy to engage in teamwork. External regulation reflects a team engaging in teamwork to obtain a team reward or avoid a team punishment, for instance a project team may want to perform their work in order to get a team bonus. Introjected regulation reflects a team engaging in teamwork in order to enhance or maintain the team's prestige or reputation (i.e., reputation being a collective equivalent of individual self-esteem, and an important team outcome; Tyran & Gibson, 2008); for instance, a swimming team might want to win at all cost to maintain a certain status. Identified regulation reflects a team engaging in teamwork because that work and the team's goals are deemed valuable and meaningful; for instance, an emergency team could agree to practice simulated interventions because it cares about patient outcomes. Finally, intrinsic motivation reflects a team engaging in teamwork out of interest and enjoyment in the work itself (assuming the work in a team context requires interdependence and coordination); for instance, a gaming design team might work late to continue discussing and brainstorming a scenario just for fun. We assume that, as it is at the individual level (Howard et al., 2017, 2020), the types of motivation align along a continuum of self-determination that represents how internalized a team's motivation is. Thus, team amotivation and team external regulation are non-internalized types of motivation, while team intrinsic motivation is completely internalized. Team introjected regulation is partially internalized, while team identified regulation is more fully internalized. The most self-determined types of motivation, namely identified and intrinsic motivation, are often referred to as autonomous types, because they are experienced as volitional, while the least internalized ones, namely, external and introjected regulations, are often referred to as controlled types of motivation, because they are characterized by the experience of pressure. We used these labels in our propositions to simplify the narrative.

Our definition of team motivation implies an emergence process that requires some elaboration. Like individuals, teams can be viewed through an organismic lens whereby team members form the "cells" of an organism, each adopting interdependent functions to ensure its viability. Siphonophores, colonial organisms made up of individual morphologically and functionally specialized organisms (e.g., the blue bottle or man o'war marine hydrozoan), are a natural example. Though a team, like an organism, is an open dynamic system that influences and is influenced by its environment (Cronin et al., 2011; Matusek et al., 2019) and that can transform over time as a function of past states and environmental inputs (Matusek et al., 2019), its internal dynamics, which we could view as differentiation and integration processes (Chadwick & Raver, 2015), are still incompletely understood. Morgeson and Hofmann (1999) defined individual behaviors as the elementary unit behind collective construct emergence; in this optic, team members' behaviors that support and thwart each other's psychological needs are likely to be an important unit that influences team motivation emergence. Metaphorically, each "organism" that makes up a team can feed nutrients to each other to make the colonial organism thrive.

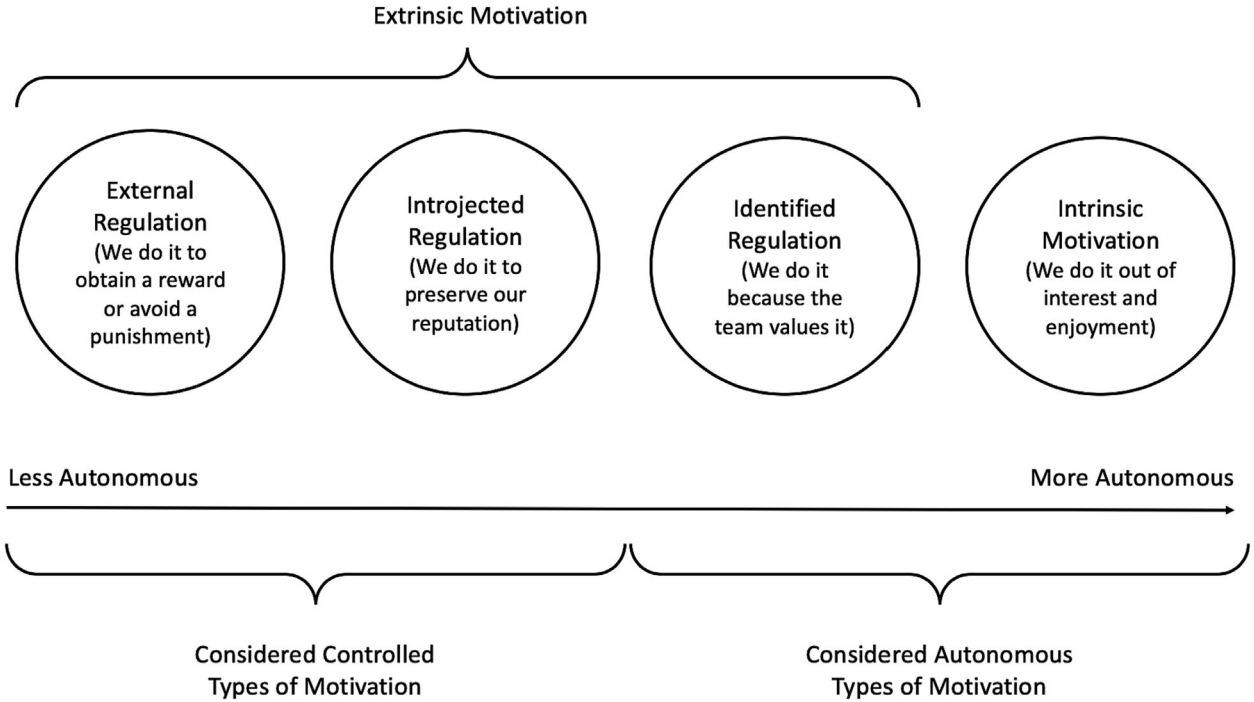

FIGURE 1 The self-determination theory conceptualization of motivation (team conceptualizations within circles).

The internalization process within a team is thus slightly different from the internalization process at the individual level in that it depends on individuals transforming themselves slightly to adapt to other individuals as they work together. As is explained in a later section, we qualify this transformation through the lens of social identity theory by proposing that team motivation emergence requires a referent shift in social identity, in other words, for individuals to identify as team members.

Though it is assumed that differentiation and integration tendencies require time, SDT does not propose that people adopt different types of motivation in a stage-wise fashion. The support and thwarting of psychological needs determines how "fully" an individual will internalize the value of an activity. For example, a manager who publicly embarrasses an employee might foster the development of introjected regulation, while a manager who explains the impact of a task on a beneficiary might foster the development of identified regulation. It is also possible for an intrinsically motivated employee to become externally regulated due to high pressure or the introduction of contingent rewards (Deci et al., 1999). Moreover, people typically do not have only one reason for doing something, making it possible to consider a person's motivation profile (Howard et al., 2016). Teams are likely similar in that they could have profiles of team-level motivation types. However, in the current paper, given both the multidimensional structure of motivation in the SDT framework and the complexity of the emergence mechanism to explain our model, we keep the focus on motivation dimensions rather than profiles.

In the next section, we present a process-based model of team motivation emergence that describes the interpersonal dynamics involved in the development of team motivation and that considers both motivational and identity processes.

A PROCESS-BASED MODEL OF TEAM MOTIVATION EMERGENCE

Process-based models attempt to explain how a phenomenon emerges, endures, and changes over time (Kozlowski, 2015; Rousseau et al., 2018; Waller et al., 2016). Our proposed model addresses the need to further develop process-based models (Larson et al., 2020) by focusing on how the interactions taking place between team members lead to the emergence of team motivation. We posit that reciprocal patterns of need support/need thwarting behaviors between team members lead to the satisfaction or frustration of members' psychological needs for autonomy, competence, and relatedness. Chronologically, the model starts from a collection of individuals who join a team with their own initial individual motivations for the team's project or goals. The composition of these individual motivations in a team gives rise to patterns of interactions between these individuals that are portrayed in the interpersonal feedback loop, ultimately transforming the individuals' motivations toward convergence (i.e., becoming more similar) or divergence. Below we outline these "steps" in the model, acknowledging that the emergence of team motivation happens cyclically over time, continuously, dynamically, and over multiple episodes (cf. Marks et al., 2001).

We acknowledge that a work team functions in a larger organizational context that cannot be ignored as a source of influence on the interpersonal loop. For example, structural factors such as the task interdependence, the level of virtuality, and the level of autonomy afforded to the team (self-managed versus directed teams), the nature of the team's work, external leadership (e.g., executive level), the team's position and role in a multiteam system, and team rewards could influence initial states and ongoing team dynamics (cf. Mathieu et al., 2019). We

did not include these contextual factors in our model to be able to elaborate on internal dynamics but do assume that this context exists and could influence some processes within the feedback loops (i.e., act as boundary conditions).

The interpersonal feedback loop

Building on models of convergence and emergence (Acton et al., 2019; Fulmer & Ostroff, 2016; Morgeson & Hofmann, 1999), we propose that need supportive or need thwarting behaviors within the team promote the convergence of individual types of motivation that will facilitate the emergence of a team-level motivation over time. As described in Figure 2, if most of the interpersonal interactions between team members are need supportive, team members should experience need satisfaction, which will make them more likely to reciprocate with need support. Over time, this cycle will lead to the convergence of individual motivations toward more autonomous types and within a team become more homogeneous. Conversely, if most of the interpersonal interactions between team members are need thwarting, team members should experience need frustration, which will make them more likely to reciprocate with need thwarting behaviors. Over time, this cycle will lead individual motivations to converge toward more controlling types of motivation and within a team become more homogeneous.

What does need support and need thwarting look like in a team context? Interpersonal behaviors supporting the need for competence include giving each other information, guidance, role modeling, feedback, and providing opportunities to help develop skills in a non-threatening safe way, such as by allowing for mistakes. Autonomy supportive behaviors include providing a rationale for requests, giving opportunities for voice and decision-making power, providing choices between alternatives, and taking the perspective of others to understand where they are coming from before imposing viewpoints. Finally, relatedness support behaviors include empathetically listening to each other, taking time to develop relationships at a personal level, and caring for each other. Research at the individual level supports how these types of interpersonal behaviors help fulfill the psychological needs and improve autonomous motivation (e.g., Deci et al., 1994; Jungert et al., 2018; Reeve & Jang, 2006; Slemp et al., 2018).

Competence thwarting behaviors include deprecating feedback, knowledge hiding, giving tasks that are too easy or too difficult, questioning abilities, and sanctioning mistakes. Autonomy thwarting behaviors include pressuring team members to engage in specific actions to achieve targets and deadlines, imposing rigid norms that limit one's choices, shutting down or ignoring opinions and ideas, imposing decisions, and close monitoring. Finally, relatedness thwarting behaviors include acting in a cold and dismissive manner, socially isolating or ostracizing some team members, maintaining a focus exclusively on the task rather than supporting relationships, and limiting time for socializing (Ferris et al., 2008; Rocchi et al., 2017).

Traditionally, scholars using SDT have studied need support and thwarting behaviors mostly among hierarchical relationships such as the ones that are taking place between parents and children, coaches and athletes, or managers and employees (Slemp et al., 2018). However, Jungert et al. (2018) experimentally showed that in team-based work structures, need support was more impactful when coming from coworkers rather than a leader in promoting intrinsic motivation. The more egalitarian and reciprocal relationships that define teams are not governed by the same set of rules due to different power bases and interdependencies as hierarchical relationships, which could potentially change the potency or impact of need supportive and thwarting behaviors in teams, but also the perceived importance of reciprocity rules

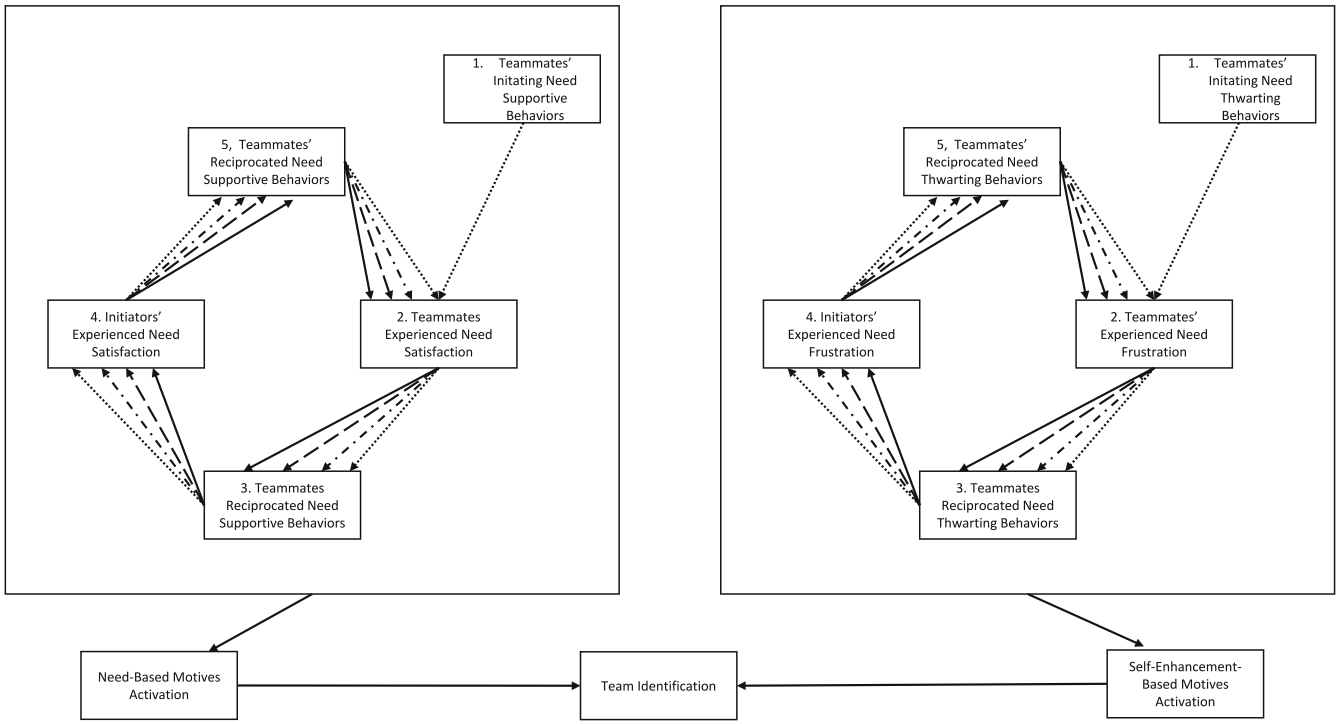

FIGURE 2 The interpersonal need supportive/thwarting—need satisfaction/frustration feedback loop. Building on Morgeson and Hoffman's (1999) seminal paper, the different arrows are used to illustrate the structure of team need support/thwarting dynamics and event cycles of continued patterns of interaction resulting in the convergence of the interpersonal dynamic over time. At the beginning only some members may endorse a more need supportive/thwarting style (doted arrow) but over time a series of events characterized through individuals' action-reaction behaviors will lead most of the team members to adopt a need supportive/thwarting style (full arrow) by means of reciprocity.

(e.g., Cropanzano & Mitchell, 2005). Specifically, team members are likely to return benefits and hindrances in kind, especially over repeated interactions, a process referred to as relationship exchange rules (Blau, 1964; Seers et al., 1995) that might lead to a spiral pattern similar to the one proposed by Weingart et al. (2015), whereby the perceptions, reactions, and expressions of a team member will be perceived, reacted to, and responded to in kind (Liu & Fu, 2011; Morgeson & Hofmann, 1999). Rosen et al. (2014) explained that exchange rules ultimately promote or thwart individual need fulfillment, showing in their research that need satisfaction explained the effect of exchange rules on reactions to organizational politics. Hence, we propose, as illustrated in Figure 2, that an initial team member is supportive and thwarting behaviors are likely to produce a reaction from other team members, likely by reciprocating the supportive or thwarting behavioral pattern they are exposed to. Over time, these supportive or thwarting behavioral patterns are likely to become stable, crystalized, and consistent.

Proposition 1a. An unfolding need thwarting team context leads to a self-reinforcing loop of psychological needs thwarting and frustration among team members.

Proposition 1b. An unfolding need supportive team context leads to a self-reinforcing loop of psychological needs support and satisfaction among team members.

SDT-informed research provides some initial support for a self-reinforcing loop of support and satisfaction at the dyadic level (LaGuardia & Patrick, 2008; Liu & Fu, 2011). Receiving, as well as giving, autonomy support in a dyadic context led to positive outcomes such as vitality, satisfaction, and overall well-being in a sample of friends (Deci et al., 2006). The more partners gave and received need support, the less likely those partners were to perceive or react to conflict within dyads (Patrick et al., 2007). An autonomy-supportive team climate, defined as team members' average views of autonomy support, increased the influence of the autonomy orientation in mentor-protégé dyads (Liu & Fu, 2011). Although informative, these studies only considered support for the need for autonomy, whereas we expand these to include support for the needs for competence, relatedness, and need thwarting behaviors.

Initially, need supportive and thwarting behaviors between team members are likely to be influenced by their initial individual motivation, and over time, by how this motivation might change based on ongoing interactions. At the individual level, when people are autonomously motivated, they are more likely to support the needs of other people around them. On the other hand, controllingly motivated individuals tend to depersonalize others and act in less need supportive ways (Pelletier et al., 2002; Ryan & Hawley, 2016; Soenens et al., 2012). In addition, if team members perceive that other team members are not autonomously motivated, they may be more likely to withhold support (Pelletier & Vallerand, 1996; Sarrazin et al., 2006). Interestingly, some research also demonstrates the possibility of motivational contagion through processes operating above and beyond an interpersonal feedback loop. Radel et al. (2010) reported that inferences workers make about the motives of other people they work with also influences their own motives through modifying their own task expectations. In addition, observing others' efforts and enjoying the activity influences the formation of expectations about the activity and primes intrinsic motivation (Dik & Aarts, 2007; Friedman et al., 2010; Radel et al., 2010; Wild & Enzle, 2002). Hence, we propose that an event cycle of need support/thwarting behaviors among teammates will lead to a convergence of individuals' motivation.

Proposition 1c. The self-reinforcing loop of psychological needs thwarting and frustration leads individual motivations to converge toward more controlled types.

Proposition 1d. The self-reinforcing loop of psychological needs support and satisfaction leads individual motivations to converge toward more autonomous types.

An inconsistent or mixed pattern of need support/thwarting behaviors among team members (e.g., where the initial composition of motivation is fragmented or bimodal in DeRue et al.'s, 2010, terms) would promote the convergence of amotivation because it may interfere with the establishment or maintenance of a sense of "teamness" among members and deplete the energy of team members over time. Burgueño et al. (2022) found that a "mixed" profile of supportive and thwarting teacher behaviors was associated with higher levels of amotivation in students, while Chénard-Poirier et al. (2022) found that a mixed profile of constructive and destructive leadership behaviors was associated with worse employee outcomes (among them lowered collaboration, an important team process) than a consistently destructive profile.

Proposition 1e. An inconsistent pattern of need support/thwarting among team members leads to convergence toward amotivation.

Team identification

In addition to need support and thwarting behaviors, we argue that team identification is crucial to the *emergence* of team-level motivation. According to social identity theory (SIT), people tend to classify themselves into various social categories, one of which could be a work team (Ashforth et al., 2008). A person's self-concept is comprised of both a personal identity made of idiosyncratic characteristics and a social identity made of group classifications. Team identity includes defining oneself as a member of a team as well as internalizing team norms and behaviors in their sense of self (Tajfel & Turner, 1986), which is similar to the internalization process proposed by SDT (Ryan, 1995). Team identification has been proposed to influence whether group norms will be adopted and promote team coordination (Gucciardi et al., 2018) and has been shown to facilitate team success (Haslam & Ellemers, 2016). We claim that the mutual process of need support and need satisfaction facilitates an expansion of team members' social identities to include the team (Haslam et al., 2000; LaGuardia, 2009).

Ashforth and Schinoff (2016) have argued that team identification can be fueled by needs to feel accepted by others (i.e., relatedness), to feel self-coherent (i.e., autonomy), and to feel self-efficacious (i.e., competence). Thus, a need support/need satisfaction pattern should trigger a *need-based identification process* likely to promote the internalization of shared values among team members (Carton & Cummings, 2012), further contributing to the convergence of individual motivation toward being more autonomous over time. Conversely, if team members feel their needs are frustrated by other team members, they will interpret the context as threatening. According to Deci and Ryan (2000), this should lead to the internalization of more compensatory self-enhancement motives (e.g., materialism or ego-involvement) in order to make sense of their negative team experience. That threat would cause team members to look for other potential cues to construct their collective identity, such as self-enhancement motives, that are likely to nurture their ego (Ashforth & Schinoff, 2016). Thus, they are more likely to rely on cues and act to increase or maintain group prestige (Ashforth & Mael, 1989). Team members could also

build a team identity leading them to collectively value the obtention of team rewards (Carton & Cummings, 2012). This focus on status and prestige-related cues would trigger a *self-enhancement-based identification process* that would reinforce team members' individual extrinsic or introjected types of motivation. Thus, we propose that two types of team identification will take shape based on cycles of need satisfaction and frustration, respectively.

> **Proposition 2a.** A need thwarting/need frustration event cycle triggers a self-enhancement identification process among team members.

> **Proposition 2b.** A need support/need satisfaction event cycle triggers a need-based identification process among team members.

In a severe and/or sustained case of need thwarting between all individuals in a team, and in an inconsistent need support/thwarting team context that may lead team members to lose any type of motivation (in SDT terms, become amotivated), neither self-enhancement nor need-based identification is likely to occur. Instead, such contexts may activate identity motives for distinctiveness (Ashforth & Schinoff, 2016) that could trigger subgroup formation (Tajfel & Turner, 1986). In such situations, we are unlikely to observe the emergence of team motivation among team members, but might instead witness the formation of motivational faultlines likely to lead to competition, conflict, and poor coordination (De Wit et al., 2012).

> **Proposition 2c.** In a need thwarting or an inconsistent need supportive/thwarting team context, the development of team identification is hampered.

Emergence of team motivation

Searle (1990) argued that collective intentional behavior is a phenomenon that is more than the sum of individual intentional behavior (see also George, 1990; Klein et al., 1994; Kozlowski & Klein, 2000). This brings us back to the organismic metaphor to describe teams, which hints at the idea that for team emergent phenomena, such as team motivation, individuals must themselves undergo some kind of transformation. Joint action research can be useful to understand how this may happen. Joint action is an emergent state shared by individuals that develops from a bottom-up perspective (Knoblich et al., 2011). Developing a shared task representation and a shared intention can lead to coordinated action, such as entrainment (temporal synchronization) and complementary action (preparing one's action based on the anticipated effect of someone else's action; Ancona & Chong, 1996; Knoblich et al., 2011). Neuropsychological evidence has even showed that agency can shift from an individual to a collective when people engage in joint action (Newman-Norlund et al., 2007; Sebanz et al., 2006). Elsewhere, Morgeson and Hofmann (1999) explained how shared experiences involving individual acts, habits, and routines can spiral up to create an emergence process. On the other hand, top-down influences (e.g., organizational change), not explored here, can also provide team members with a common experience that contributes to an emergence process (Kozlowski & Klein, 2000).

Extrapolating from previous theories of emergence (Fulmer & Ostroff, 2016; Grand et al., 2016; Kozlowski et al., 2013), and in line with our definition of team motivation as a shared experience of the sources (reasons) to energize and direct team action, we consider motivational convergence as the first prerequisite to team motivation emergence. However,

convergence is not sufficient. Based on previous arguments that a referent shift in social identity is crucial to the emergence of a collective phenomenon (Acton et al., 2019; Chan, 1998; Searle, 1990), we argue that a referent shift in social identity (i.e., team identity development) is necessary for the emergence of team motivation (Kozlowski & Klein, 2000).

To avoid conceptual confusion, identified regulation in SDT describes the process of valuing an *activity*, whereas social identification in SIT describes the process of defining one's self according to *social groups*. As noted earlier, SDT argues that people naturally internalize the values and goals of their social group (Deci & Ryan, 2000). This could lead to a mutually reinforcing mechanism between the construction of a team identity and the internalization of perceived team values, ultimately leading to the emergence of shared types of team motivation. Indeed, Haslam et al. (2000) postulate that people who identify with their team are more inclined to act in ways that satisfy social needs and promote the achievement of group goals because the saliency of the social identity motivates them to act in ways that supports team accomplishments. This should thus lead team members to reinforce the supportive or thwarting interactional cycle that is taking place among them by means of reciprocity which in turn, promotes the internalization of one type or another of motivation.

No research to date has entertained the idea that team motivation might be a phenomenon that can be distinguished from individual motivation and depend on processes such as team identification. As such, we propose that team identification, when promoted through the factors mentioned above, is the second necessary mechanism for the emergence of team motivation (see Figure 3). Accordingly, team motivation will not emerge if no team identification develops.

> **Proposition 3.** Team motivation will emerge out of the convergence of individual motivations in interaction with team identification (either need-based identification or self-enhancement identification).

So far, our focus was aimed at describing the emergence process of team motivation. Given the multidimensional nature of motivation according to the SDT framework, next we offer a more precise conceptualization of each dimension at the team level. Given that we proposed (P2e) that when individuals are amotivated, no team identification emerges, we do not propose the emergence of team-level amotivation.

External team motivation

An interpersonal feedback loop characterized by cycles of need thwarting behaviors and need frustration is likely to promote the pursuit of materialistic need substitutes (Deci & Ryan, 2000). When team members are individually focused on externally imposed rewards and punishments (e.g., a team bonus or award, the team being externally threatened), and who (consequently) thwart each other's psychological needs by themselves administering rewards and punishments to each other (e.g., contingent access to resources, criticism), need frustration will reinforce the focus on these external sources of rewards and punishments to increase team resources or wealth. The development of self-enhancement-based identification will increase the saliency and value of the rewards and punishments, directing the team's energy toward their obtention or avoidance. Hence, when team external motivation emerges, members are collectively

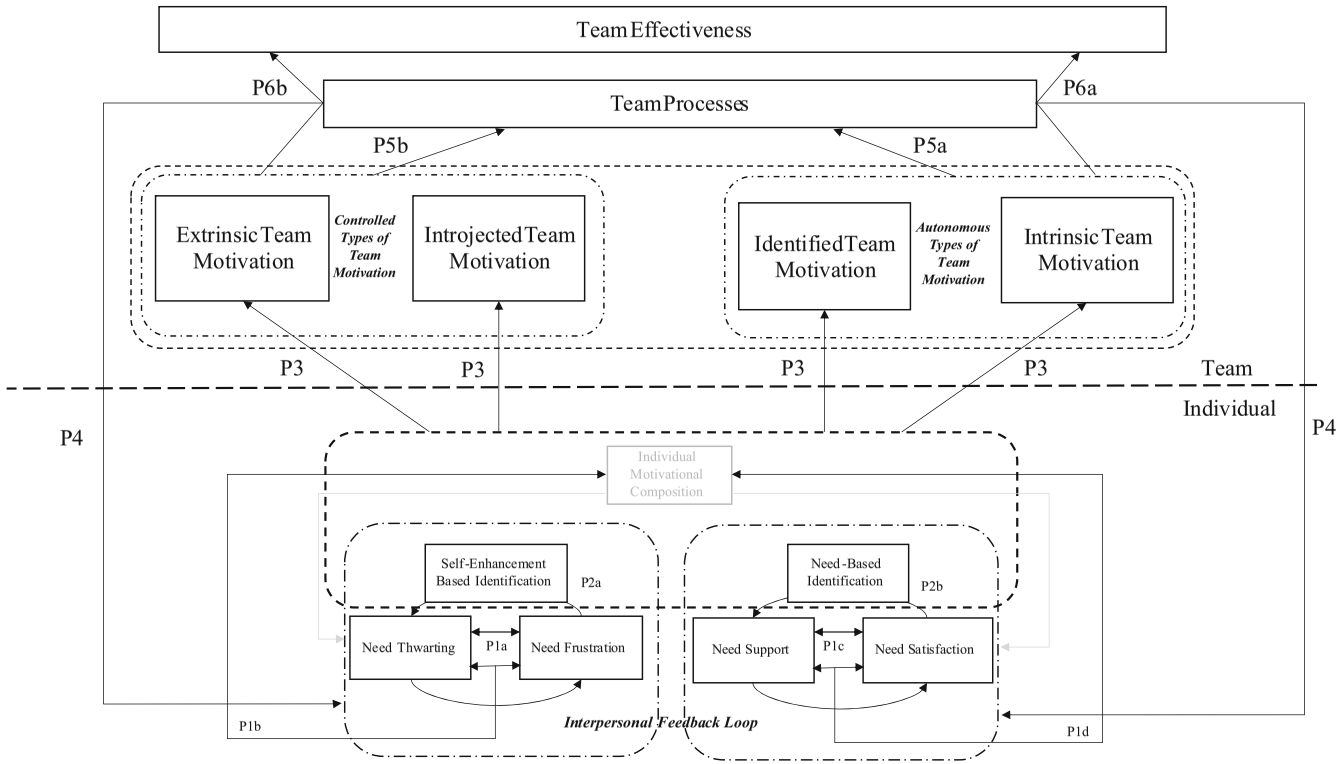

FIGURE 3 The proposed process-based model of team motivation emergence.

working as hard as they can *for the team* to get a reward or avoid a punishment despite having negative experiences in the team.

Introjected team motivation

In a context where team members are individually consumed by self-focused emotions, such as pride and shame, and who (consequently) thwart each other's psychological needs by triggering such emotions among team members, need frustration will reinforce image-related concerns for the team with which they identify. Ashforth and Schinoff (2016) described group prestige as a cue that triggers self-enhancement motives. The development of self-enhancement-based identification will increase the saliency and value of the team's reputation, directing the team's efforts toward its enhancement and protection.

Identified team motivation

In a context where team members are individually focused on the importance and value of a team's activities (e.g., impact on beneficiaries), and who (consequently) support each other's psychological needs by emphasizing the value and importance of the team's work and impact, need satisfaction will enhance the valuing of the team as essential to reaching personally important goals (need-based identification). In turn, need-based identification will make more salient the shared purpose of the team (Hollenbeck et al., 2012), triggering the emergence of identified team motivation. Members will collectively work hard *for the team* to achieve high impact through its activities. For example, Hu and Liden (2015) found that team prosocial motivation was positively related to organizational citizenship behaviors and cooperation.

Intrinsic team motivation

In a context where team members individually enjoy the team tasks, and who (consequently) support each other's psychological needs by emphasizing their interest and enjoyment, need satisfaction will foster interest for the team's activities and for the team (need-based identification), triggering the emergence of intrinsic team motivation. Members derive enjoyment from *collectively* working hard together (Woolley & Fishbach, 2015). Peer behaviors in sports teams focused on enhancing task enjoyment promote need satisfaction, which in turn enhance athletes' intrinsic motivation for the sport (Joesaar et al., 2011).

The team process feedback loop

Team processes play a pivotal role in regulating actions in teams (Marks et al., 2001), and their quality is vital to team effectiveness (Kozlowski & Ilgen, 2006; LePine et al., 2008). They not only help execute actions (Knoblich et al., 2011), but also facilitate the emergence of shared experiences such as team motivation (cf. Park et al., 2013; Waller et al., 2016). We propose that team processes are involved in a feedback loop in which (1) team processes contribute to the

development of team motivation indirectly through the fulfillment of individual needs and (2) team motivation affects subsequent team processes.

Marks et al. (2001) proposed three classes of team processes. *Transition processes* involve strategy, planning, and goal selection to help guide goal accomplishment. *Action processes* include monitoring goal accomplishment, getting and processing feedback on both individual and team performance, and coordinating individuals' actions. *Interpersonal processes* involve managing relationships and emotions in a team. A meta-analysis found that all three processes have a strong influence on team effectiveness (LePine et al., 2008).

We propose that team processes are likely to be a source of need satisfaction and frustration within teams. Table 1 provides examples, in addition to those below, of how each process category may contribute to satisfy the need for autonomy, competence and relatedness. Beginning with transition processes, we propose that the process of choosing goals and how to pursue them, depending on whether it is done by supporting autonomy (e.g., by providing a rationale for goal choices or strategies; Deci et al., 1994), can contribute to satisfying the need for autonomy. It also has the potential to contribute to one's need for competence and relatedness given that during transitions, people exchange information, analyze the causes of team success and failure, can set challenging goals that foster team learning and growth. Turning to action processes, research at the individual level has shown that low role ambiguity and conflict, and receiving feedback, satisfies all three psychological needs (Van den Broeck et al., 2016). Though we found no research on coordination and need satisfaction, we anticipate that, because coordination requires paying attention to others, communication, and willingness to adjust, it will positively impact need satisfaction. Finally, interpersonal processes demand that team members take the perspective of others, and thereby influencing the need for relatedness. So far, research has shown that task conflict can sometimes lead to increased team performance if it is managed

TABLE 1 Examples of contribution of team processes to the satisfaction of team Members' basic psychological needs.

Team process with example	Autonomy need	Competence need	Relatedness need
Transition–Goal setting	Participation in team goal setting may instill a stronger sense that the goal was volitionally adopted.	Contributing to goal setting signals that members have valuable knowledge and expertise to share.	Collectively setting goals strengthens bonds by engendering a shared commitment to pursuing a course of action.
Action–Coordination	Allowing members' input regarding how they contribute and coordinate work respects their agency.	Coordinating workflow implies that each member has an important role to pay in the team.	Coordinating with others requires communication and ongoing reciprocal exchanges that build and maintain connections.
Interpersonal–Conflict	Working through process conflicts provides opportunities for voice and a vehicle for discussing how team members can engage agentically with the team.	Participating in healthy debate provides opportunities to showcase unique perspectives and information.	Minimizing and quickly resolving relationship conflicts allows connections to flourish.

well, whereas relational conflict is more likely to lead to negative team outcomes (O'Neill et al., 2013, 2018; O'Neill & Allen, 2014), so we expect that relational conflict would put teams at particular risk of need frustration. Given these arguments, we propose the following:

Proposition 4. Team processes influence individual need satisfaction/frustration.

To complete the team process feedback loop, we propose that the types of team motivation resulting from the first feedback loop may influence future team processes. Specifically, we expect that autonomous team motivation will facilitate team processes, whereas controlled motivation will hamper them. At the individual level, autonomous motivation has been shown to lead to increased goal progress and attainment (Sheldon & Elliot, 1998), and has been associated with higher information seeking as well as information sharing (Gagné et al., 2019; Koestner et al., 1999), which can facilitate team coordination (Chiocchio et al., 2012). It has also been shown to mediate the relation between understanding organizational strategy and altruism at work (Güntert, 2015). Consequently, autonomous types of team motivation may assist in improving goal setting, communication, coordination, and conflict management. For example, autonomous team motivation might facilitate deeper analysis and more aspirational formulation of team goals, and the crafting of more detailed strategies; it might encourage members to use constructive feedback and pay more attention to others when coordinating activities; and it might foster integrative conflict resolutions. Therefore, we offer the following:

Proposition 5a. Autonomous types of team motivation are positively related to effective team processes.

Conversely, past studies have shown that individual controlled types of motivation are associated with vulnerability to persuasion, inconsistent goal striving, a poor understanding of organizational strategy, and knowledge hiding (Gagné et al., 2019; Güntert, 2015; Koestner et al., 1999; Sheldon & Elliot, 1998). These vulnerabilities are likely to lead to poorer team processes as teams might set less intentional goals and put less effort into crafting good strategies, offer less constructive feedback, and pay less attention to one another, thereby impacting coordination. In addition, a concentration of individuals with high controlled types of motivation and the emergence of controlled types of motivation in a team sets the necessary conditions to develop a competitive (Duriez et al., 2007) and ambiguous context because individuals hide critical information. These conditions are likely to hinder optimal goal setting, coordination efforts, and foster both task and relationship conflict.

Proposition 5b. Controlled types of team motivation are negatively related to effective team processes.

Team motivation and team effectiveness

Team effectiveness is indicated through team outputs (i.e., stakeholder-defined team performance), team members' collective ability to work well together (Hackman & Hackman, 2002), and their satisfaction with working together, also sometimes operationally defined as team

affective tone (Collins et al., 2013; George, 1990; LePine et al., 2008). These indicators map well onto our earlier definition of optimal functioning (Van den Broeck et al., 2019).

Team processes are likely to mediate the effects of team motivation on team effectiveness. Although the link between team processes and team effectiveness has been meta-analyzed and shown to be strong and consistent (e.g., LePine et al., 2008), we propose that autonomous types of team motivation, relative to controlled types, provide the energy to hone team processes and make the team more effective. In support of this, research at the individual level shows that autonomous types of motivation are more strongly positively related to both in-role and extra-role performance, effort, and proactivity than controlled forms of motivation (Gagné et al., 2015), and employees with motivation profiles that are higher on autonomous types of motivation relative to controlled types demonstrate higher in-role and extra-role performance (Howard et al., 2016). At the team-level, team prosocial motivation (a form of identified team motivation) was related with both team task performance and team OCB (Hu & Liden, 2015).

Team processes are likely to mediate the relationship between autonomous team motivation and team effectiveness. At the individual level, an individual experiencing more autonomous types of motivation is likely to demonstrate better information sharing and more persistent goal pursuit (Gagné et al., 2019; Sheldon & Elliot, 1998). Hu and Liden (2015) also found that prosocial team motivation influenced team performance through positively influencing cooperation. Thus, autonomous team motivation should foster transition and action processes. Furthermore, the consistent positive individual experience (e.g., positive emotions, job satisfaction, and engagement) resulting from autonomous team motivation should promote the development of a positive interpersonal team experience, thereby influencing interpersonal processes. We consequently propose the following:

> **Proposition 6a.** Autonomous types of team motivation improve team effectiveness via better honed team processes.

Conversely, individual controlled types of motivation lead to knowledge hiding and inconsistent goal striving (Gagné et al., 2019; Sheldon & Elliot, 1998). Furthermore, the more negative individual experience (e.g., negative emotions, disengagement) resulting from controlled team motivation might trigger or exacerbate conflict. Therefore, controlled team motivation would likely disturb team processes such as goal setting, coordination and conflict management.

> **Proposition 6b.** Controlled types of team motivation impair team effectiveness via blunted team processes.

DISCUSSION

Building on the foundations of multilevel theories, compositional models, emergence processes, SDT, and social identity theory, our process-based model of team motivation answers different calls for a better understanding of the motivation in and of teams (Kozlowski, 2015; Park et al., 2013; Shamir, 1990). Both Chen and Kanfer (2006) and Rico et al. (2017) proposed systemic models of team motivation that rely on goal processes to explain performance at work. In line with their models and drawing on Fulmer and Ostroff's (2016) proposal that collective phenomena emerge out of the convergence of individual-level variables within a team, our model proposes that team-level types of motivation emerge out of factors that influence the

convergence of individual types of motivation and the development of a team identity. Moreover, the model advanced here leverages 50 years of research on SDT to generate novel proposals that provide an alternative and testable view of motivation in teams that we believe will be valuable for guiding new streams of research and knowledge creation.

To summarize, our process-based model of team motivation emergence begins with individuals who join a team with their own initial motivation. The initial motivational composition of the team constitutes an input that will affect interpersonal dynamics that either support or thwart team members' basic psychological needs through a cycle of interactions that spirals into the convergence of individual motivations within a team and affects the development of an identity to the team. Together, motivation convergence and team identity create the conditions by which team motivation can emerge. Other team processes can also affect need satisfaction, which ultimately feeds into the development of team motivation. Team motivation in turn can influence other team processes. Together they influence team effectiveness.

Theoretical contributions

By defining team motivation as a collective source of energy driving the direction, intensity, and persistence of team activities, we have provided a way to conceptualize the concept of internalization at the team level based on how it is operationalized in SDT, that is, using the continuum of motivation. We borrowed from SIT, which defines internalization as the assimilation of team norms, which we defined in terms of increased motivation convergence over time. However, team identification also has a self-concept aspect whereby individuals come to shift their identity to a team-based one. By treating the internalization, convergence, and self-concept referent shift as distinct but intertwined processes in our model, we are able to more accurately operationalize team motivation both in terms of internalization of an agreed upon team goal and the referent shift process (from "I" to "we"), leading to the potential examination of "why *we* work on this *teamgoal*." Internalization at the team level is thus defined in the same way it is at the individual level but is underpinned by referent shift in self-concept.

Our model diverges from previous models (e.g., Chen & Kanfer, 2006; DeShon et al., 2004; Park et al., 2013) by (1) focusing on the emergence process of team motivation rather than just assuming its existence, (2) adapting SDT's multidimensional conceptualization of motivation to focus on sources of team action energization, (3) proposing a model of team motivation that deals with bottom-up internal dynamic processes that assume non-isomorphic multilevel processes, and (4) separating team processes from team motivation to propose how they influence each other.

Past research has mostly assumed the existence of team motivation in their methods, most often using aggregates of individual reports of motivation (without considering the referent shift) and ignoring variability within teams. Our model was built to test the assumption of whether all teams develop team-level motivation and proposes ways to investigate how it develops. It uses the latest thinking on emergence phenomena, taking into consideration the difference between convergence and emergence, and accounting for time dynamics through feedback loops.

Our model focuses on the "why" of team motivation by applying SDT at the team level. Although past approaches have informed us about the role of certain regulatory processes, such as goals and efficacy, and about motivation levels (e.g., level of engagement), our approach highlights how different reasons for engaging in the behaviors and processes (e.g., autonomous versus controlled motivation) are critical to team effectiveness. Given that work teams are used

to face the growing complexity of work in organizations (Salas et al., 2015), and are often expected to be self-organizing (Humphrey & Aime, 2014), SDT can help us understand how the quality or source of a team's motivation might be influenced by team member interactions and human resource management interventions (e.g., reward practices), and in turn influence team effectiveness. Our conceptualization contributes to refining the portrait of team motivation emergence already offered through the lens of team empowerment (Kirkman & Rosen, 1999; Seibert et al., 2011) and team goal orientation (Chadwick & Raver, 2015). For example, team empowerment is conceptualized as encompassing meaning, autonomy, competence and impact, whereas SDT defines some of these, namely, autonomy and competence, as psychological needs that are necessary nutriments for motivation. Our model thus separates needs from motivation by proposing need support/thwarting behaviors as the elemental properties that trigger an emergence mechanism leading to different types of team motivation. Proposing different types of team motivation is an important addition to the current literature on team motivation: Given the known differential effects of autonomous versus controlled types of motivation on individual outcomes (Ryan & Deci, 2017), understanding how to promote the autonomous motivation of teams above their controlled motivation is likely to yield better outcomes for teams.

SDT provides the specification of three psychological needs for competence, autonomy, and relatedness that have been shown to significantly affect human functioning (Ryan & Deci, 2017). Incorporating their support/thwarting as elemental properties for team motivation to emerge was something that had been advocated (Park et al., 2013), but it also pushed us to consider the role of identity formation and how the development of both motivation and identities feed into one another. Finally, our model deals with the "black box" of team processes (Kozlowski, 2015) by separating motivation from other team processes and proposing dynamic feedback loops which over time influence the development of team-level motivation and its effects on team effectiveness (Cronin et al., 2011; Waller et al., 2016).

Future attempts to extend our model could elaborate on how team motivation might influence specific team processes that happen during transition and action phases of team goal pursuit (Marks et al., 2001), including goal setting, coordination, and conflict management. Our model complements the Motivational Model of Organizational Goal Pursuit (MMOGP), which proposes a multilevel model to explain how organizational goals and individual employee goals are formed and influence one another to create dynamic capabilities and organizational success (Gagné, 2018). Our model fleshes out the internal dynamics of teams, which are assumed but not elaborated in the MMOGP, to forge a more complete picture of organizational goal attainment. Conversely, the MMOGP can help flesh out some of the team processes involved in team goal pursuit, for example, by specifying how teams choose goals and plan their pursuit. Another extension of the model might be to add external influences on the interpersonal feedback loop, including other surface and deep compositional characteristics of team members (e.g., expertise and personality), the structure of the team and the nature of its work, virtuality, external leadership, and reward structures, to name a few. Additionally, scholars could expand the proposed model of team motivation to understand dialectical motivational dynamics between teams in multi-team systems (Rico et al., 2017) and multi-team memberships (O'Leary et al., 2011).

Testing the model

We offer several avenues to test the proposed model of team motivation. Using the Multidimensional Work Motivation Scale (Gagné et al., 2015) to assess individual motivation, the

composition of a team's motivation can be operationalized through both means and standard deviations at the team level. The extent to which faultlines exist could be assessed by observing the degree of homogeneity of subgroups and the size of the divide between them (Meyer & Glenz, 2013). To assess the convergence of motivation within a team over time, one must find a way to identify the commonalities between individuals' motivations. So far, mean scores within teams have been most frequently used (e.g., Chen et al., 2009; Kirkman & Rosen, 1999), but it does not consider the spread of the variable (i.e., standard deviation or lack of agreement between team members) within a team.

Another strike against the use of mean aggregates is evidence that they can lead to biased parameter estimates in predictive models (Lüdtke et al., 2008, 2011). An alternative is to use a multilevel latent approach to create a team-level variable from commonalities between individuals (Lüdtke et al., 2008; Morin et al., 2022), the deviations remaining at the individual level. For example, Gagné et al. (2020) modeled teamwork motivation by creating a multilevel model in which team motivation was represented through a latent variable created from agreement between team members' motivation, while "deviations" from that agreement were used as individual level motivation. Such an approach partitions the variance accounted for in outcomes by the same variable assessed at the individual (idiosyncratic) and collective (shared) levels. New methods, including the consensus emergence model and the location-scale model, allow us to look at dispersion and convergence, operationalized as changes in dispersion across time, through latent mixture models (Lang et al., 2018; McNeish & Harring, 2021).

In our model, we suggested that team motivation involves a referent shift of social identity (Acton et al., 2019; Kozlowski & Klein, 2000). Accordingly, an adequate measurement of team motivation would require a referent shift measurement approach (Chan, 1998), which accounts for the social identity assumed at the team level. To address this, we could modify existing motivation scales to target the team identity (e.g., using the referent "we" instead of "I"; Gibson et al., 2000; Kirkman & Rosen, 1999). It would then be important to look at the degree of inter-member agreement to validate this approach.

It is also important to show that team motivation is distinct from its individual counterpart, for example, by examining the nomological networks of individual versus team motivation measures. Bifactor modeling (Gignac, 2008), with a cluster function to control for team nesting, can be used to examine the discriminant factorial structure of both scales (with s-factors representing motivation subscales and two g-factors representing referents). In addition, tools such as social identity mapping (Bentley et al., 2020) could be used to provide discriminant validity for the motivation measures. This mapping tool may help researchers better understand whether team members define themselves in terms of the team identity and explain the role of the team identity phenomenon in the emergence of team motivation. Finally, it would also be valuable to ask team members to describe, as a group, their team motivation (Gibson et al., 2000; Kirkman et al., 2001) and code these conversations for the use of pronouns (I/my and we/ours).

Because we are suggesting that team motivation emerges over time, we would need to use longitudinal research designs to follow or manipulate the evolution of individual motivations over time during different stages of team development, as well as the development of team-level motivation. It would also be essential to assess initial motivation composition when teams are first created, because team members bring a history of individual differences and experiences to the team setting. We would likely need intensive types of data collections to test the feedback loops and the team motivation emergence process. To do so, we could use self-reported questionnaires such as the *Interpersonal Behaviors Questionnaire* (IBS; Rocchi et al., 2017) or the

Need Satisfaction and Frustration Scale (NSFS; Longo et al., 2016). High-resolution techniques (e.g., video, chat/text data, and wearables), such as the ones proposed by Klonek et al. (2019) would be quite powerful to capture the process dynamics assumed in our model. Such approaches are particularly useful in capturing temporal co-variation and contingencies between constructs under investigation, such as need support/thwarting patterns of interactions.

It is also possible for team identity, convergence, and emergence to fluctuate over time within teams (Kozlowski, 2015). An alternative method to deal with such a highly complex model as ours is computational modeling (Kozlowski et al., 2013). Ballard et al. (2019) offer a computational approach to testing dynamic multilevel models that would be extremely useful for our proposed model, as it offers a way to integrate theory, mathematical modeling, and complexity when dealing with highly dynamic models. Following their method, simulations could be created to generate predictions, and Bayesian estimation would then be used to compare model fit to empirical data, testing different parts of the model. Because SDT stands on a long tradition of research touching many life domains such as work, education, and sport (Ryan & Deci, 2017), it is possible to use empirical evidence to predict the impact of need support/thwarting and the consequences of experiencing more controlled versus autonomous forms of motivation. In addition, we noted that patterns of self-reinforcing loops among member need satisfaction and thwarting would eventually stabilize. This could be examined with computational models, as well as their stability when environmental variables are manipulated (e.g., leadership changes), resistance to change, and re-stabilization after change.

Some of the propositions could possibly be tested using experimental or quasi-experimental designs. The different factors proposed to influence individual and team motivation, including team processes (e.g., feedback), need support, and even initial motivation composition, could be manipulated to examine their influence on promoting the development of team motivation. For example, implicit and explicit coordination processes (Rico et al., 2008) could be manipulated in laboratory experiments to examine the influence of this team process on need satisfaction (particularly the needs for competence and relatedness) and the convergence of individual motivations over time (e.g., Uitdewilligen et al., 2018). Based on DeRue et al.'s (2010) model of dispersion, we could manipulate the composition of individual autonomous or controlled motivation within a team and manipulate need support and thwarting, to examine their effects on convergence and emergence over several rounds of trials of team work. In addition, field research could test interpersonal support training interventions for teams (Slemp et al., 2021) and make use of social network analysis techniques (Wasserman & Faust, 1994) to examine patterns of need support and thwarting within teams and predict changes in individual motivation, convergence of motivations within teams, and the emergence of team motivation and its impacts on team effectiveness.

Practical implications

The proposed model offers concrete avenues regarding how organizations can create and manage teams. It has implications on how to form teams by considering the initial motivation of potential team members when building or enlarging a team with newcomers. As soon as someone joins a team, a socialization process should be implemented to foster the learning and internalization of team goals, methods, and norms (Perrot & Campoy, 2009). Lacaze and Bauer (2014) have argued, in line with our proposed model, that the support of autonomy, competence, and relatedness should assist the socialization process, and evidence supports this

(Chong et al., 2021). Teams and tasks should be structured in a way that will promote need support within teams, such as by ensuring the team is not too large and that tasks have motivating characteristics (Cohen & Bailey, 1997; Hackman & Hackman, 2002; Stewart, 2006). Effective team processes can be enhanced through training team members to support each other's psychological needs.

What could be done to change established controlled team motivation? From our model, we can propose pathways that involve both internal and external interventions. Internal interventions might involve an internal team leader, a training intervention for team members, or tweaking other team processes (e.g., goal setting, communication, and conflict management) to encourage the adoption of need supportive behavior and discouraging need thwarting behaviors. A focus on the team's rewards or reputation could be transformed, through external sources of influence (modifying reward structures, feedback from stakeholders), into a focus on the team's impact on beneficiaries to promote identified team motivation. Redesigning the team's work to make it more motivating, such as providing variety, complexity, direct contact with beneficiaries, rich feedback, and compatible role structures (Hackman & Hackman, 2002) can foster more intrinsic team motivation.

Level of virtuality, defined both in terms of geographical dispersion and reliance of technology (Foster et al., 2015; Raghuram et al., 2019) could also drastically impact how team members can support of thwart each other's psychological needs and develop a team identity. Virtuality can make it challenging to forge meaningful connections and technostress could affect feelings of competence (Gagné et al., 2022). Consequently, ways to encourage team members to support each other's needs may need to be modified to fit levels of geographical dispersion and the type of technology used to interact.

CONCLUSION

A process-based model of the emergence of team motivation with a focus on internal team dynamics is proposed, pushing SDT into the realm of teamwork by proposing that teams can have a collective source of energy that can vary in quality, and that the quality of a team's motivation has implications for team processes and team effectiveness. This model has implications for the management of work teams in organizations.

ACKNOWLEDGMENTS

Preparation of this article was facilitated through doctoral research grants from the *Social Science and Humanities Research Council of Canada*, from the *Fonds Québécois de la Recherche sur la Société et la Culture*, and from *l'Institut de recherche Robert-Sauvé en santé et en sécurité du travail* to the first author, an *Australian Research Council Discovery Project* grant # DP210101031 to the second and third authors, and from an *Insight Grant* from the *Social Science and Humanities Research Council of Canada* to the third author.

CONFLICT OF INTEREST STATEMENT

The authors have no conflict of interest.

DATA AVAILABILITY STATEMENT

Data sharing is not applicable to this article as no new data were created or analyzed in this study.

ORCID

Simon Grenier https://orcid.org/0000-0002-4997-5883
Marylène Gagné https://orcid.org/0000-0003-3248-8947

REFERENCES

Acton, B. P., Foti, R. J., Lord, R. G., & Gladfelter, J. A. (2019). Putting emergence back in leadership emergence: A dynamic, multilevel, process-oriented framework. *The Leadership Quarterly*, *30*(1), 145–164. https://doi.org/10.1016/j.leaqua.2018.07.002

Amabile, T. M. (1982). Social psychology of creativity: A consensual assessment technique. *Journal of Personality and Social Psychology*, *43*(5), 997–1013. https://doi.org/10.1037/0022-3514.43.5.997

Ancona, D. G., & Chong, C. (1996). Entrainment: Pace, cycle and hythm in organizational behavior. *Research in Organizational Behavior*, *8*, 251–284.

Ashforth, B. E., Harrison, S. H., & Corley, K. G. (2008). Identification in organizations: An examination of four fundamental questions. *Journal of Management*, *34*(3), 325–374. https://doi.org/10.1177/0149206308316059

Ashforth, B. E., & Mael, F. (1989). Social theory and the organization. *Academy of Management Review*, *14*(1), 20–39. https://doi.org/10.5465/amr.1989.4278999

Ashforth, B. E., & Schinoff, B. S. (2016). Identity under construction: How individuals come to define themselves in organizations. *Annual Review of Organizational Psychology and Organizational Behavior*, *3*, 111–137. https://doi.org/10.1146/annurev-orgpsych-041015-062322

Ballard, T., Pallada, H., Griffin, M., & Neal, A. (2019). An integrated approach to testing dynamic, multilevel theory: Using computational models to connect theory, model and data. *Organizational Research Methods*, *24*, 251–284. https://doi.org/10.1177/1094428119881209

Bandura, A. (1982). Self-efficacy mechanism in human agency. *American Psychologist*, *37*(2), 122–147. https://doi.org/10.1037/0003-066X.37.2.122

Barrick, M. R., Thurgood, G. R., Smith, T. A., & Courtright, S. H. (2015). Collective organizational engagement: Linking motivational antecedents, strategic implementation, and firm performance. *Academy of Management Journal*, *58*(1), 111–135. https://doi.org/10.5465/amj.2013.0227

Baumeister, R., & Leary, M. R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin*, *117*(3), 497–529. https://doi.org/10.1037/0033-2909.117.3.497

Baumeister, R., Twenge, J. M., & Nuss, C. K. (2002). Effects of social exclusion on cognitive processes: Anticipated aloneness reduces intelligent thought. *Journal of Personality and Social Psychology*, *83*(4), 817–827. https://doi.org/10.1037/0022-3514.83.4.817

Bentley, S. V., Greenaway, K. H., Haslam, S. A., Cruwys, T., Steffens, N. K., Haslam, C., & Cull, B. (2020). Social identity mapping online. *Journal of Personality and Social Psychology*, *118*(2), 213–241. https://doi.org/10.1037/pspa0000174

Blau, P. M. (1964). *Exchange and power in social life*. Wiley.

Burgueño, R., García-González, L., Abós, A., & Sevil-Serrano, J. (2022). Students' motivational experiences across profiles of perceived need-supportive and need-thwarting teaching behaviors in physical education. *Physical Education and Sport Pedagogy*, *1-15*, 82–96. https://doi.org/10.1080/17408989.2022.2028757

Carton, A. M., & Cummings, J. N. (2012). A theory of subgroups in work teams. *The Academy of Management Review*, *37*(3), 441–470. https://doi.org/10.5465/amr.2010.0322

Chadwick, I. C., & Raver, J. L. (2015). Motivating organizations to learn: Goal orientation and its influence on organizational learning. *Journal of Management*, *41*(3), 957–986. https://doi.org/10.1177/0149206312443558

Chan, D. (1998). Functional relations among constructs in the same content domain at different levels of analysis: A typology of composition model. *Journal of Applied Psychology*, *83*(2), 234–246. https://doi.org/10.1037/0021-9010.83.2.234

Chen, B., Vansteenkiste, M., Beyers, W., Boone, L., Deci, E., van der Kaap-Deeder, J., Duriez, B., Lens, W., Matos, L., Mouratidis, A., Ryan, R. M., Sheldon, K. M., Soenens, B., van Petegem, S., & Verstuyf, J. (2015). Basic psychological need satisfaction, need frustration, and need strength across four cultures. *Motivation and Emotion*, *39*, 216–236. https://doi.org/10.1007/s11031-014-9450-1

Chen, G., & Kanfer, R. (2006). Toward a system theory of motivated behavior in work teams. In B. M. Staw (Ed.), *Research in organizational behavior* (pp. 223–267). JAI Press.

Chen, G., Kanfer, R., DeShon, R. P., Mathieu, J. E., & Kozlowski, S. W. J. (2009). The motivating potential of teams: Test and extension of Chen and Kanfer's (2006) cross-level model of motivation in teams. *Organizational Behavior and Human Decision Processes*, *110*(1), 45–55. https://doi.org/10.1016/j.obhdp.2009.06.006

Chénard-Poirier, L. A., Morin, A. J. S., Boudrias, J.-S., & Gillet, N. (2022). The combined effects of destructive and constructive leadership on thriving at work and behavioral empowerment. *Journal of Business and Psychology*, *37*, 173–189. https://doi.org/10.1007/s10869-021-09734-7

Chiocchio, F., Grenier, S., O'Neill, T. A., Savaria, K., & Willms, D. J. (2012). The effects of collaboration on performance: A multilevel validation in project teams. *International Journal of Project Organization and Management*, *4*(1), 1–37. https://doi.org/10.1504/IJPOM.2012.045362

Chirkov, V., Ryan, R. M., Kim, Y., & Kaplan, U. (2003). Differentiating autonomy from individualism and independence: A self-determination theory perspective on internalization of cultural orientations and well-being. *Journal of Personality and Social Psychology*, *84*(1), 97–110. https://doi.org/10.1037/0022-3514.84.1.97

Chong, J. X., Beenen, G., Gagné, M., & Dunlop, P. D. (2021). Satisfying newcomers' needs: The role of socialization tactics and supervisor autonomy support. *Journal of Business and Psychology*, *36*, 315–331.

Cohen, S. G., & Bailey, D. E. (1997). What makes teams work: Group effectiveness research from the shop floor to the executive suite. *Journal of Management*, *23*(3), 239–290. https://doi.org/10.1177/014920639702300303

Collins, A., Lawrence, S., Troth, A., & Jordan, P. (2013). Group affective tone: A review and future research directions. *Journal of Organizational Behavior*, *34*(1), 43–62. https://doi.org/10.1002/job.1887

Costa, P. L., Passos, A. M., & Bakker, A. B. (2014). Teamwork engagement: A model of emergence. *Journal of Occupational and Organizational Psychology*, *87*(2), 414–436. https://doi.org/10.1111/joop.12057

Cronin, M. A., & Vancouver, J. B. (2019). The only constant is change: Expanding theory by incorporating dynamic properties into one's models. In S. E. Humphrey & J. M. LeBreton (Eds.), *The handbook of multilevel theory, measurement, and analysis*. APA. https://doi.org/10.1037/0000115-005

Cronin, M. A., Weingart, L. R., & Todorova, G. (2011). Dynamics in groups: Are we there yet? *Academy of Management Annals*, *5*(1), 571–612. https://doi.org/10.1080/1941650.2011.590297

Cropanzano, R., & Mitchell, M. S. (2005). Social exchange theory: An interdisciplinary review. *Journal of Management*, *31*(6), 874–900. https://doi.org/10.1177/0149206305279602

De Wit, F. R., Greer, L. L., & Jehn, K. A. (2012). The paradox of intragroup conflict: A meta-analysis. *Journal of Applied Psychology*, *97*(2), 360–390. https://doi.org/10.1037/a0024844

DeCharms, R. (1968). *Personal Causation*. Academic.

Deci, E. L. (with Richard Flaste)(1995). *Why we do what we do: The dynamics of personal autonomy*. Grosset/Putnam.

Deci, E. L., Eghrari, H., Patrick, B. C., & Leone, D. R. (1994). Facilitating internalization: The self-determination theory perspective. *Journal of Personality*, *62*(1), 119–142. https://doi.org/10.1111/j.1467-6494.1994.tb00797.x

Deci, E. L., Koestner, R., & Ryan, R. M. (1999). A meta-analytic review of experiments examining the effects of extrinsic rewards on intrinsic motivation. *Psychological Bulletin*, *125*, 627–668. https://doi.org/10.1037/0033-2909.125.6.627

Deci, E. L., La Guardia, J. G., Moller, A. C., Scheiner, M. J., & Ryan, R. M. (2006). On benefits of giving as well as receiving autonomy support: Mutuality in close friendships. *Personality and Social Psychology Bulletin*, *32*(3), 313–327. https://doi.org/10.1177/0146167205282148

Deci, E. L., & Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry*, *11*(4), 227–268. https://doi.org/10.1207/S15327965PLI1104_01

DeRue, D. S., Hollenbeck, J., Ilgen, D., & Feltz, D. (2010). Efficacy dispersion in teams: Moving beyond agreement and aggregation. *Personnel Psychology*, *63*(1), 1–40. https://doi.org/10.1111/j.1744-6570.2009.01161.x

DeShon, R. P., Kozlowski, S. W., Schmidt, A. M., Milner, K. R., & Wiechmann, D. (2004). A multiple-goal, multilevel model of feedback effects on the regulation of individual and team performance. *Journal of Applied Psychology*, *89*(6), 1035–1056. https://doi.org/10.1037/0021-9010.89.6.1035

Dik, G., & Aarts, H. (2007). Behavioral cues to others' motivation and goal pursuits: The perception of effort facilitates goal inference and contagion. *Journal of Experimental Social Psychology*, *43*, 727–737. https://doi.org/10.1016/j.jesp.2006.09.002

Duriez, B., Vansteenkiste, M., Soenens, B., & De Witte, H. (2007). The social costs of extrinsic relative to intrinsic goal pursuits: Their relation with social dominance and racial and ethnic prejudice. *Journal of Personality*, *75*(4), 757–782. https://doi.org/10.1111/j.1467-6494.2007.00456.x

Ferris, D. L., Brown, D. J., Berry, J. W., & Lian, H. (2008). The development and validation of the workplace ostracism scale. *Journal of Applied Psychology*, *93*(6), 1348–1366. https://doi.org/10.1037/a0012743

Foster, M. K., Abbey, A., Callow, M. A., Zu, X., & Wilbon, A. D. (2015). Rethinking virtuality and its impact on teams. *Small Group Research*, *46*(3), 267–299. https://doi.org/10.1177/1046496415573795

Friedman, R., Deci, E. L., Elliot, A. J., Moller, A. C., & Aarts, H. (2010). Motivational synchronicity: Priming motivational orientations with observations of others' behaviors. *Motivation and Emotion*, *34*, 34–38. https://doi.org/10.1007/s11031-009-9151-3

Frodi, A., Bridges, L., & Grolnick, W. S. (1985). Correlates of mastery-related behaviour: A short term longitudinal study of infants in their second year. *Child Development*, *56*(5), 1291–1298. https://doi.org/10.2307/1130244

Fulmer, A. C., & Ostroff, C. (2016). Convergence and emergence in organizations: An integrative framework and review. *Journal of Organizational Behavior*, *37*(1), 122–145. https://doi.org/10.1002/job.1987

Gagné, M. (2018). From strategy to action: Transforming organizational goals into organizational behavior. *International Journal of Management Reviews*, *20*(1), 83–104.

Gagné, M., & Deci, E. L. (2005). Self-determination theory and work motivation. *Journal of Organizational Behavior*, *26*(4), 331–362. https://doi.org/10.1002/job.322

Gagné, M., Forest, J., Vansteenkiste, M., Crevier-Braud, L., van den Broeck, A., Aspeli, A. K., Bellerose, J., Benabou, C., Chemolli, E., Güntert, S. T., Halvari, H., Indiyastuti, D. L., Johnson, P. A., Molstad, M. H., Naudin, M., Ndao, A., Olafsen, A. H., Roussel, P., Wang, Z., & Westbye, C. (2015). The multidimensional work motivation scale: Validation evidence in seven languages and nine countries. *European Journal of Work and Organizational Psychology*, *24*(2), 178–196. https://doi.org/10.1080/1359432X.2013.877892

Gagné, M., Morin, A. J. S., Schabram, K., Wang, Z., Chemolli, E., & Briand, M. (2020). Uncovering relations between leadership perceptions and motivation under different organizational contexts: A multilevel cross-lagged analysis. *Journal of Business and Psychology*, *35*, 713–732. https://doi.org/10.1007/s10869-019-09649-4

Gagné, M., Parker, S. K., Griffin, M. A., Dunlop, P. D., Knight, C., Klonek, F. E., & Parent-Rocheleau, X. (2022). Understanding and shaping the future of work with self-determination theory. *Nature Reviews Psychology*, *1*(7), 378–392. https://doi.org/10.1038/s44159-022-00056-w

Gagné, M., Tian, A. W., Soo, C., Wang, B., Ho, K. S. B., & Hosszu, K. (2019). Different motivations for knowledge sharing and hiding: The role of motivating work design. *Journal of Organizational Behavior*, *40*, 783–799. https://doi.org/10.1002/job.2364

George, J. M. (1990). Personality, affect, and behavior in groups. *Journal of Applied Psychology*, *75*(2), 107–116. https://doi.org/10.1037/0021-9010.75.2.107

Gibson, C. A., Randel, A. E., & Earley, C. P. (2000). Understanding group efficacy: An empirical test of multiple assessment methods. *Group and Organization Management*, *25*(1), 67–97. https://doi.org/10.1177/1059601100251005

Gignac, G. E. (2008). Higher-order models versus direct hierarchical models: G as superordinate. *Psychology Science*, *50*(1), 21.

Grand, J. A., Braun, M. T., Kuljanin, G., Kozlowski, S. W., & Chao, G. T. (2016). The dynamics of team cognition: A process-oriented theory of knowledge emergence in teams. *Journal of Applied Psychology*, *101*(10), 1353–1385. https://doi.org/10.1037/apl0000136

Grolnick, W. S., & Ryan, R. M. (1987). Autonomy in children's learning: An experimental and individual difference investigation. *Journal of Personality and Social Psychology*, *52*(5), 890–898. https://doi.org/10.1037/0022-3514.52.5.890

Gucciardi, D. F., Crane, M., Ntoumanis, N., Parker, S. K., Thøgersen-Ntoumani, C., Ducker, K. J., Peeling, P., Chapman, M. T., Quested, E., & Temby, P. (2018). The emergence of team resilience: A multilevel conceptual model of facilitating factors. *Journal of Occupational and Organizational Psychology*, *91*(4), 729–768. https://doi.org/10.1111/joop.12237

Güntert, S. T. (2015). The impact of work design, autonomy support, and strategy on employee outcomes: A differentiated perspective on self-determination at work. *Motivation and Emotion*, *39*, 74–87. https://doi.org/10.1007/s11031-014-9412-7

Hackman, J. R., & Hackman, R. J. (2002). *Leading teams: Setting the stage for great performances*. Harvard Business Press.

Harackiewicz, J. M., Manderling, G., & Sansone, C. (1984). Rewarding pinball wizardry: The effects of evaluation on intrinsic interest. *Journal of Personality and Social Psychology*, *47*(2), 287–300. https://doi.org/10.1037/0022-3514.47.2.287

Haslam, S. A., & Ellemers, N. (2016). Social identification is generally a prerequisite for group success and does not preclude intragroup differentiation. *Behavioral and Brain Sciences*, *39*, e150–e151. https://doi.org/10.1017/S0140525X15001387

Haslam, S. A., Powell, C., & Turner, J. (2000). Social identity, self-categorization, and work motivation: Rethinking the contribution of the group to positive and sustainable organisational outcomes. *Applied Psychology*, *49*(3), 319–339. https://doi.org/10.1111/1464-0597.00018

Hirst, G., Van Knippenberg, D., & Zhou, J. (2009). A cross-level perspective on employee creativity: Goal orientation, team learning behaviour, and individual creativity. *Academy of Management Journal*, *52*(2), 280–293. https://doi.org/10.5465/amj.2009.37308035

Hollenbeck, J. R., Beersma, B., & Schouten, M. E. (2012). Beyond team types and taxonomies: A dimensional scaling conceptualization for team description. *Academy of Management Review*, *37*(1), 82–106. https://doi.org/10.5465/amr.2010.0181

Howard, J. L., Gagné, M., & Bureau, J. (2017). Testing a continuum structure of self-determined motivation: A meta-analysis. *Psychological Bulletin*, *143*(12), 1346–1377. https://doi.org/10.1037/bul0000125

Howard, J. L., Gagné, M., & Morin, A. J. S. (2020). Putting the pieces together: Reviewing the structural conceptualization of motivation within SDT. *Motivation and Emotion*, *44*, 846–861. https://doi.org/10.1007/s11031-020-09838-2

Howard, J. L., Gagné, M., Morin, A. J. S., & Van den Broeck, A. (2016). Motivation profiles at work: A self-determination theory approach. *Journal of Vocational Behavior*, *95*(1), 74–89. https://doi.org/10.1016/j.jvb.2016.07.004

Hu, J., & Liden, R. C. (2015). Making a difference in the teamwork: Linking team prosocial motivation to team processes and effectiveness. *Academy of Management Journal*, *58*(4), 1102–1127. https://doi.org/10.5465/amj.2012.1142

Huffmeier, J., Filusch, M. A., Mazei, J., Hertel, G., Mojzisch, A., & Krumm, S. (2017). On the boundary conditions of effort losses and effort gains in action teams. *Journal of Applied Psychology*, *102*, 1673–1685. https://psycnet.apa.org/doi/10.1037/apl0000245

Humphrey, S. E., & Aime, F. (2014). Team microdynamics: Toward an organizing approach to teamwork. *The Academy of Management Annals*, *8*(1), 443–503. https://doi.org/10.1080/19416520.2014.904140

Joesaar, H., Hein, V., & Hagger, M. S. (2011). Peer influence on young athletes' need satisfaction, intrinsic motivation and persistence in sport: A 12-month prospective study. *Psychology of Sport and Exercise*, *12*, 500–508. https://doi.org/10.1016/j.psychsport.2011.04.005

Jungert, T., Van den Broeck, A., Schreurs, B., & Osterman, U. (2018). How colleagues can support each other's needs and motivation: An intervention on employee work motivation. *Applied Psychology. An International Review*, *67*(1), 3–29. https://doi.org/10.1111/apps.12110

Kanfer, R., & Chen, G. (2016). Motivation in organizational behaviour: History, advances and prospects. *Organizational Behavior and Human Decision Processes*, *136*(1), 6–19. https://doi.org/10.1016/j.obhdp.2016.06.002

Katz-Navon, T. Y., & Erez, M. (2005). When collective- and self-efficacy affect team performance: The role of task interdependence. *Small Group Research*, *36*, 43–465. https://doi.org/10.1177/1046496405275233

Kirkman, B. L., & Rosen, B. (1999). Beyond self-management: Antecedents and consequences of team empowerment. *Academy of Management Journal*, *42*(1), 58–74. https://doi.org/10.5465/256874

Kirkman, B. L., Tesluk, P. E., & Rosen, B. (2001). Assessing the incremental validity of team consensus ratings over aggregation of individual-level data in predicting team effectiveness. *Personnel Psychology*, *54*(3), 645–667. https://doi.org/10.1111/j.17446570.2001.tb00226.x

Klein, K. J., Dansereau, F., & Hall, R. J. (1994). Levels issues in theory development, data collection, and analysis. *Academy of Management Review*, *19*(2), 195–229. https://doi.org/10.5465/amr.1994.9410210745

Kleinaltenkamp, M., Karpen, I. O., Plewa, C., Jaakkola, E., & Conduit, J. (2019). Collective engagement in organizational settings. *Industrial Marketing Management*, *80*, 11–23. https://doi.org/10.1016/j.indmarman.2019.02.009

Klonek, F., Gerpott, F. H., Lehmann-Willenbrock, N., & Parker, S. K. (2019). Time to go wild: How to conceptualize and measure process dynamics in real teams with high-resolution. *Organizational Psychology Review*, *9*(4), 1–31. https://doi.org/10.1177/2041386619886674

Knoblich, G., Butterfill, S., & Sebanz, N. (2011). Psychological research on joint action: Theory and data. In B. Ross (Ed.), *The psychology of learning and motivation* (Vol. 54) (pp. 59–101). Academic Press.

Koestner, R., Gingras, I., Abutaa, R., Losier, G. F., Di Dio, L., & Gagné, M. (1999). To ignore, follow, or oppose expert advice when making a decision: An examination of reactive versus reflective autonomy. *Journal of Personality*, *67*, 849–864. https://doi.org/10.1111/1467-6494.00075

Koestner, R., Ryan, R. M., Bernieri, F., & Holt, K. (1984). Setting limits on children's behaviour: The differential effects of controlling versus informational styles on intrinsic motivation and creativity. *Journal of Personality*, *52*(3), 233–248. https://doi.org/10.1111/j.1467-6494.1984.tb00879.x

Kozlowski, S. W. (2015). Advancing research on team process dynamics: Theoretical, methodological, and measurement considerations. *Organizational Psychology Review*, *5*(4), 270–299. https://doi.org/10.1177/2041386614533586

Kozlowski, S. W. J., Chao, G. T., Grand, J. A., Braun, M. T., & Kulijanin, G. (2013). Advancing multilevel research design: Capturing the dynamics of emergence. *Organizational Research Methods*, *16*(4), 581–615. https://doi.org/10.1177/1094428113493119

Kozlowski, S. W. J., & Ilgen, D. R. (2006). Enhancing the effectiveness of work groups and teams. *Psychological Science in the Public Interest*, *7*(3), 77–124. https://doi.org/10.1111/j.1529-1006.2006.00030.x

Kozlowski, S. W. J., & Klein, K. J. (2000). A multilevel approach to theory and research in organizations: Contextual, temporal, and emergent processes. In K. J. Klein & S. W. J. Kozlowski (Eds.), *Multilevel theory, research, and methods in organizations* (pp. 3–90). Jossey-Bass.

Lacaze, D., & Bauer, T. N. (2014). A positive motivational perspective on organizational socialization. *RIMHE: Revue Interdisciplinaire Management, Homme & Entreprise*, *5*(14), 58–75. https://doi.org/10.3917/rimhe.014.0058

LaGuardia, J. G. (2009). Developing who I am: A self-determination theory approach to the establishment of healthy identities. *Educational Psychologist*, *44*(2), 90–104. https://doi.org/10.1080/00461520902832350

LaGuardia, J. G., & Patrick, H. (2008). Self-determination theory as a fundamental theory of close relationships. *Canadian Psychology*, *49*(3), 201–209. https://doi.org/10.1037/a0012760

LaGuardia, J. G., Ryan, R. M., Couchman, C., & Deci, E. L. (2000). Within-person variation in security of attachment: A self-determination theory perspective on attachment, need fulfillment and well-being. *Journal of Personality and Social Psychology*, *79*(3), 367–384. https://doi.org/10.1037//0022-3514.79.3367

Lang, J. W., Bliese, P. D., & de Voogt, A. (2018). Modeling consensus emergence in groups using longitudinal multilevel methods. *Personnel Psychology*, *71*(2), 255–281. https://doi.org/10.1111/peps.12260

Larson, N. L., McLarnon, M. J., & O'Neill, T. A. (2020). Challenging the "static" quo: Trajectories of engagement in team processes toward a deadline. *Journal of Applied Psychology*, *105*(10), 1145–1163. https://doi.org/10.1037/apl0000479

LePine, J. A., Piccolo, R. F., Jackson, C. L., Mathieu, J. E., & Saul, J. R. (2008). A meta-analysis of teamwork processes: Tests of a multidimensional model and relationships with team effectiveness criteria. *Personnel Psychology*, *61*(2), 272–307. https://doi.org/10.1111/j.1744-6570.2008.00114.x

Lepper, R. R., & Greene, D. (1975). Turning play into work: Effects of adult surveillance and extrinsic rewards on children's intrinsic motivation. *Journal of Personality and Social Psychology*, *31*(3), 479–486. https://doi.org/10.1037/h0076484

Liu, D., & Fu, P.-P. (2011). Motivating protégés' personal learning in teams: A multilevel investigation of autonomy support and autonomy orientation. *Journal of Applied Psychology*, *96*(6), 1195–1208. https://doi.org/10.1037/a0024716

Longo, Y., Gunz, A., Curtis, G. J., & Farsides, T. (2016). Measuring need satisfaction and frustration in educational and work contexts: The Need Satisfaction and Frustration Scale (NSFS). *Journal of Happiness Studies*, *17*, 295–317. https://doi.org/10.1007/s10902-014-9595-3

Lüdtke, O., Marsh, H. W., Robitzsch, A., & Trautwein, U. (2011). A 2 X 2 taxonomy of multilevel latent contextual models: Accuracy–bias trade-offs in full and partial error correction models. *Psychological Methods*, *16*(4), 444–467. https://doi.org/10.1037/a0024376

Lüdtke, O., Marsh, H. W., Robitzsch, A., Trautwein, U., Asparouhov, T., & Muthén, B. O. (2008). The multilevel latent covariate model: A new, more reliable approach to group-level effects in contextual studies. *Psychological Methods*, *13*(3), 203–229. https://doi.org/10.1037/a0012869

Lustenberger, D. E., & Jagacinski, C. M. (2010). Exploring the effects of ostracism on performance and intrinsic motivation. *Human Performance*, *23*(4), 283–304. https://doi.org/10.1080/08959285.2010.501046

Marks, M. A., Mathieu, J. E., & Zaccaro, S. J. (2001). A temporally based framework and taxonomy of team processes. *Academy of Management Review*, *26*(3), 356–376. https://doi.org/10.5465/amr.2001.4845785

Mathieu, J. E., Gallagher, P. T., Domingo, M. A., & Klock, E. A. (2019). Embracing complexity: Reviewing the past decade of team effectiveness research. *Annual Review of Organizational Psychology and Organizational Behavior*, *6*, 17–46. https://doi.org/10.1146/annurev-orgpsych-012218-015106

Maturana, H. R., & Varela, F. J. (1992). *The tree of knowledge: The biological roots of human understanding* (Rev. ed.). Shambala.

Matusek, J. G., Hollenbeck, J. R., Matta, F. K., & Oh, J. K. (2019). Dynamic systems theory and dual change score models: Seeing teams through the lens of developmental psychology. *Academy of Management Journal*, *62*(6), 1760–1788. https://doi.org/10.5465/amj.2017.1358

McGraw, K. O., & McCullers, J. C. (1979). Evidence of a detrimental effect of extrinsic incentives on breaking a mental set. *Journal of Experimental Social Psychology*, *15*(3), 285–294. https://doi.org/10.1016/0022-1031(79)90039-8

McNeish, D., & Harring, J. R. (2021). Improving convergence in growth mixture models without covariance structure constraints. *Statistical Methods in Medical Research*, *30*(4), 994–1012. https://doi.org/10.1177/0962280220981747

Merchant, K. A., & van der Stede, W. A. (2007). *Management control systems* (2nd ed.). Pearson Education Limited.

Meyer, B., & Glenz, A. (2013). Team faultline measures: A computational comparison and a new approach to multiple subgroups. *Organizational Research Methods*, *16*(3), 393–424. https://doi.org/10.1177/1094428113484970

Morin, A. J., Blais, A. R., & Chenard-Poirier, L. A. (2022). Doubly latent multilevel procedures for organizational assessment and prediction. *Journal of Business and Psychology*, *37*(1), 47–72. https://doi.org/10.1007/s10869-021-09736-5

Morgeson, F. P., & Hofmann, D. A. (1999). The structure and function of collective constructs: Implications for multilevel research and theory development. *Academy of Management Review*, *24*(2), 249–265. https://doi.org/10.2307/259081

Newman-Norlund, R. D., Noordzij, M. L., Meulenbroek, R. G. J., & Bekkering, H. (2007). Exploring the brain basis of joint action: Co-ordination of actions, goals and intentions. *Social Neuroscience*, *2*(1), 48–65. https://doi.org/10.1080/17470910701224623

O'Leary, M. B., Mortensen, M., & Woolley, A. W. (2011). Multiple team membership: A theoretical model of its effects on productivity and learning for individuals and teams. *Academy of Management Review*, *36*(3), 461–478.

O'Neill, T. A., & Allen, N. A. (2014). Team task conflict resolution: An examination of its linkages to team personality composition and team effectiveness outcomes. *Group Dynamics*, *18*, 159–173. https://doi.org/10.1037/gdn0000004

O'Neill, T. A., Allen, N. A., & Hasting, S. E. (2013). Examining the 'pros' and 'cons' of team conflict: A team-level meta-analysis of task, relationship and process conflict. *Human Performance*, *26*(3), 236–260. https://doi.org/10.1080/08959285.2013.795573

O'Neill, T. A., McLarnon, M. J. W., Hoffart, G. C., Woodley, H. J., & Allen, N. J. (2018). The structure and function of team conflict profiles. *Journal of Management*, *44*(2), 811–836. https://doi.org/10.1177/0149206315581662

O'Neill, T. A., & Salas, E. (2018). Creating high performance teamwork in organizations. *Human Resource Management Review*, *28*(4), 325–331. https://doi.org/10.1016/j.hrmr.2017.09.001

Park, G., Spitzmuller, M., & DeShon, R. P. (2013). Advancing our understanding of team motivation: Integrating conceptual approaches and content areas. *Journal of Management*, *39*(5), 1339–1379. https://doi.org/10.1177/0149206312471389

Patrick, H., Knee, C. R., Canevello, A., & Lonsbary, C. (2007). The role of need fulfillment in relationship functioning and well-being: A self-determination theory perspective. *Journal of Personality and Social Psychology*, *92*(3), 434–457. https://doi.org/10.1037/0022-3514.92.3.434

Pelletier, L. G., Séguin-Lévesque, C., & Legault, L. (2002). Pressure from above and pressure from below as determinants of teachers' motivation and teaching behaviors. *Journal of Educational Psychology*, *94*(1), 186–196. https://doi.org/10.1037/0022-0663.94.1.186

Pelletier, L. G., & Vallerand, R. J. (1996). Supervisors' beliefs and subordinates' intrinsic motivation: A behavioral confirmation analysis. *Journal of Personality and Social Psychology*, *71*(2), 331–340. https://doi.org/10.1037/0022-3514.71.2.331

Perrot, S., & Campoy, E. (2009). Développement d'une échelle de mesure de la socialisation organisationnelle: Une approche croisée entre processus et contenus. [development of an organizational socialization measurement scale: A crossed approach between process and content]. *Revue de Gestion Des Ressources Humaines*, *71*, 23–42.

Radel, R., Sarrazin, P., Legrain, P., & Wild, T. C. (2010). Social contagion of motivation between teacher and student: Analyzing underlying processes. *Journal of Educational Psychology*, *102*(3), 577–587. https://doi.org/10.1037/a0019051

Raghuram, S., Hill, N. S., Gibbs, J. L., & Maruping, L. M. (2019). Virtual work: Bridging research clusters. *Academy of Management Annals*, *13*(1), 308–341. https://doi.org/10.5465/annals.2017.0020

Reeve, J., & Jang, H. (2006). What teachers say and do to support students' autonomy during learning activity. *Journal of Educational Psychology*, *98*(1), 209–218. https://doi.org/10.1037/0022-0663.98.1.209

Rico, R., Hinsz, V. B., Burke, S., & Salas, E. (2017). A multilevel model of multiteam motivation and performance. *Organizational Psychology Review*, *7*(3), 197–226. https://doi.org/10.1177/2041386616665456

Rico, R., Sanchez-Manzanares, M., Gil, F., & Gibson, C. (2008). Team implicit coordination processes: A team knowledge-based approach. *Academy of Management Review*, *33*(1), 163–184. https://doi.org/10.5465/amr.2008.27751276

Rocchi, M., Pelletier, L., Cheung, S., Baxter, D., & Beaudry, S. (2017). Assessing need-supportive and need-thwarting interpersonal behaviours: The interpersonal Behaviours questionnaire (IBQ). *Personality and Individual Differences*, *104*, 423–433. https://doi.org/10.1016/j.paid.2016.08.034

Rosen, C. C., Ferris, D. L., Brown, D. J., Chen, Y., & Yan, M. (2014). Perceptions of organizational politics: A need satisfaction paradigm. *Organization Science*, *25*(4), 1026–1055. https://doi.org/10.1287/orsc.2013.0857

Rousseau, D. M., Hansen, S. D., & Tomprou, M. (2018). A dynamic phase model of psychological contract processes. *Journal of Organizational Behavior*, *39*(9), 1081–1098. https://doi.org/10.1002/job.2284

Ryan, R. M. (1995). Psychological needs and the facilitation of integrative processes. *Journal of Personality*, *63*(3), 397–427. https://doi.org/10.1111/j.1467-6494.1995.tb00501.x

Ryan, R. M., & Deci, E. L. (2017). *Self-determination theory: Basic psychological needs in motivation, development, and wellness*. Guilford Publications. https://doi.org/10.1521/978.14625/28806

Ryan, R. M., & Hawley, P. (2016). Naturally good? Basic psychological needs and the proximal and evolutionary bases of human benevolence. In M. Leary & K. W. Brown (Eds.), *The psychology of hypo-egoic behavior* (pp. 202–222). New York, Guilford Press.

Salas, E., Shuffler, M. L., Thayer, A. L., Bedwell, W. L., & Lazzara, E. H. (2015). Understanding and improving teamwork in organizations: A scientifically based practical guide. *Human Resource Management*, *54*(4), 599–622. https://doi.org/10.1002/hrm.21628

Sarrazin, P. G., Tessier, D. P., Pelletier, L. G., Trouilloud, D. O., & Chanal, J. P. (2006). The effects of teachers' expectations about students' motivation on teachers' autonomy-supportive and controlling behaviors. *International Journal of Sport and Exercise Psychology*, *4*(3), 283–301. https://doi.org/10.1080/1612197X.2006.9671799

Searle, J. (1990). Collective Intentions and Action. In P. R. Cohen, J. Morgan, & M. Pollack (Eds.), *Intentions in communication* (pp. 401–415). MIT Press. https://doi.org/10.7551/mitpress/3839.003.0021

Sebanz, N., Bekkering, H., & Knoblich, G. (2006). Joint action: Bodies and minds moving together. *Trends in Cognitive Sciences*, *10*, 70–76. https://doi.org/10.1016/j.tics.2005.12.009

Seers, A., Petty, M. M., & Cashman, J. F. (1995). Team-member exchange under team and traditional management: A naturally occurring quasi-experiment. *Group & Organization Management*, *20*(1), 18–38. https://doi.org/10.1177/1059601195201003

Seibert, S. E., Wang, G., & Courtright, S. H. (2011). Antecedents and consequences of psychological and team empowerment in organizations: A meta-analytic review. *Journal of Applied Psychology*, *96*(5), 981–1003. https://doi.org/10.1037/a0022676

Seligman, M. E. P. (1975). *Helplessness*. Freeman.

Shamir, B. (1990). Calculations, values, and identities: The sources of collectivistic work motivation. *Human Relations*, *43*(4), 313–332. https://doi.org/10.1177/001872679004300402

Sheldon, K. M., & Elliot, A. J. (1998). Not all personal goals are personal: Comparing autonomous and controlled reasons for goals as predictors of effort and attainment. *Personality and Social Psychology Bulletin*, *24*(5), 546–557. https://doi.org/10.1177/0146167298245010

Sheldon, K. M., Elliot, A. J., Kim, Y., & Kasser, T. (2001). What is satisfying about satisfying events? Testing 10 candidat psychological needs. *Journal of Personality and Social Psychology*, *80*(2), 325–339. https://doi.org/10.1037/0022-3514.80.2.325

Slemp, G. R., Kern, M. L., Patrick, K. J., & Ryan, R. M. (2018). Leader autonomy support in the workplace: A meta-analytic review. *Motivation and Emotion*, *42*(5), 706–724. https://doi.org/10.1007/s11031-018-9698-y

Slemp, G. R., Lee, M. A., & Mossman, L. H. (2021). Interventions to support autonomy, competence, and relatedness needs in organizations: A systematic review with recommendations for research and practice. *Journal of Occupational and Organizational Psychology*, *92*, 427–457. https://doi.org/10.1111/joop.12338

Soenens, B., Sierens, E., Vansteenkiste, M., Dochy, F., & Goossens, L. (2012). Psychologically controlling teaching: Examining outcomes, antecedents, and mediators. *Journal of Educational Psychology*, *104*(1), 108–120. https://doi.org/10.1037/a0025742

Stajkovic, A. D., & Luthans, F. (1998). Self-efficacy and work-related performance: A meta-analysis. *Psychological Bulletin*, *124*(2), 240–261. https://doi.org/10.1037/0033-2909.124.2.240

Stewart, G. L. (2006). A meta-analytic review of relationships between team design features and team performance. *Journal of Management*, *32*(1), 29–54. https://doi.org/10.1177/0149206305277792

Tajfel, H., & Turner, J. C. (1986). The social identity theory of intergroup behaviour. In S. Worchel & W. G. Austin (Eds.), *Psychology of intergroup relations* (2nd ed.) (pp. 7–24). Nelson-Hall.

Tasa, K., Taggar, S., & Seijts, G. H. (2007). The development of collective efficacy in teams: A multilevel and longitudinal perspective. *Journal of Applied Psychology*, *92*(1), 17–27. https://doi.org/10.1037/0021-9010.92.1.17

Tyran, K. L., & Gibson, C. B. (2008). Is what you see what you get? The relationship among surface- and deep-level heterogeneity characteristics, group efficacy, and team reputation. *Group and Organization Management*, *33*(1), 46–76. https://doi.org/10.1177/1059601106287111

Uitdewilligen, S., Rico, R., & Waller, M. J. (2018). Fluid and stable: Dynamics of team action patterns and adaptive outcomes. *Journal of Organizational Behavior*, *39*(9), 1113–1128. https://doi.org/10.1002/job.2267

Vallerand, R. J., & Reid, G. (1984). On the causal effects of perceived competence on intrinsic motivation: A test of cognitive evaluation theory. *Journal of Sport Psychology*, *6*(1), 94–102. https://doi.org/10.1123/jsp.6.1.94

Van den Broeck, A., Carpini, J. A., & Diefendorff, J. M. (2019). How much effort will I put into my work? It depends on your type of motivation. In R. M. Ryan (Ed.), *Oxford handbook of human motivation* (2nd ed.). John Wiley & Sons.

Van den Broeck, A., Ferris, L. D., Chang, C.-H., & Rosen, C. C. (2016). A review of self-determination theory's basic psychological needs at work. *Journal of Management*, *42*(5), 1195–1229. https://doi.org/10.1177/0149206316632058

Van den Broeck, A., Howard, J., Van Vaerenbergh, Y., Leroy, H., & Gagné, M. (2021). *Beyond intrinsic and extrinsic motivation: A meta-analysis on self-determination theory's multidimensional conceptualization of work motivation* (Vol. 11) (pp. 240–273). Accepted for publication. https://doi.org/10.1177/20413866211006173

Vroom, V. H. (1964). *Work and motivation*. Wiley.

Waller, M. J., Okhuysen, G. A., & Saghafian, M. (2016). Conceptualizing emergent states: A strategy to advance the study of group dynamics. *Academy of Management Annals*, *10*(1), 561–598. https://doi.org/10.1080/19416520.2016.1120958

Wang, X.-H., Kim, T.-Y., & Lee, D.-R. (2016). Cognitive diversity and team creativity: Effects of team intrinsic motivation and transformational leadership. *Journal of Business Research*, *69*, 3231–3239. https://doi.org/10.1016/j.jbusres.2016.02.026

Wasserman, S., & Faust, K. (1994). *Social network analysis: Methods and applications*. Cambridge University Press. https://doi.org/10.1017/CBO9780511815478

Weingart, L. R., Behfar, K. J., Bendersky, C., Todorova, G., & Jehn, K. A. (2015). The directness and oppositional intensity of conflict expression. *Academy of Management Review*, *40*(2), 235–262. https://doi.org/10.5465/amr.2013.0124

White, R. W. (1959). Motivation reconsidered: The concept of competence. *Psychological Review*, *66*(5), 297–333. https://doi.org/10.1037/h0040934

Wild, T. C., & Enzle, M. E. (2002). Social contagion of motivation orientations. In E. L. Deci & R. M. Ryan (Eds.), *Handbook of self-determination theory research* (pp. 141–157). University of Rochester Press.

Witherington, D. C. (2007). The dynamic systems approach as metatheory for developmental psychology. *Human Development*, *50*, 127–153. https://doi.org/10.1159/000100943

Woolley, K., & Fishbach, A. (2015). The experience matters more than you think: People value intrinsic incentives more inside than outside an activity. *Journal of Personality and Social Psychology*, *109*(6), 968–982. https://doi.org/10.1037/pspa0000035

Zuckerman, M., Porac, J., Lathin, D., Smith, R., & Deci, E. L. (1978). On the importance of self-determination for intrinsically-motivated behavior. *Personality and Social Psychology Bulletin*, *4*(3), 443–446. https://doi.org/10.1177/014616727800400317

How to cite this article: Grenier, S., Gagné, M., & O'Neill, T. (2024). Self-determination theory and its implications for team motivation. *Applied Psychology*, *73*(4), 1833–1865. https://doi.org/10.1111/apps.12526