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Transactive Goal Dynamics Theory: A relational goals perspective on work teams and leadership



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ABSTRACT

Transactive Goal Dynamics (TGD) Theory is a multi-level, relational theory of goal pursuit that can be used to understand behavior within organizational teams. The theory describes the nature of goal-related interdependence (called transactive density) within dyads and groups, and predicts when transactive density will have positive versus negative consequences for goal-related outcomes. TGD Theory states that within many close dyads and teams, individuals' goals, pursuits, and outcomes come to affect each other in a dense network of goal-related interdependence, with the individuals possessing and pursuing goals oriented toward themselves, other members of the system, and the system as a whole. This article discusses novel implications of the theory for the understanding of organizational teams and team leadership, and constraints on relational dynamics within organizational contexts.

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Interpersonal relationships are fundamental to the functioning of organizations (Blatt, 2009; Lewin, 1947; Porter, 1996; Turner & Lawrence, 1965), driving many of the core processes in organizations, from communication to leadership to culture. Accordingly, relational processes have received a great deal of theoretical and empirical attention in many domains of organizational behavior. However, calls for more theorizing and research on the role of relationships in motivation and performance (Liden, Wayne, & Sparrowe, 2000; Uhl-Bien, Graen, & Scandura, 2000) have gone largely unheeded. The vast majority of research on goal pursuit in organizations has focused on the individual level (Locke & Latham, 1990, 2002), and the remainder has explored the team (Kleingeld, van Mierlo, & Arends, 2011; Martocchio & Frink, 1994) and organizational levels (Cyert & March, 1963; Ethiraj & Leventhal, 2009; Lant. 1992: March & Simon. 1958: Sitkin. See. Miller. Lawless, & Carton, 2011). Recent multi-level models of goal pursuit and motivation that examine team, individual, and organization levels have generated important new insights and pointed to the utility of a multilevel perspective (Chen, Kanfer, DeShon, Mathieu, & Kozlowski, 2009; Crown and Rosse, 1995). And yet, as trends have come and gone in the decades-long study of motivation and goal pursuit in psychology and in organizational behavior, one constant has been the absence of a focus on relationships or the relational level of analysis.

To be sure, the empirical literature is rife with examples of relational findings on work motivation and performance (e.g., Mawritz, Folger, & Latham, 2014; Sue-Chan, Wood, & Latham, 2012), especially in the contexts of leadership (e.g., Bass, 1985; Druskat & Kayes, 2000; Jacobs & Singell, 1993; Latham & Marshall, 1982; Morgeson, Lindoerfer, & Loring, 2010) and mentoring (e.g., Eby, Allen, Evans, Ng, & DuBois, 2008; Orpen, 1997; Underhill, 2006). However, these findings have not led to a broader integration of the study of work relationships into the study of work motivation and goal pursuit. Instead, the work motivation literature remains largely unaffected by these diverse and interesting phenomena. For example, recent volumes overviewing the field of work motivation (e.g., Kanfer, Chen, & Pritchard, 2012; Latham, 2012), have showcased a great diversity of topics, reflecting the vibrancy of the research in this field, but there were no relational theories presented.

Does the field's inattention to the relational level reflect the minimal role of relationships in organizational life, or is there useful knowledge to be gained about work motivation from studying relationships (Blatt, 2009)? In this article, we will argue for the latter, illustrating what can be gained by presenting a multi-level, relational, perspective on motivation and performance in organizations. A recent psychological theory of goal pursuit, *Transactive Goal Dynamics (TGD) Theory* (Fitzsimons, Finkel, & vanDellen, 2015), focuses on how relationships between individuals and within dyads or teams affect goal setting, pursuit, and achievement. The first papers describing TGD Theory (Finkel, Fitzsimons, & vanDellen, 2016; Fitzsimons & Finkel, 2015; Fitzsimons et al., 2015) primarily focused on personal dyadic relationships, and here, we turn to use the theory to provide a novel perspective on goal pursuit within the unique context of work teams and their leaders.

But first, a note about terminology: We will define the theory's novel terms as they arise throughout the article, but here we comment on our use of terms related to teams, goals, and self-regulation. Regarding teams, we adopt the definition presented in Kozlowski and Bell (2013). A work team refers to two or more individuals embedded in an organizational context, who interact with each other and perform tasks relevant to the organization, who share some task interdependence and at least one common goal, and for whom there are some boundaries delineating who is in versus not in the team.

Regarding goals and self-regulation, TGD theory relies on basic definitions from the psychological literature (e.g., Austin & Vancouver, 1996; Bargh & Gollwitzer, 1994; Carver & Scheier, 2001; Gollwitzer, 1990; Higgins, 1987; Kruglanski et al., 2002; Locke & Latham, 1990). In line with that body of research, a goal is the mental representation of a desired end-state, and goal pursuit is the effort invested (whether behavioral or cognitive, and whether consciously guided or not) towards the advancement of some desired end-state. For example, in the team context, both taskwork and teamwork in organizational life (Marks, Mathieu, & Zaccaro, 2001) could be conceptualized as goal pursuit in TGD Theory, when people engage in those actions as ways to further a goal. A goal outcome is a comparison between current and desired end-states (Carver & Scheier, 1998). It refers not only to the end-result of goal pursuit, when the goal is completely finished and the pursuer has failed or succeeded, but also to ongoing progress towards that goal.

The theory's name includes the term "transactive" in homage to research on transactive memory processes (Austin, 2003; Hollingshead, 1998; Liang, Moreland, & Argote, 1995; Wegner, 1987), which served as a major source of inspiration for the theory. TGD Theory has

adapted several ideas from transactive memory research, such as the notions that individuals share mental resources and can form one system (a knowledge system, in the case of transactive memory; a self-regulation system, in the case of transactive goal dynamics). Because of substantial differences between memory processes and self-regulatory processes, TGD Theory departs in important ways from existing theories of transactive memory, but the ideas owe much to that pioneering literature, as well as theory on other forms of shared cognition (Cannon-Bowers, Salas, & Converse, 1990; DeChurch & Mesmer-Magnus, 2010; Klimoski & Mohammed, 1994; Levine, Thompson, & Messick, 2013) and coordination in organizational systems (Okhuysen & Bechky, 2009).

In broad terms, TGD Theory situates the individuals' goals, pursuits, and outcomes within their relationships with other people, such as their employees, coworkers, family members, and romantic partners. The theory explores how members of relationships coordinate their action to accomplish their own individual goals as well as the goals they share. It emphasizes the idea that goal pursuers are not independent, but are instead embedded in relational ties with others. Indeed, TGD theory depicts members of relationships as exerting such great influence on each other's goals, pursuits, and outcomes that they are best conceptualized as interdependent sub-parts of one self-regulating system, a transactive goal system, in which members possess and pursue goals oriented toward the self, the partner, and the system, and the dynamics of those goal pursuits are highly interdependent. As illustrated in Fig. 1, the tenets of the model describe the nature of interdependence of goals within those systems and predict (a) the antecedents of that interdependence, (b) the conditions under which that interdependence has positive versus negative consequences for goal outcomes, and (c) the effects of these dynamics on interpersonal outcomes. In the next section, we discuss each of the theory's six tenets and explore their connection to team dynamics. In the following section, we use TGD theory to generate ideas for how leadership can best elicit effective goal coordination in teams.

1. Transactive goal dynamics in teams

While decades of research have uncovered a great deal about individual and collective goal pursuit, our field's knowledge of the more complex dynamics of goal pursuit within teams is more limited. As recent reviews of the teams literature have pointed out, multi-level team research has tended to focus on effects at the individual and team level, with less attention to cross-level and other kinds of patterned relationships (Crawford & LePine, 2013; Humphrey & Aime, 2014; Kozlowski & Bell, 2013; Tannenbaum, Mathieu, Salas, & Cohen, 2012).

Of research that has examined the interplay between the individual and team levels, theories have compared motivational processes at the team level with those at the individual level, in terms of both goal setting (Crown & Rosse, 1995; Mitchell & Silver, 1990) and goal pursuit (DeShon, Kozlowski, Schmidt, Milner, & Wiechmann, 2004). This work has often aimed to identify homologous

processes across those levels (cf. Chen et al., 2009; also see Chen & Kanfer, 2006). As noted by Kozlowski and Bell (2013), the focus on parallels between the individual and the group level has "created a gap in understanding the cross-level interplay between individual and team regulation" (p. 65).

TGD theory is a multi-level model of goal systems, including cross-level linkages among individual, relational, and team-level goal processes. As such, it contributes to these emerging multilevel explorations of goals in teams by emphasizing the often-missing relational level—that is, how the goal pursuits of individuals within a team affect each other.

1.1. Tenet 1: the structure of transactive goals within teams

Tenet 1 of TGD Theory depicts transactive goal systems, or the systems of goals, pursuits, and outcomes, within relationships with others. In line with goal theory (Ethiraj & Levinthal, 2009; Kruglanski et al., 2002; Louro, Pieters, & Zeelenberg, 2007; Unsworth, Yeo, & Beck, 2014), TGD Theory assumes that individuals hold and pursue multiple goals at any given time. Indeed, in an open-ended study of goals among employees, Roberson (1989) found that employees listed 32 work goals on average, which highlights the complexity of most individuals' goal systems. Thus, treating team members like they have an individual goal and a team goal, at most, will miss the complexity of most everyday goal pursuit.

Although of course individuals set and pursue goals independently of others, TGD Theory builds on prior theories of relational selves (Aron, Aron, & Smollan, 1992; Baldwin, 1992; Andersen & Chen, 2002; Cross, Bacon, & Morris, 2000) to state that the extent and complexity of interdependence among the partners' goals, pursuits, and outcomes, can be great enough to merit consideration of the social unit (relationship or team) as its own goal system. This notion aligns with extensive theorizing in team dynamics, that treats teams as goal-pursuing units (e.g., Kleingeld et al., 2011), but differs in its focus on the relational goal dynamics among team members, rather than the collective action of the team as a unit. Within a TGD system, the members' multiple goals, pursuits and outcomes continuously affect and inform each other, creating a dynamic system of mutual influence that draws on shared resources. Essentially, TGD systems encompass one shared pool of goal-relevant resources and one shared system of complex, mutually connected, goals and pursuits.

Using the relationship as the unit or system, then, the theory describes any given goal pursuit by a 3-way structural framework, denoting (a) who holds the goal, (b) who pursues the goal, and (c) whose outcome is the target of the goal. In a team context, TGD theory's 3-way goal structure rapidly becomes complex. Consider Linda, the manager of a project team consisting of herself, Sophia, Juan, and Keisha. From the perspective of any member of this team, a given goal can be: (1) held by the self, a different team member, a subset of team members, or the whole team; (2) pursued by the self, a different team member, a subset of team members, the whole team, or no

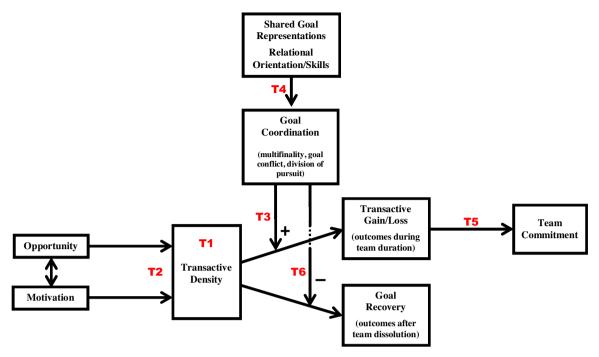


Fig. 1. An overview of Transactive Goal Dynamics Theory. The Tenet 1 (T1) box represents the structure of transactive density. Tenet 2 (T2) indicates that opportunity and motivation are the key antecedents of transactive density. Tenet 3 (T3) indicates that goal coordination moderates the effect of transactive density on transactive gain/loss (goal outcomes during the team's work together). Tenet 4 (T4) indicates that shared goal representations and relationship orientation/skills are the key antecedents of goal coordination. Tenet 5 (T5) indicates that transactive gain/loss predicts relationship persistence. Tenet 6 (T6) indicates that goal coordination moderates the effect of transactive density on goal recovery (goal outcomes after the team dissolves). Figure adapted from Fitzsimons et al. (2015), *Psychological Review*, with permission of the American Psychological Association.

team members at all, and (3) targeted toward the self, a different team member, a subset of team members, or the whole team. Below, we describe the different types of transactive goals and pursuits that result from this three dimensional structure in a team context.

1.1.1. One member's goals

Each member of a given team can possess goals for herself, for a specific teammate, for a subset of teammates (either including or excluding themselves), and for the team as a whole, and those goals can relate to intra-team outcomes or extra-team outcomes. Starting at the individual level, Sophia likely possesses goals for herself. In a team context, self-oriented goals can reflect the outcomes the individual hopes to achieve in service of the team as well as outcomes unrelated to the team. For example, she wants to finish a marketing analysis the team will need by the end of the month, and also wants to earn the approval of her functional supervisor (who is not on the team). She can pursue these goals on her own, of course, as studied in most research on goal pursuit (e.g., Earley, Northcraft, Lee, & Lituchy, 1990; Locke & Latham, 1990), but others can also pursue this goal; even self-oriented goals can be pursued by other members of the team. Sophia's teammates may help with the analysis, or even substitute for her action, and they may say good things about Sophia to her functional supervisor.

Moving to the relational level, Sophia may also possess goals for one or more other members of the team. Sophia may possess a goal for one specific teammate, like her teammate-oriented goal for Juan to improve his understanding of the budget report from finance, or she may have a goal for more than one of her teammates, like her subteam-oriented goal for Keisha and Juan to cooperate better. Sophia may also have subteam-oriented goals that involve her, such as a goal she has for both herself and Keisha to be moved to a new team when this project is completed. Finally, at the system level, Sophia may possess team-oriented goals. For example, she may possess a goal for the whole team to finish the marketing report by the end of the month. Again, she or any other member(s) of the team could pursue this goal.

Of course, just because a team member possesses a given goal does not mean that anyone will pursue it. Some goals may be long held and never pursued. If Sophia wishes that Linda were a stronger leader, there may be little that she can do to advance that goal, but she may find it frustrating that Linda does not achieve Sophia's desired level of leadership. Unpursued goals are problematic in individual contexts, leading to rumination and negative emotional reactions (Higgins, 1987), but may be even more likely to create problems in interpersonal settings like teams, where negative attributions, blame, and conflict can result.

1.1.2. Parallel goals

So far, we have focused on the goals possessed by Sophia. Within the team, multiple individuals can possess the same goal. When goals match in content, reflecting the same desired end-state of the goal, but are oriented toward different members of the team, TGD theory describes the goals as operating in parallel within the system. For example, like Sophia, Keisha may also possess the goal to gain expertise in a new programming language, but she may hold that goal for herself, while Sophia holds it for herself. In TGD terminology, Keisha's and Sophia's goals are parallel self-oriented goals. The two goals are operating in parallel within the team, with the same goal being aimed at different targets.

Team members may also have parallel teammateoriented goals, when team members hold the same goal content, but apply it to a different teammate. For example, Juan may want Sophia to learn the programming language, whereas Linda wants Keisha to learn the language. Parallel subteam-oriented goals are goals held by team members that reflect the same goal content but apply it to a different subset of the team. For example, Sophia may want Keisha and Juan to cooperate more on the project, while Juan may want Keisha and Linda to cooperate more. Finally, an interesting phenomenon that arises from the exploration of the TGD model in the team context is the possibility for parallel cross-level goals. For example, Keisha may want Juan and Sophia to improve their writing skills, while Linda wants the whole team to do so, and Sophia thinks the only one who really needs to do so is Juan. In such cases, all team members agree on the value of the goal, but they disagree about whose outcomes are the ones that should change.

With parallel goals, like goals held by only one team member, pursuit is again not dictated by who possesses the goal. Team members can help each other, can substitute for each other, can pressure each other, etc., or the goal can go unpursued. Linda can talk to Juan about cooperating more with Keisha; Keisha can reach out to Juan to try to engage in joint action towards increased cooperation. The important point here is simply that once individuals are members of a highly interdependent system, like a team, they do not need to personally possess the goals to pursue the goals, because they have higher-level goals (e.g., to be a good team member) that drive that type of partner-oriented action.

The consequences of parallel goal content in interpersonal contexts have not been widely studied, but we speculate that doing so may be fruitful. First, parallel goals could produce conflict, if the content of the goals is mutually exclusive, as when Sophia and Keisha each want to learn the programming language, but only one member of the team can attend the relevant workshop (Deutsch, 1949). Second, parallel goals may cause redundancy of effort, if both Sophia and Keisha pursue a goal that only one needs to achieve for the team to thrive. Third, they may cause confused and misdirected effort, if Linda tries to send the whole team to writing workshops while some of the team wants only a subset to achieve that goal. Fourth, they may lead to direct efforts to sabotage each other's goals, as when Sophia tries to undermine Keisha's attempts to learn the programming language, or Juan refuses to attend the writing workshop (We discuss goal conflict in more detail in Section 1.3.2).

Of course, there are also cases in which parallel goals may be desirable for teams. For example, in some cases of pooled interdependence, members have parallel self-oriented goals by design (e.g., members each have a goal to produce 100 widgets themselves to pool toward the team's combined output; Thompson, 1967). The nature of interdependence inherent in a team dictates the extent to which different types of goal interdependencies are likely to arise and, subsequently, how their existence affects goal outcomes. We discuss these ideas in more detail in the section on goal coordination in teams.

1.1.3. Shared goals

In contrast to parallel goals, shared goals match not only in terms of content, but also in terms of target-that is, more than one team member possesses a goal for the same team member(s). At the relational level, if Sophia and Keisha both want Juan to improve his writing, or both want Linda to become a stronger leader, they have a shared target-oriented goal. At the system level, if both Sophia and Keisha want the team to finish a report by the end of the month, then they have a shared team-oriented goal or what is commonly called a joint goal or a team goal if held by all members (Kozlowski & Bell, 2013). However, like all goals in a TGD system, shared goals can be pursued by any combination of team members or by no one at all. For example, Sophia could pursue her and Keisha's goal of Juan improving his writing by offering copyediting assistance, Juan could work on the goal by consulting self-help books on writing (even if he personally thinks his writing is fine), or no one could work on the goal, leaving Sophia and Keisha to feel frustrated.

Given that shared team-level goals are important drivers of many team dynamics (Weingart, 1992), we suggest there is value in exploring other kinds of shared goal constructs within the team, to determine if they have similar influence. While previous research on team goal pursuit has acknowledged that members may not always agree about the team's goals or about how each member should contribute to the team's task, it has neglected forms of parallel or shared goals beyond the one case of joint goals (i.e., shared team-oriented goals), as well as largely neglecting the relational goal level in its entirety (cf. Kristof-Brown & Stevens, 2001). That neglected relational level is central to TGD theory, which highlights the importance of shared target-oriented goals and their consequences for goal coordination, as we will discuss in Section 1.4.1.

1.2. Tenet 2: the development of transactive density in teams

Tenet 2 explores the development of interdependence within transactive goal systems. Before we outline the predictions of Tenet 2, we first define and explore the theory's definition of interdependence, and compare that with popular theories of team interdependence.

Relational influences on members' goal pursuits determine the system's *transactive density*—the extent to which the teammates' goals, pursuits, and outcomes affect each

other, or the interdependence of goal dynamics within the system. As illustrated in Fig. 2, and as with other forms of interdependence, teams vary in transactive density. A given team has more transactive density if the members have (a) a greater number of links among their goals. pursuits, and outcomes, and (b) stronger links among their goals, pursuits, and outcomes. For example, members of highly dense teams possess a higher proportion of goals for the other members (e.g., "I wish Juan would improve his writing") and pursue a higher proportion of goals in which the other members are the end-state (e.g., Sophia spends a few hours with Keisha helping her hone a presentation, because Keisha really wants to impress the client or because both really want to close the deal). Thus, transactive density is a construct that captures the extent to which team members' multiple goals and pursuits are relatively self-oriented, pursued individually, and free of influence from each other, versus the extent to which team members' multiple goals and pursuits are relatively teammate-oriented and team-oriented, pursued by multiple team members, and heavy with influence from each

TGD theory's focus on interdependence as the core of the theory means that it owes a great deal to existing interdependence theories, both classic (Kelley & Thibaut, 1978) and more contemporary (Hackman, 1990; Wageman, 1995; Wageman & Gordon, 2005). Task interdependence, at the individual level, represents the extent to which an individual's goal performance relies on other team members' effort and skills (Hackman, 1990; Kiggundu, 1981; Pearce & Gregersen, 1991; Van der Vegt,

Emans, & Van de Vliert, 1998). At the team level, task interdependence represents the extent to which the task requires all members to rely on one another in the pursuit of either each member's self-oriented goals or the team's shared team-oriented goals (Bartel & Saavedra, 2000; Gully, Devine, & Whitney, 1995; Somech, Desivilya, & Lidogoster, 2009; Wageman & Gordon, 2005). Outcome interdependence, another commonly studied form of interdependence, concerns the extent to which an individual's reward for performance depends on the performance of others (Wageman, 1995).

Building on these theories, transactive density represents the extent to which the pursuits and outcomes of *all goals in the TGD system* are connected, taking into account the relationships among all goals in the system, and other kinds of interpersonal phenomena that affect any given goal. For example, transactive density includes: cognitively possessing goals for other people (Sophia wishes Linda was a stronger leader), behaviorally pursuing goals oriented toward other people (Sophia helps Linda work on her leadership skills), and incidental influence among goals, pursuits, and goal outcomes. In essence, transactive density is a measure of the extent to which goals, pursuits, and outcomes are interconnected in a team.

Although transactive density is about the interdependence of goal dynamics, we do not use the term *goal interdependence* because it has been used by researchers to mean the relation between an individual and team goal (Brown and Abrams, 1986; Johnson, Johnson, & Stanne, 1989; Tjosvold, Andrews, & Struthers, 1992; Tjosvold, Tang, & West, 2004). Transactive density is a broader

Low Transactive Density

Goals Pursuits A Comparison of the comparison

High Transactive Density

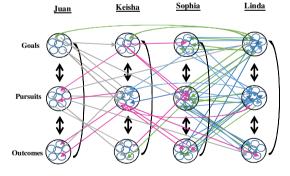


Fig. 2. An abstract depiction of transactive density in teams. Sophia, Linda, Keisha, and Juan are members of a work team. The top circle reflects each member's goals (with each internal circle a hypothetical goal), the middle row of circles reflects each member's pursuits (with each internal circle a hypothetical pursuit), and the bottom row of circles reflects each member's outcomes (with each internal circle a hypothetical outcome). Grey lines reflect causal effects from Juan's goals, pursuits, or outcomes, to those of other members of the team. Pink lines reflect causal effects from Keisha's goals, pursuits, or outcomes, to those of other members of the team. Blue lines reflect causal effects from Sophia's goals, pursuits, or outcomes, to those of other members of the team. Thicker lines reflect causal effects from Linda's goals, pursuits, or outcomes, to those of other members of the team. Thicker lines reflect a stronger causal effect than thinner lines. For example, the thin grey line point from Juan's pursuit to Keisha's pursuit reflects a causal influence on Juan's pursuit on Keisha's goal to Sophia's pursuit, as when Juan's pursuit makes it harder or easier for Keisha to pursue her goal. The thicker pink line from Keisha's goal to Sophia's pursuit reflects a causal influence of Keisha's goal on Sophia's pursuit, as when Keisha wants to get the report done early and Sophia works faster. The thin green line from Linda's pursuit to Sophia's outcomes reflects a causal influence of Linda's pursuit on Sophia's outcomes, as when Sophia's completion of a task requires Linda's input. The team on the left has lower transactive density than the one on the right, as reflected by the relatively fewer and weaker links among goals, pursuits, and outcomes across team members. The team on the right has extensive incidental interdependence exists in this team, as reflected by the large number of links among their goals, pursuits, and outcomes. In both teams, there is greater relational interdependence between Sophia

psychological construct that includes both cognitively possessing goals for other people, behaviorally pursuing goals for other people, and the kind of behavioral influence processes captured by theories of task interdependence. Simply, transactive density reflects the density of the network of interconnected goals and pursuits within a relational system.

According to Tenet 2, the primary predictors of the development of this kind of density are (a) relational motivation and (b) opportunity. TGD system members vary in how much they are motivated to achieve interdependence of goals. The desire to involve oneself in others' goals and accept their involvement in one's own goals may be a chronic social preference or value held by team members, or may emerge from other social dynamics in the team, like team commitment and cohesion (Deutsch, 1949; Wageman & Gordon, 2005; Caruso & Woolley, 2008). If Sophia is committed to her team, she will be more motivated to help others, will care more about how others do on their goals, etc., and will be likelier to set goals for others and be affected by others' goals for her.

TGD systems also vary in terms of opportunity for interdependence of goal pursuits—those contextual factors that enable or disrupt the possibility for team members to affect each other's goals. Within organizations, there are rules, structures, and norms at play that shape the density of TGD systems (Miller & Hamblin, 1963; Wageman & Baker, 1997; Wageman & Gordon, 2005). For example, when team members spend time physically together, they make numerous small adjustments to their goal pursuits offering advice, engaging in monitoring and backup behaviors, sharing information and resources, changing the sequence or the intensity of goal pursuits to accommodate the other, etc. These minor adjustments accumulate, leading individuals in close proximity (vs. those who work virtually or in isolated office environments) to create more and more complex links among their pursuits.

In addition to these incidental adaptations, frequent and long-term interactions also allow for more observation and learning about each other's preferences and goal pursuits, which can encourage the development of joint goals and shared goal pursuits. If Juan shares that his long-term goal is to take on more technical roles in their team projects, Sophia has the opportunity to engage in partner-oriented goal pursuit by suggesting to Linda that Juan help her with the technical work in their next project.

Finally, motivation and opportunity for density likely influence each other. In line with this thinking, research has shown that when structural interdependence (a combination of task and reward interdependence mandated by the structure of the task and organizational incentives) is high, team members tend to engage in more interdependent goal pursuit, helping each other, sharing information, and turning individual goals into joint pursuits (Johnson et al., 1989; Wageman, 1995; Wageman & Baker, 1997). When the organizational incentives are in place, Sophia is likelier to feel motivated to consider her teammates' goals and what she can do to facilitate them. Furthermore, when the team is composed of individuals who value interdependence in their goal pursuits, they are likelier to push for team-based

incentives and to be more productive when they are in place (Wageman & Gordon, 2005).

1.3. Tenet 3: the role of goal coordination in predicting goal outcomes in teams

When we discuss goal outcomes in the context of TGD Theory, we use the term *transactive gain/loss*, to refer to the process gain or process loss (Steiner, 1972) that emerges when goal pursuits in the team goal system become interdependent. Transactive gain occurs when the team members produce better goal outcomes together than they would (a) if they were members of alternative TGD systems, or (b) if they were in no TGD system. Inspired by classic economic theory (Becker & Murphy, 1994; Smith, 1887) and organizational research on team performance (Appelbaum & Batt, 1993; Edmondson & Nembhard, 2009; Guzzo & Dickson, 1996; Hamilton, Nickerson, & Owan, 2003; McDonough, 2000), we suggest that members of a TGD system have the potential to be more successful as one self-regulating system than they would as independent individual self-regulating systems. Essentially, we suggest that the synergies that arise from the integration of partners' goals and pursuits, when coordinated well, can yield emergent states (Marks et al., 2001) of transactive gain—levels of success that would not be achievable if the team members had instead been independent or members of other teams. Of course, involvement in a relationship does not uniformly increase overall goal success. In some cases, it does the opposite, yielding transactive loss, a lower level of overall goal success than the teammates would have experienced as independent agents.

Transactive gain and loss are modified versions of process gain and loss (Faber, Häusser, & Kerr, 2015; Steiner, 1972), with an emphasis on the goal dynamics within the system, the addition of a comparison to alternative relationships in addition to a comparison to independence, and the application across all goals pursued in the TGD system, rather than just one specific team task. That is, while Steiner (1972) focused on the gains and losses in productivity with regard to a team task, TGD Theory broadly includes all goals possessed or pursued by any member of the system, whether they be targeted at the self, other members of the system, or the system as a whole, and whether they are currently being pursued or are just held in the minds of the system members as goals they want to achieve (It is perhaps worth noting here that comparing alternative relationships presents considerable empirical challenges; see Section 4).

What predicts when teams will achieve transactive loss versus gain? Broadly, we suggest that goal outcomes depend on the efficiency of the system's use of the pooled goal-relevant resources made available by interdependence. In other words, transactive losses and gains emerge from the combination of transactive density, which creates a shared pool of goal-relevant resources from which system members can draw, and *goal coordination*, a set of behavioral mechanisms that enable partners to efficiently translate those resources into goal progress.

Tenet 3's exploration of goal coordination builds on organizational research, which has investigated how

people coordinate their interdependent tasks to accomplish individual and shared objectives (for an integrative review, see Okhuysen & Bechky, 2009). A key finding is that, as interdependence increases, coordination becomes more critical to avoid process loss (Steiner, 1972; Thompson, 1967; Van De Ven, Delbecq, & Koenig, 1976). TGD theory similarly suggests that high transactive density increases the pool of resources available to team members, but members can only benefit if they can efficiently translate those resources into goal progress through goal coordination, and can suffer if they are inefficient and obstructive in their coordination. In line with the finding that teamwork processes do not predict performance when task interdependence is low (LePine, Piccolo, Jackson, Mathieu, & Saul, 2008), TGD theory predicts that goal coordination will not predict goal outcomes when transactive density is low, because low density makes goal coordination largely irrelevant.

Because of TGD theory's goal focus, it departs from prior research in its conceptualization of the relevant mechanisms of coordination. Whereas the coordination mechanisms that moderate the relationship between task interdependence and performance are enabled by accountability, predictability, and common understanding (Okhuysen & Bechky, 2009), the goal coordination mechanisms that moderate the relationship between transactive density and goal outcomes in a TGD system include interpersonal multifinality, goal facilitation/conflict, and division of pursuit (Fitzsimons et al., 2015).

1.3.1. Interpersonal multifinality

The advancement of multiple team members' goals through one team member's actions, or interpersonal multifinality, increases potential for gains by increasing achievement across multiple goals for each unit of resource investment. For example, imagine that Keisha wants to network with higher level executives to become a more visible employee, and Linda wants her team to get information about the sales group's new leadership team. If Keisha attends a networking event, she can choose whether to chat with the head of sales or the head of engineering. If she chats with the head of sales, that action will simultaneously advance her goal to network and Linda's goal for the team to learn about the sales group; it is thus multifinal action. If instead, she chats with the head of engineering, that action will advance her goal to network, but will do nothing for Linda's goal for the team to learn about the sales group, and is thus unifinal action. If we conceptualize the team as one self-regulating system, the team draws more efficiently from shared resources if Keisha engages in the multifinal action, as it saves Linda from asking Sophia to chat up her friend in sales to get that information later.

Interpersonal multifinality builds on prior work in which the individual advances more than one of his/her own goals (Köpetz, Faber, Fishbach, & Kruglanski, 2011), as when Sophia's pursuit of her goal for the team to succeed also advances her own goal to earn a raise (Crown, 2007; DeShon et al., 2004; Mitchell & Silver, 1990). What distinguishes traditional forms of multifinality from TGD theory's construct of "interpersonal multifinality" is that

the latter moves beyond the individual's own goals to look at goals of others in the system. With interpersonal multifinality, one action satisfies multiple team members' goals.

This construct builds on prior work on the alignment of an individual's goal for herself and goal for the team (Crown, 2007; DeShon et al., 2004; Mitchell & Silver, 1990) to identify additional opportunity for goal coordination, and thus, more efficient achievement of goal outcomes. As transactive density increases in a team's TGD system, TGD theory predicts that there will be more opportunities for interpersonal multifinality to occur. If Sophia's goal pursuits are largely independent of Juan's and Linda's, she will be unlikely to have the opportunity to engage in action that advances multiple team members' goals. In building a strong network of interconnected goals within a team, team members also build the opportunity to engage in this form of highly efficient goal pursuit, which allows team members to accomplish more while utilizing the same amount of goal-relevant resources. However, again, density is no guarantee that team members will coordinate their goals well, and with increased transactive density. teams may well fail to move from unifinal to multifinal action.

1.3.2. Transactive goal conflict/facilitation

According to TGD theory, a second mechanism of goal coordination in teams is *transactive goal conflict/facilitation*. Whereas interpersonal multifinality refers to the advancement of multiple goals with a single action, transactive goal conflict and facilitation occur as the result of the mutual effects of two actions (Fitzsimons et al., 2015). Transactive goal conflict occurs when one member's pursuits impede another member's pursuits, while goal facilitation occurs when one member's pursuits facilitate another member's pursuits. Goal conflict can occur directly, as when the noise created by Sophia's phone call interrupts Juan's focus, and indirectly, as when Sophia forces the team to spend additional hours on a project, which conflicts with Linda's goal for them to punctually finish another project.

Transactive goal conflict hurts a team's ability to draw efficiently on their shared goal-relevant resources. If Juan cannot focus, he wastes time and energy on his task, and the team as a unit has thus wasted resources. In contrast, transactive goal facilitation helps a team to make better goal progress with less waste and inefficiency. If Linda actually wanted the team to delay finishing another project because she was hoping for some new information she had requested to come in, then Sophia's insistence on the team doing other work would actually facilitate Linda's goal. When team members hold goals that seamlessly fit together, and even assist each other's accomplishment, they can achieve better outcomes with less effort. When team members hold goals that obstruct each other's accomplishment, the team needs to put in more effort to achieve good outcomes. In this way, transactive goal conflict and facilitation reflect whether teams are actually able to benefit from interdependence. If a team is rife with goal conflicts, they would likely fare better with less interdependence.

The constructs of transactive goal conflict and facilitation relate to prior research on conflict in teams. For example, consider the constructs of task conflict, which deals with "differences in viewpoints and opinions pertaining to a group task," and process conflict, which deals with "an awareness of controversies about aspects of how task accomplishment will proceed" (Jehn & Mannix, 2001). Although these constructs are not directly about goals, they may be related to conflicting and facilitative goal relationships within the team. For example, if Sophia wants to impress the boss while Juan does not, they will likely disagree about how much effort the team should put into their task.

1.3.3. Division of goal pursuit

The third mechanism of goal coordination outlined by TGD theory is the division of goal pursuits within the team. In a team with efficient goal coordination, members specialize their pursuits by capitalizing on members' unique goal-relevant skills and interests, rather than dividing by roles or by who possesses the goal. Effective specialization allows teams to utilize their shared resources (e.g., time and energy) to push their goal accomplishments further, by ensuring that the team member assigned to a certain pursuit is the most efficient team member for that role. For example, imagine that Keisha and Sophia find it easy to network with executives, while Juan and Linda find it tiring and awkward. When it comes to a newly announced networking lunch series, the team could alternate who has to go, they could all go, or they could specialize, assigning Keisha and Sophia this after-hours task, and finding another after-hours task for Juan and Linda to do. Given the team members' respective strengths and weaknesses, it will typically be most beneficial for the team to divide the labor on this pursuit. Rather than have Juan or Linda expend a lot of effort just to do the job awkwardly and then be too drained to work effectively in the afternoons, Keisha and Sophia should alternate, and then get a break later in the day to pursue other goals they value.

The benefits of this third mechanism of goal coordination have been demonstrated by a large literature on transactive memory processes, through which members possess both specialized expertise and an awareness of who knows what, in order to be able to retrieve specialized knowledge from others (Austin, 2003; Lewis, 2003; Moreland, Argote, & Krishnan, 1996; Wegner, 1987). Although knowledge and information are separable constructs from goal pursuits, they may be an example of a specific type of pursuit, assuming that knowledge acquisition and access serve goals held by team members. It is clear that knowledge specialization allows team members to work more efficiently, and avoid redundancy of effort invested into gaining redundant information.

Thus, according to TGD theory, these three mechanisms of goal coordination allow team members to draw efficiently on the shared resources built by creating interconnectedness among goals, pursuits, and outcomes. By drawing efficiently on these resources, team members can achieve better goal outcomes with the same

investment of effort. Tenet 4 discusses the antecedents of goal coordination, proposing that to the extent that TGD system members (a) possess positive relational orientations and skills, and (b) share goal representations, their goal outcomes will improve as goal density increases.

1.4. Tenet 4: antecedents of goal coordination in teams

The next question considered by the theory is what team characteristics predict the emergence of effective goal coordination in teams. Although there are undoubtedly many complex team compositional and compilational processes worthy of exploration, the theory emphasizes two main sets of predictors.

1.4.1. Relationship orientation

First, one predictor of goal coordination is the partners' relationship orientations: when system members have positive relational skills and orientations, they are more likely to engage in more effective goal coordination (Hofmann, Finkel, & Fitzsimons, 2015). Relationship orientations can reflect chronic individual differences. such as prosocial or collective tendencies, or more relationally-specific tendencies such as relationship commitment or team cohesion. All of these tendencies have been shown to promote other-oriented behavior (Côté et al., 2011; De Dreu & Nauta, 2009; Gully et al., 1995; Rusbult, Olsen, Davis, & Harmon, 2001; Van der Vegt & Bunderson, 2005). TGD theory suggests extending that work to explore the goal coordination consequences of both relational and team commitment: As a straightforward example, if Sophia cares about Keisha, but is not as committed to Juan, she may be willing to work quietly if she learns that Keisha needs to focus on her work, but not so willing if she learns that Juan needs to focus on his work. Positive relational orientation should also improve understanding of each other's preferences and actions, which can facilitate goal coordination (Austin, 2003; Cannon-Bowers et al., 1990; Côté & Miners, 2006; Long & Andrews, 1990; Marks et al., 2001: Mathieu, Heffner, Goodwin, Salas, & Cannon-Bowers, 2000; Moreland et al., 1996). When teammates like each other, they will be likelier to take the time to question any negative attributions about a teammate's goal pursuit, and also likelier to put in the energy to provide support in the way the teammate prefers.

Even if one desires to help a teammate, of course, efforts to assist others' goals are unlikely to be fruitful if one lacks decent relational skills, such as good communication and perspective-taking skills. The possession of good perspective-taking and communication skills will help team members engage in *goal responsive* behavior—that is, behavior that aligns with another person's goal representation: the content, standards, efficacy, value, and resources the individual holds regarding a given goal. For example, because of Sophia's good listening skills and ability to read Juan's non-verbal behavior, she infers that Juan is not yet where he wants to be with his programming knowledge. This inference leads Sophia to help Juan even after he has enough knowledge to do the task required for the team goal; in other words, Sophia's partner-oriented

pursuit reflects Juan's standards, and not her own or the team's. TGD Theory proposes that goal responsiveness, the ability to align one's action with the mental goal representations of others, may be a crucial predictor of good goal coordination in teams.

1.4.2. Shared goal representations

In addition to relationship orientation, Tenet 4 suggests that another major category of predictor of goal coordination is the teammates' shared goal representations, the extent to which members of the TGD system agree about the goals, pursuits, and outcomes for each team member. This does not mean that they hold the same goals for themselves (i.e., shared self-oriented goals, or what we called parallel goals, as when Sophia and Keisha each want to gain expertise in a programming language). Such goals do not necessarily predict goal coordination. Rather, TGD theory emphasizes the importance of shared targetoriented goals, meaning that team members agree about the goal that a certain target should attain. For example, if Keisha and Sophia both agreed that Juan should go up for a position as functional lead, they possess the same goal content (functional lead) for the same target (Juan). According to TGD theory, when team members agree about what goals each team member should pursue (and ideally, agree about the means of pursuit and the relative value of the goals; see Section 1.6), there will be smoother and more efficient goal coordination. Because Keisha and Sophia agree that Juan should seek this new position, they will be more likely to accommodate time he needs to pursue that goal, and will be more likely to avoid pursuing conflicting goals and to prioritize multifinal action that advances this goal. All of this will promote the efficiency of action in the team, compared to a situation in which the two disagree, and one is attempting to push the goal forward while the other is either disengaged or actively resistant.

These ideas about shared goal representations borrow heavily from the extensive literature on shared cognition, such as the work on team mental models (DeChurch & Mesmer-Magnus, 2010; Klimoski & Mohammed, 1994; Mathieu et al., 2000), cross-understanding (Huber & Lewis, 2010), and team goal mental models (Pearsall & Venkataramani, 2014). To this literature, TGD theory adds a focus on goals at the relational level, and highlights the importance of agreement and accuracy about teammates' goals for others, rather than just goals for the self and the team.

1.5. Tenet 5: effects of transactive gain/loss on team commitment

Within a TGD system, goal dynamics also affect interpersonal processes (Arriaga, Capezza, Reed, Wesselmann, & Williams, 2014; Berscheid & Ammazzalorso, 2001; Fitzsimons & Finkel, 2011; Gable, 2006; Maner, Gailliot, Aaron, & Miller, 2007; Murray & Holmes, 2009). Tenet 5 suggests that interpersonal outcomes such as team commitment and cohesion, and satisfaction with a leader, are predicted by transactive gain/loss—by the extent to which the individuals within the system achieve better or worse goal outcomes as a result of their participation in the

system. First, transactive gain (vs. loss) should lead to more positive interpersonal emotions and thus behavior (Berscheid & Ammazzalorso, 2001; Brunstein, 1993; Carver & Scheier, 1990; Fitzsimons & Shah, 2008). If the team is working towards project completion in a timely way, Sophia and Juan are more likely to feel more positive affect, and behave in a more positive manner, towards each other, both because their success makes them feel more positive emotions, and because they perceive each other as more instrumental to their goals, and thus, seek to maintain positive relations (Berscheid & Ammazzalorso, 2001; Rusbult, 1980).

This is a straightforward prediction, and very much in line with classic findings on teams, which suggest that successful teams enjoy closer and more positive team dynamics than teams who fail to achieve their goals (Ruder & Gill, 1982; Snyder, Lassegard, & Ford, 1986; Wolosin, Sherman, & Till, 1973).

1.6. Tenet 6: goal recovery when teams dissolve

Tenet 6 predicts the effects of dissolving the system on goal outcomes, proposing that transactive density and goal coordination interact to predict goal outcomes in the period after a TGD system dissolves. In organizations, most teams do not stay intact forever; there is typically turnover from team members earning promotions to other positions, moving to other teams, leaving the department, or leaving the organization entirely—or from restructuring (Jackson et al., 1991; Walsh, 1988). Regardless of the cause, team turnover has negative consequences for team performance (van der Vegt et al., 2009).

We suggest that the length of time it takes teams to recover from the disruption of team turnover or team dissolution depends both on (a) how much density there was the team before the disruption, and (b) how well the team members' goals were coordinated. For teams with low transactive density, goals, pursuits, and outcomes are only slightly interdependent; thus, they can continue relatively seamlessly when the team breaks up, performing as well or as poorly as they did before the dissolution of the team (Berscheid, 1983, 1986). However, for teams with high transactive density, in which goal dynamics are highly interdependent, goals and pursuits will experience significant disruption when the team dissolves, and thus require significant adjustment to get back on track (Berscheid, 1983, 1986).

Importantly, it is the most efficient and well-coordinated teams who will suffer the most in terms of goal outcomes when the system is dissolved. For these teams, high transactive density has led to transactive gain, and losing that density, and all the multifinality, goal facilitation, and specialization that goes along with it, will mean that goal outcomes will suffer. By comparison, the least efficient and most poorly-coordinated teams are not benefiting from high density, which has brought transactive loss; thus, untangling the links that have produced goal conflict, redundancy, and loafing will likely yield improved goal outcomes for members of the former team (Jackson et al., 1991).

2. Leadership and transactive gain/loss in teams

In this section, we consider how leadership can affect team goal dynamics to promote good goal outcomes. Although there are many important differences between leader-follower dyadic relationships and leader-team relationships (Day, Gronn, & Salas, 2006; Zaccaro, Rittman, & Marks, 2001), we combine the two for the purpose of this introductory exploration of TGD theory in this context. We discuss both how leaders can encourage good goal outcomes through their dyadic leader-follower relationships, and also how leaders can encourage good goal outcomes by building strong goal dynamics within the team.

It is important to note that research on leadership, perhaps more so than any other field in organizational behavior, has embraced the role of both relational and motivational processes. As reflected by the centrality of leader-member exchange (LMX) theories to the field (Graen & Uhl-Bien, 1995; Howell & Shamir, 2005), many leadership theories implicitly, if not explicitly, conceptualize leadership through a relational or interpersonal lens (Hollander, 1992). Furthermore, many theories of leadership recognize goal dynamics as central to the function of leaders, including functional theories (McGrath, 1962), transformational leadership theory (Bass, 1990; Bono & Judge, 2003; Judge & Piccolo, 2004), charismatic leadership theory (Shamir, House, & Arthur, 1993), role motivation theory (Miner, 1978), contingency theory of leadership (Fiedler, 1964), and path-goal theory (House, 1971). For example, leaders inspire followers to work harder on their pursuits, set role models for followers' action, set goals for followers, monitor progress and provide feedback, give strategies for followers about how to pursue goals, and so on, aiming to improve followers' performances via motivational influence (Bass, 1985; Druskat & Kayes, 2000; Jacobs & Singell, 1993; Latham & Marshall, 1982; McGrath, 1962; Morgeson et al., 2010).

As noted by Avolio et al., despite the vast knowledge base, little theorizing has directly addressed the types of underlying psychological mechanisms through which different leadership styles and actions elicit positive effects on motivation and performance (Avolio, Walumbwa, & Weber, 2009; see Hernandez, Eberly, Avolio, & Johnson, 2011, for an example of such theorizing). From a TGD perspective, a good leader is one who maximizes transactive gain in the system, and thus, we focus on possible goal-based mechanisms through which teams can arrive at such gain. Specifically, guided by the theory, leader actions that promote both the development of density and encourage effective goal coordination will be most useful. If leaders encourage only one of the two, however, they will be ineffective and potentially even damaging to the team-a team that is highly dense, but experiences extensive goal conflict and lacks effective specialization and multifinality, is particularly likely to perform poorly.

Below, we explore leader actions that: (a) increase the pool of shared resources that can emerge from interdependence (transactive density) within teams, and (b) increase the efficiency of team members' translation of

those resources into goal progress for the team (goal coordination).

2.1. How leadership affects transactive density

Leadership theorists have long recognized the existence of interdependence between leader and follower, in terms of mutual influence, reliance, and exchange of ideas and resources, and have studied the factors that promote that interdependence (Dienesch & Liden, 1986; Hollander, 1992; Homans & Behavior, 1961). As described earlier, according to TGD Theory's Tenet 2, interdependence in goals, pursuits, and goal-relevant resources (i.e., transactive density) is predicted by system members' (a) motivation and (b) opportunity for interdependence. Thus, here, we explore what leaders can do to promote motivation and opportunity.

First, team members' motivation to accept influence from and reliance on leaders and other team members depends on good quality and trusting relationships (Brower et al., 2000; Dienesch & Liden, 1986; Graen & Uhl-Bien, 1995). But motivation also stems from more structural sources, such as incentive structures that can be under the leader's control. For example, when leaders provide cooperative or team-level rewards, team members respond by putting more effort into teamwork and team interactions, thus likely increasing the interdependence of goal dynamics in the system, compared to when leaders provide individual-level rewards, which tend to decrease helping, reliance, effort in team interaction, and thus, interdependence of goal dynamics (De Dreu, Nijstad, & van Knippenberg, 2008; Pearsall, Christian, & Ellis, 2010; Shea & Guzzo, 1987). Such effects depend, of course, on the interdependence of the task itself (Wageman, 1995).

Motivation to create interdependence among goal pursuits with leaders also depends on followers' perception of those leaders' goals and values (Deutsch, 1949; Erdogan, Kraimer, & Liden, 2004; Tjosvold et al., 1992). If team members perceive that their own goals for themselves, each other, or the team are out of sync with their leaders, they will likely seek more independence between the team and the leader, to allow for a greater chance of advancing their goals without obstruction from leaders (Deutsch, 1949). Similarly, perceptions of shared goals within the team will likely predict motivation for interdependence for the same reason, which means that leaders who seek to motivate team members to become involved in each other's goal pursuit may benefit from encouraging communication around goals, and planning team composition around shared individual and team goals.

Second, if leaders seek to increase transactive density, they must be attentive to whether the context affords such density, and attempt to create opportunity. The opportunity for transactive density between team leaders and team members, like that among team members, depends on the nature of any tasks they share, with some tasks being naturally much higher in task interdependence (Wageman & Baker, 1997), and on the structure of the team and the broader organizational structure, culture, and context (Aiken & Hage, 1968; Barrick, Bradley, Kristof-

Brown, & Colbert, 2007: Chatman & Barsade, 1995: Chen. Chen, & Meindl, 1998; Hofstede, Hofstede, & Minkov, 1991; Stewart & Barrick, 2000). If leaders are physically located near their team members, versus working virtually or otherwise physically separated (Kiesler & Cummings, 2002; O'Leary & Cummings, 2007), they will have greater opportunity to develop knowledge of each other's goals, and to see the potential roles that each could play in each other's goal pursuits. Similarly, physically close leaders, or those who otherwise have knowledge about team members' goals, have the opportunity to see and suggest ways that team members themselves could become involved in each other's goals. Of course, if leaders hope to create high density teams, the team members themselves also need sufficient opportunity to learn about each other's goals and to embed themselves in each other's pursuits.

Finally, if the organizational culture values independence and competition, rather than interdependence and cooperation (Chatman & Barsade, 1995; Chen et al., 1998; Hofstede et al., 1991), leaders and team members will be unlikely to form systems with high transactive density because of both lower opportunity and motivation.

2.2. How leadership affects goal coordination

In TGD Theory, successful goal systems (i.e., those that experience transactive gain, rather than loss) do not emerge directly from the development of a shared resource of interdependence among goal dynamics. Indeed, for many teams, transactive density can be a curse, not a blessing: Transactive density only benefits goal outcomes if the team is well-coordinated in its goal pursuits. Thus, a second task for leaders, in addition to building density, is to leverage that density to achieve good goal outcomes.

Thus, what can leaders do to promote goal coordination? According to TGD Theory's Tenet 4, goal coordination is predicted by system members' (a) shared goal representations and (b) relationship orientation/skills. Thus, we first describe what leaders can do via those major predictors, and then also consider (c) direct attempts by the leader to shape goal coordination. It is perhaps useful to note that many of the variables discussed here would likely interact to affect goal outcomes; for the sake of simplicity, we focus on main effect predictions in this first exploration of these ideas.

2.2.1. Shared goal-representations

As described earlier, according to TGD theory, shared target-oriented goals promote goal coordination. Shared goals, like shared beliefs, attitudes, and values, are a form of deep-level similarity (Harrison, Price, & Bell, 1998). When Linda and Sophia agree about what goals Linda, Sophia, Juan, and Keisha should be pursuing, it will be easier for them to coordinate their goals. Creating shared goals within the team is thus an important task for leaders (Gittell & Douglass, 2012); indeed, researchers have argued that one central role for a leader is to define and establish a shared mission (i.e., a shared system-oriented goal) in the team (Galanes, 2003; Pielstick, 2000; Posner, 2008), or to facilitate goal setting in the team in general (Cohen, Chang, & Ledford, 1997). From the perspective of TGD Theory, it

would also be beneficial for leaders to specifically facilitate the development of shared target-oriented goals for all within the system. That is, it is not just ideal that leaders and team members agree about a shared team mission, but also that leaders and team members agree about the goals that other members of the system hold for themselves and others. If Linda and Sophia disagree about what goals Juan should be pursuing, goal coordination will be weaker, and efficiency lost. Alternatively, if Linda and Sophia share a goal but for different targets (as when both Linda and Sophia want to play a certain role, as in parallel self-oriented goals), conflict is likely to ensue. Thus, effective leaders create agreement about what goals should be held and pursued by each system member. Of course, perfect agreement on all of these many goals is unlikely, but leaders should work to cultivate agreement on the most important goals for the team.

According to TGD Theory, in addition to sharing goal content, as when Linda and Sophia agree that Linda should build bridges with Carol's team, system members also benefit from agreeing about the relative value, or importance, of given goals within the system of goals. Imagine that Linda feels that building bridges with Carol is the most important goal she could be pursuing, while Sophia feels it is valuable, but not nearly as important as cutting costs within their own department. Such a situation would likely create conflict, and minimize efficiency of goal coordination. This prediction is in line with work on goal importance congruence, or the similarity of opinion about the importance of goals to the organization, which has shown that it can have benefits for both employee satisfaction and organizational performance (Colbert, Kristof-Brown, Bradley, & Barrick, 2008; Deutsch, 1949; Vancouver & Schmitt, 1991). TGD Theory suggests that part of why goal congruence has benefits for performance is because it facilitates goal coordination within systems. If people agree about the relative importance of goals within the system, they are more likely to pursue goals that facilitate each other and produce multifinal action, less likely to experience goal conflicts, and more likely to be motivated to engage in efficient division of pursuit. Again, perfect agreement is likely impossible for most teams, but the most effective leaders will encourage agreement about the relative priority of the multiple goals held by system members.

TGD Theory also suggests that leaders and team members will benefit when they agree about the best means for pursuing the goal, or possess shared means-goal representations. If Linda and Sophia agree that building bridges with Carol's team is important, but Linda believes that joint weekly meetings are a good means to that goal, while Sophia believes that such meetings are a waste of time, then again, the two will be poorly coordinated. Leadership theorists have argued that team members feel most motivated when they and their leaders agree about the goals or end-states, but when team members are given autonomy to choose the means of pursuit. For example, Hackman and Wageman (2005) noted, "the most energizing statements of direction are those that are consistent about the end-states the team is to achieve but that leave open the means the team is to use in pursuing those

means" (p. 58–59). Autonomy to choose the means is surely beneficial for intrinsic motivation (Hackman & Oldham, 1976); however, if leaders and team members can also agree on the means of pursuit, that would encourage smoother goal coordination, and thus, better goal outcomes. Thus, effective leaders encourage the sharing of means-goal representations, both between leaders and team members, and among team members themselves.

TGD Theory also suggests that it is beneficial for system members to share other goal qualities, such as *standards* and *efficacy*. When team members disagree about standards like what constitutes prompt task completion, or an improvement in sales, they will experience conflict and weak coordination, even if all agree on the overall goal. Similarly, when they hold different opinions about the efficacy of a given team member, they are less likely to engage in multifinal action and goal facilitating actions, and less likely to divide pursuit in an efficient way. Imagine that Linda feels Sophia is capable of taking on a new task, but Sophia feels uncomfortable with the task. The two are unlikely to achieve good goal coordination in this context. Thus, effective leaders also create shared standards and efficacy among system members.

Of course, it is not as easy to achieve shared goals as it is to see the benefits of shared goals. So what can leaders do to create shared goals, shared goal value, shared meansgoal representations, standards, and efficacy? When organizations seek to instill certain goals and standards among all team members, team-level rewards or incentives may be effective. However, it may be more complicated to use incentives to engineer relational-level goals; whether Sophia and Juan agree that Juan needs to improve a certain skill or about whom should play what role is likely related to strong team-level motivation, but given perceptual and relational issues, it seems likely that leaders may need to rely on other strategies as well. Clear communication around goals and appropriate incentive structures are natural means to those aims. In addition, Amabile, Schatzel, Moneta, and Kramer (2004) identified several leadership actions relevant to building shared goals in creative contexts. They found that leaders should clarify goals, inspire followers via the setting of challenging goals (Locke & Latham, 1990), and reward team members for meeting specific goals (Amabile et al., 2004). Other research suggests that leaders characterized by researchers as transformational or charismatic-are rated as particularly effective in communicating organization-level goals, creating shared goals within organizations, and leading followers to internalize and value leaders' goals (Berson & Avolio, 2004; Colbert et al., 2008; Conger & Kanungo, 1994).

2.2.2. Relationship orientation

The second major predictor of goal coordination between team leaders and team members, and among team members, according to TGD Theory, is positive relationship orientation and skills. When leaders and team members have good relationships, they will be more likely to engage in goal coordination. According to TGD Theory, and in line with both interdependence (Kelley & Thibaut, 1978; Van Lange, Rusbult et al., 1997; Van Lange, Agnew,

Harinck, & Steemers, 1997) and LMX theories (Graen & Uhl-Bien, 1995), if system members care about each other's outcomes and are committed to the system, they will be more willing to adjust their actions to accommodate others when doing so benefits the system. For example, commitment to relationships promotes the tendency to make sacrifices for others' benefit (Rusbult, Verette, Whitney, Slovik, & Lipkus, 1991; Van Lange, Agnew et al., 1997; Wieselquist, Rusbult, Foster, & Agnew, 1999), as does the dispositional tendency to care about others' well-being (Van Lange, Agnew et al., 1997). Accordingly, we suggest that positive relationship orientations will lead team members to value other members of the teams' outcomes, which will promote the tendency to engage in goal coordination when doing so promotes the team's success. For example, if Sophia is committed to her relationship with Linda, she is more likely to attend Carol's engineering team meetings over Rick's, allowing her to pursue both her own goal to learn about engineering and Linda's goal to build bridges to Carol's group.

Of course, positive relationship orientation is most useful for goal coordination (and thus, goal outcomes) when it is held by people with good interpersonal skills in the goal domain (Carpenter, 2009; Gottman & Krokoff, 1989; Neff & Karney, 2005; Noller, 1980). Although some forms of goal coordination are effortless, as when Linda and Sophia just naturally have complementary skills and divide pursuit efficiently and effortlessly, in most organizational settings, relationship skills will facilitate this process. First, coordinating complex and long-lasting goals over time will be easier, in most situations, when leaders and team members know what the other values and hopes to achieve, as well as their goal-relevant skills and characteristics. This prediction fits with prior research showing that leaders and followers benefit from understanding each other's preferences, responsibilities, and skills (Austin, 2003; Côté & Miners, 2006; Long & Andrews, 1990), and with work in the teams literature showing that accurate views of other team members facilitate planning, anticipation of others' needs, and ability to help each other (Cannon-Bowers et al., 1990; Marks et al., 2001; Mathieu et al., 2000; Moreland et al., 1996).

Thus, clear communication about goals is likely, on average, to facilitate goal coordination between team leaders and their teams, and among team members, to the extent that it increases team members' ability to predict and understand each other's actions. If Linda understands that what Sophia ultimately hopes to do is move into the technical side of their company, she will better predict Sophia's preferences and motivation on projects that vary in connections and exposure to technical peers. That being said, communication about individuals' goals that do not fit with the system's overarching interests may introduce interpersonal conflict and reduce goal coordination; Linda is unlikely to warmly accommodate Sophia's goal to jump past her in the organizational hierarchy, and thus, Sophia is likely wise to avoid communicating that goal even when it guides her preferences and motivation on projects (Sackett, Fitzsimons, & Pearsall, 2016).

Aside from political and competitive goals such as those, an accurate understanding of each other's goals

may help goal coordination because it promotes behavior reflecting that accurate understanding. For example, if Linda is unaware of Sophia's long-term interest in moving into technical projects in their company, she will not be able to support that move by suggesting Sophia for incrementally more technical roles, despite her best intentions to help Sophia's career. TGD Theory describes the interpersonal skill of goal responsiveness, the tendency to engage in action that aligns with other system members' goal representations. According to the theory, goal-responsive leaders align their behavior with their team members' goals: for example, because Linda knows that Sophia cares about being seen as having technical skills, she supports Sophia when she turns down a highly visible non-technical role for one that is less visible but more technical in nature. Similarly, goal-responsive team members align their behavior with their leaders' goals: for example, if Linda knows that Sophia wants to see a cost decrease of 15%, she pushes the team to make that target, even though she herself may feel that 12% is sufficient.

Goal-responsive leaders also adjust their action based on their team members' current level of resources for goal pursuit. For example, Linda realizes that Sophia is tired by the end of the day, so she supports and offers back-up for late-day work. Being responsive to changes in resources is an important form of goal responsiveness (Marks et al., 2001). If Linda misses the cues that Sophia is overworked one month, and pushes her to take on another project, this is far less efficient for the system than if she recognizes that Sophia is overworked, and thus asks Juan to step into the lead role on the project. Similarly, if Linda misreads Sophia, and thinks she is overworked when she is not, she may feel she is being supportive by asking Juan to step in, but this well-intentioned support may well conflict with Sophia's own goals in the organization.

Finally, goal-responsive leaders and team members align their action with one another's desired level of interdependence. If Linda wants to be the one to build bridges to Carol's team. Sophia's decision to attend Carol's weekly meetings will cause conflict, no matter that Sophia is trying to facilitate Linda's goal. Past research has shown that teams whose members share preferences regarding the interdependence of their work perform better than teams whose members do not share similar preferences about interdependence (Wageman & Gordon, 2005). Based on that work, we speculate that similar dynamics likely emerge between team leaders and team members as well, such that when leaders and team members hold the same preferences for interdependence, they perform more effectively. In all these relationships, we suggest that one contributor to the benefit of shared preferences regarding interdependence is that they facilitate goal coordination. Thus, effective leaders encourage communication about goals as well as responsiveness to others' goals.

2.2.3. Other leadership actions to increase goal coordination In addition to increasing shared goal representations, and building good relationship dynamics, leaders can also engage in other, more direct, attempts to increase goal

coordination. First, they themselves can engage in multifinal and goal-facilitating action, aiming to advance their team members' goals without any additional investment of resources, so as to ensure their actions do not conflict with those of their team members. Our theorizing here is orthogonal to work on the effects of empowering versus directive forms of leadership (Lorinkova, Pearsall, & Sims, 2013; Srivastava, Bartol, & Locke, 2006; Thomas & Velthouse, 1990; Zaccaro et al., 2001). According to this literature, empowering leaders share power with system members, and raise their intrinsic motivation, autonomy, and sense of responsibility for goal pursuit, by encouraging open expression of opinions and supporting teamwork and coordination processes. In contrast, directive leaders more actively structure and organize employees' work and provide very clear guidance and instructions, behaviors that tend to promote efficiency among employees (House, 1996). From a TGD Theory perspective, the ideal leader engages in multifinal and goal facilitating actions that increase the team's efficient use of collective resources; however, these actions are not necessarily directive (vs. supportive) in nature. Linda may facilitate Sophia's pursuits by increasing her sense of self-efficacy via increased autonomy in her tasks, or by monitoring her and giving her direct instruction, depending on the situation and her needs. TGD Theory is less oriented toward the nature or content of what the leader does, and more oriented toward the compatibility or integration of the leader's multiple goal pursuits with the team members' multiple goal pursuits.

Leaders can also directly work to increase the pool of shared resources by (a) recognizing and seeking opportunities for team members to engage in multifinal and goal facilitating action, (b) being vigilant for potential goal conflicts and encouraging team members to do so as well, and (c) being proactive in structuring task assignment to ensure efficient (rather than redundant or inefficient) division of pursuit. For example, if Sophia works smoothly and efficiently with Juan but finds it difficult and draining to work with Keisha, then a leader who considers the system's use of resources will ensure she is assigned to work with Juan (Finkel et al., 2006).

3. The role of organizational goals

Our aim in this paper was to dive deep into the relational mechanisms that we theorize are fundamental to goal pursuit in teams within organizations. As such, we put aside interactions with other levels of analysis—individual, team, and organizational. Given the wealth of knowledge about work motivation at those other levels, we will not attempt to review that work here, but instead, will consider briefly organizational goals and constraints, and how they may constrain or interact with the mechanisms we described here.

3.1. Organizational goals

Organizations, like all social contexts, possess features that make them different from all other social contexts. Those unique features pose interesting questions for our model, which is designed to be "goal-general": that is, it is designed not to apply to any specific set of goals, but to all goals and relationships, regardless of context. For example, organizations have their own goals (Simon, 1964; Sitkin et al., 2011) and abundant research has shown that the congruence of goals at low and high levels in the organizational hierarchy is an important predictor of organizational outcomes (Vancouver, Millsap, & Peters, 1994; Vancouver & Schmitt, 1991; Witt, 1998). One important question is how such organization-level factors shape and interact with the kinds of relational mechanisms we described here.

First, it is important to acknowledge that we have described team members' goals as though they arose freely from within the team members' minds, with no particular theorizing done about how or why team members might possess or value certain goals. And yet, in organizations, certain individual, relational, or team goals will be aligned with management goals and organization-level goals, and thus, may be expected to simply be likelier to occur. Thus, goals within team goal systems may have a more constrained nature than goals in other kinds of relational systems. Of course, all relational contexts have their own constraints due to social norms—it is clear that only certain kinds of goals are welcome in most friendship groups, and others in most romantic relationships. Nonetheless, the point remains: in organizations, some goals are encouraged and others are discouraged.

Indeed, some goals are hierarchically dictated (Try telling your dean you don not see the value of pursuing any more research publications.). The reality of such organizational pressure on the content of team members' goals may have interesting interactions with the mechanisms we have posited. On the one hand, they may make coordination easier—if certain goals are much likelier to be valued and pursued than others, it is easier to guess what goals other team members value, which facilitates goal responsiveness and other forms of goal coordination. On the other hand, they also present a challenge to coordination-if team members expect and assume others possess the goals that have been dictated by supervisors or top management, they may misread information about any unique or deviating goals held by other team members. And such understanding is key to coordination. As Pfeffer (1992, p. 17) notes, "If you know your organization's strategy but your colleagues do not, you will have difficulty accomplishing anything."

Even beyond goals that are considered "must-do" goals for the organization, the organization likely provides different levels of support for different kinds of goals, and that support will strongly influence the value team members place on goals, and their success in pursuing them. Organizational support for a given goal may vary as a function of environmental and industry changes, as well as other external factors that drive organizational-level goals. For example, during a time of growth, the company may prioritize innovation; at another phase in the company's development, they may well prioritize safer projects. When organizations differentially support goals, either directly through funding or human resource support, or indirectly through cultural mechanisms or incentive

structures, this acts as a further constraint on the free pursuit of goals within teams, and thus, likely interacts with relational mechanisms.

For example, the tendency to hold goals that are not congruent with the organization's goals could put some team members at odds with others who hold organizationcongruent goals. In such a situation, the lack of shared goal representations within the team is connected to the broader organization, and thus takes on additional meaning: Those who hold organization-congruent goals likely will be able to draw on more support and influence from outside the team, and thus hold more power within the team. We did not consider issues like power of the team member in this exploration of the theory, but expect it would influence goal coordination processes. For example, powerful team members are likelier to inspire others to share their goals (Laurin et al., 2016) and to pursue their goals with more agency and confidence (Guinote, 2007), both of which would affect goal coordination.

3.2. Other organizational constraints and features

Beyond the goals held by the organization, there are other aspects of organizations that make them unique for the study of relational goal mechanisms. In this section, we consider a few such aspects: the political nature of organizations, the prominence of learning and performance goals in organizations, and constraints on goal-relevant resources.

First, organizations are political entities (Pfeffer, 1992). TGD Theory is intentionally goal-content-free. It applies to health and fitness goals just as much as it applies to leadership goals. And yet, as political entities, organizations tend to promote certain types of goals that may deserve their own consideration. For example, goals to compete with others and to gain status, power, or respect from others, are common political motives that have gained substantial attention from the organizational literature (Ferris, Russ, & Fandt, 1989; Gandz & Murray, 1980; Pfeffer, 1992). Because these relatively high-level goals likely drive a great deal of interpersonal behavior, they may present unique challenges to teams seeking efficient goal coordination. Inherently interpersonal goals like these - directed at other members of the team and those up the ladder in the broader organization - may be particularly likely to conflict with other team members' goals, and to complicate goal coordination. If one team member seeks status, and the others do not believe he/she deserves status, that higher-order interpersonal goal conflict is likely to interfere with many coordination mechanisms.

Because many members of organizations see political motives in a negative light (Gandz & Murray, 1980), such goals may be more likely to be masked or presented deceptively than other types of goals. In addition, if employees recognize that the only acceptable goals to convey are the ones the leaders hold for them, employees may hide their own goals from others or only communicate them when they feel psychologically safe (Edmondson,

1999). Since multifinal action in teams, as well as effective specialization and goal facilitating action, often depend on knowledge of each other's goals, hidden or misrepresented goals will make goal coordination even more difficult.

Political goals are not the only goal types that may have special relevance in organizational teams. A great deal of research attention in recent years has been paid to goal orientations such as learning and performance goals; such goal orientations are not unique to organizations, but have been widely studied and shown to be influential in organizational behavior (Alexander & van Knippenberg, 2014; Bunderson & Sutcliffe, 2003; Dragoni & Kuenzi, 2012; Payne, Youngcourt, & Beaubien, 2007). We suspect that these goal orientations could be readily studied from a TGD perspective. These broader goal orientations - more approaches to goals than specific goals themselves – likely affect lower-order, more concrete goals, and are thus particularly likely to shape a wide range of goal coordination dynamics. Indeed, they have been shown to predict both "backing up behavior," a form of partner-oriented pursuit common in high density teams, and positive relationship attitudes like team commitment (Porter, 2005). Furthermore, when team members differ in goal orientation, they may suffer particularly poor coordination, which may contribute to problems that emerge with heterogeneity in goal orientation in teams (Pieterse, Van Knippenberg, & van Ginkel, 2011).

Finally, it is important to note that in our goal-general approach, we have ignored the reality of significant constraints on the pursuit of goals within teams, such as those imposed by organizational resources. For example, one of the key resources organizations provide for goal pursuers is training and knowledge (Aguinis & Kraiger, 2009). Because perceived organizational support predicts job commitment and organizational citizenship behavior (Shore & Wayne, 1993; Wayne, Shore, & Liden, 1997), it would undoubtedly affect goal coordination in teams. When goal pursuers feel unsupported by the organization, they are likely to struggle to coordinate with other members of the team, and goal outcomes are likely to be poor.

In short, there are several routes through which the relational mechanisms of TGD theory can be shaped by organizational phenomena and constraints. Ideally, future theorizing would attempt a fully-multi-level model, incorporating organization-level factors as moderators in TGD theory (or incorporating relational-level mechanisms from TGD theory into other multi-level models).

4. Testing TGD theory in organizations

This chapter discusses a new theoretical perspective, and one that is certain to develop over time in response to theoretical feedback from others as well as in response to empirical data. At this early date in the theory's development, it is also entirely untested. Thus, in this final section, we briefly consider how we (and others, we hope) can explore the ideas presented here in empirical studies, and the likely challenges of doing so.

The first step in testing the theory is to create reliable and valid measures of the core constructs—transactive

density, goal coordination, and transactive gain/loss. The largest challenge in creation of these measures is presented by the multilevel nature of the theory, and in particular, the inclusion of the relational level. Given that employees hold a large number of goals in the work environment (Roberson, 1989), creating a full and accurate picture of the content of all goals held within the team at all levels of the team would be so onerous for participants as to make the measure unusable. Thus, most research is likely to rely upon one of two strategies. First, researchers could use measures that ask for team members' reflections on their goals in general, as is typical for self-reports measures on teamwork. Second, they could create measures specific to a goal of interest, rather than measures that capture the dynamics in a goal-specific fashion. For example, if researchers are interested in goals related to creativity, they could create a specific version of the measure to focus specifically on those goals. In doing so, this would make the multilevel nature of the measurement slightly less onerous-participants would answer questions about all levels, but only regarding one

In ongoing research, we are working on general measures both for dyadic relationships (Hall, Fitzsimons, & Finkel, 2016) and for team relationships (Wingrove & Fitzsimons, 2016). A study exploring the reliability of these initial measures, and providing a first empirical test of TGD theory is underway, measuring transactive density, goal coordination, and performance in MBA student teams over time (Wingrove & Fitzsimons, 2016).

Certain constructs in the theory are relatively straightforward to measure. For example, transactive density can likely be measured simply by adapting existing team interdependence measures to more specifically tap goal-related interdependence. Goal coordination is similarly straightforward to measure, although no existing measures can easily be adapted for the construct. Instead, we imagine a three-part measure that taps multifinality, specialization, and goal facilitation and conflict. Such a measure might include items like "Team Member X makes it harder for me to pursue my goals" (goal facilitation) and "I usually work on tasks that capitalize on my strengths" (specialization).

The construct of transactive gain/loss is less straightforward to measure, because it references hypothetical alternatives as comparisons. The construct could be directly measured if teams were set up to alternate team members; in that situation, researchers can compare how Sophia does when working with Juan versus working with Linda (while controlling for effects of repeat performance, etc.). However, such conditions are unlikely for most team studies. Instead, we see two likely options for operationalization of this element of the theory within the team context. First, the concept can be transformed from a relative performance measure to a straightforward team performance measure. For example, in an ongoing study, we are measuring performance on team projects and individual projects over time, using grades, as a function of goal coordination and transactive density in teams (Wingrove & Fitzsimons, 2016). Although we cannot compute transactive gain/loss directly, we can impute it indirectly

from between-team differences in performance. Second, the concept can be measured as a simple self-report, with participants reflecting on how their performance is affected by this set of teammates relative to alternatives. Such an approach is taken by relationship scholars in their measurement of relationship commitment, for example, which asks participants to consider how happy they would be in alternative relationships, relative to their own (Rusbult, Martz, & Agnew, 1998). Although such reflective measures have weaknesses inherent to self-report, such as self-deception and self-presentation, research has also clearly showed that such measures have value. For example, self-reported perceptions of alternative romantic relationships is a robust predictor of relationship breakup, with a d of 0.57 (Le, Dove, Agnew, Korn, & Mutso, 2010). In addition, we believe a social network approach to measurement may be particularly useful for representing the level of complexity inherent in these constructs particularly transactive density and goal coordination given their dyadic nature. Such an approach would allow a nuanced examination of the patterns of interdependence and coordination across all team members.

5. Conclusions

In this paper, which analyzed teams and leadership from the perspective of TGD theory, we have highlighted how interpersonal dynamics of motivation enhances our understanding of these topics. We also aimed to synthesize work on diverse topics in teams and leadership that have not been situated in research on goals and motivation, but in which both relational and motivational processes are at play, and affect dynamic goal pursuit.

We would like to return now to the question we posed at the beginning of this article. Does the field's inattention to the relational level of analysis reflect the reality of work motivation and performance? We would like to suggest that the answer is no. Relationships are messy and complex, undoubtedly, and it is tempting to avoid such messiness when trying to understand work motivation. But our strong belief is that work relationships are important, and fundamental to the understanding of goal pursuit in everyday organizations. A relational perspective on motivation in organizations complements existing research at the micro level, such as goal setting theory (Locke & Latham, 1990), and team goal theories (Kleingeld et al., 2011; Martocchio & Frink, 1994), as well as classic macro-organizational theory (Cyert & March, 1963; March & Simon, 1958).

The field has of course learned a great deal from the individual, team, and organizational levels of analyses, and they have continued to be extraordinarily productive and generative (see Locke & Latham, 2013). While moving forward with work at each of those levels, we suggest that the field would also benefit from work that takes a relational perspective. We have presented one such perspective here, building on our own empirical work in social psychology (e.g., Finkel et al., 2006; Fitzsimons & Finkel, 2011; Koval, Vandellen, Fitzsimons, & Ranby, 2015; Shea, Davisson, & Fitzsimons, 2013), and hope to see

relationships integrated into other models of work motivation and goal pursuit in the years to come.

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