

SINK OR SWIM: EMPOWERING LEADERSHIP AND OVERLOAD IN TEAMS' ABILITY TO DEAL WITH THE UNEXPECTED

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The notion of improvisation has recently emerged in managerial studies as a viable solution to flexibly dealing with unexpected occurrences in work environments. However, past research on team improvisation has overlooked the contingencies that allow teams to effectively improvise. Drawing upon demand-control theory, we investigate how empowering leadership and overload affect the improvisation-performance relationship in the context of 48 work teams. Our results suggest that empowering leadership positively moderates the relationship between improvisation and performance, while overload attenuates the same relationship. Moreover, we found a joint effect of overload and empowering leadership influencing the improvisationperformance link, such that improvisation is most positively related to performance when empowering leadership is high and overload is low. Conversely, we found that empowering leadership is particularly detrimental to the improvisation-performance relationship when team members perceive high degrees of overload. Our findings make important contributions to the extant team literature as well as to the emerging literature on team improvisation. We outline several significant insights for HR managers and team leaders who are responsible for supporting teams that face unexpected events in the work environment. © 2013 Wiley Periodicals, Inc.

Keywords: empowering leadership, overload, team improvisation

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ccording to recent estimates, over 80 percent of Fortune 500 companies utilize team-based structures to organize work. Thus, a majority of employees are involved in some form of teamwork as a fundamental part of their jobs (Ilgen, Hollenbeck, Johnson, & Jundt, 2005). Such increased reliance on team-based structures leads HR divisions to look for possible interventions on team design and interactional processes in an attempt to support teams to be better equipped to tackle those tasks that require fast action in order to achieve positive outcomes (Carmeli & Schaubroeck, 2005; Zaccaro & Banks, 2004). As competition in-

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tensifies and organizations seek to become more adaptive in the way they conduct business, the need for teams to be able to adapt and promptly react to unexpected situations increases. The inability to abandon established routines in order to respond to emergent changes has been suggested as one of the major causes of team failures (Ellis, 2006; Gersick & Hackman, 1990; London & Sessa, 2007). Teams' ability to react in a timely manner is paramount for dealing with unexpected issues and deeffective livering outcomes (LePine, 2003). Teams should be able to contend with unstructured, unanticipated, and nonroutine situations in which members must bring their skills to

bear in order to overcome barriers and achieve team objectives (MacCormack, Verganti, & Iansiti, 2001). It is clear, therefore, that there is a dire need for understanding the conditions that enable teams to better manage their tasks under volatile task conditions. Such understanding will go a long way toward providing better direction to HR managers and team leaders who are responsible for supporting teams that are facing emergent situations that require extemporaneous and creative actions (London & Sessa, 2007).

The capacity of teams to spontaneously craft responses to emergent events is reflected in the concept of team improvisation, which is defined as creative and spontaneous actions taken in response to unexpected events (Crossan & Sorrenti, 1997). The concept of improvisation is of particular importance for both scholars and practitioners because it represents a possible reaction when individuals and organizations need to deal with emergent issues (Brown & Eisenhardt, 1997; Kamoche & Pina e Cunha, 2001). The concept of improvisation is relevant in a teambased setting because the activities assigned to a team generally cannot be entirely understood a priori, they do not rely on the application of routines, and they require flexibility and fast, extemporaneous reactions (Kamoche & Pina e Cunha, 2001; Kirsch, 1996). For instance, Vera and Crossan (2005) examined the relationship between improvisation and innovation in the public sector. Moorman and Miner (1998a) studied the efficacy of organizational improvisation in new product development, while other studies have also examined teams' ability to craft responses in the form of team adaptive performance (Kozlowski, Gully, Nason, & Smith, 1999; LePine, 2003). Although extant studies demonstrate that improvisation is clearly rising in relevance as a concept for understanding team responses to unexpected situations, unfortunately research on improvisation remains at an early stage, and important gaps in this literature are still evident (Kamoche & Pina e Cunha, 2001; Vera & Crossan, 2005).

Previous research mostly relies on the assumption that improvisation is likely to provide positive effects on performance. However, improvised action cannot be considered inherently good or bad (Vera & Crossan, 2004); rather, it should be treated as an inherently risky action because it leads individuals to depart from familiar plans and processes in the attempt to extemporaneously search for new creative pathways while relying on existing resources. Improvised behaviors *per se* may lead either to overcoming the emergent problem or to worsening it, and their effectiveness in yielding positive performance outcomes

depends on the contingencies that facilitate or hinder spontaneous and creative actions (Vera & Crossan, 2004). Our study contributes to filling this gap in the literature by analyzing the contingencies that make improvisation effective. Specifically, our study is consistent with the emergent stream of research that promotes a departure from "idealizing" the role of organizational improvisation by identifying those contingency factors associated with its effectiveness (Kamoche, Pina e Cunha, & Vieira da Cunha, 2003; Vera & Crossan, 2005). Because it is difficult to determine ex ante when emergent events will occur, HR managers face challenges in putting broad policies in place to facilitate effective, localized response. HR interventions that are locally responsive to conditions as they emerge may prove to be more effective. Prior research suggests that HR-related decision making can be most effective when pushed down to lower levels of the organizational hierarchy, as it enables employees to be more responsive to localized work-related issues (e.g., Takeuchi, Shay, & Li, 2008).

In an attempt to answer this call to identify the contingencies that the improvisation-performance link, follow Karasek's (1979) demand-control perspective, which proposes that attitudes and behaviors can be explained in light of demands and the range of decision-making freedom available to individuals, as well as by their interaction (Van Der Doef & Maes, 1999). Whereas a broad set of factors has been identified as sources of demand and control, Karasek and Theorell (1990) point out that job demand can be traced back mainly to workload, while control reflects the degree of decision authority of employees. Following this perspective, our study takes into account both demand (i.e., overload) and control (i.e., empowering leadership) as contingencies that may affect the ability of teams to effectively improvise. Empowering leadership may be one effective way in which HR managers can delegate decision-making authority to be locally responsive to the work context faced by teams. Taking a demandcontrol perspective is particularly suitable for

examining the role of empowering leadership and overload in improvisational action for three main reasons:

- 1. Empowering leadership has been identified as being more suitable in complex, nonroutine circumstances since it gives team members the autonomy and confidence to determine how to approach problem solving, facilitating a fruitful recombination of team-member resources within a short time frame. Such leadership has previously been found to be important in facilitating employees' efforts to problem-solve in work contexts where there are no predetermined solutions (Faraj & Sambamurthy, 2006; Yan, Peng, & Francesco, 2011).
- 2. Overload is an increasingly common phenomenon in team-based settings, and is often related to the inability of teams to deal with environmental changes (Ellis, 2006), thus hampering the effectiveness of improvised action.
- 3. Both empowering leadership and overload also have a strong practical value, since both factors can be actively influenced by HRM interventions directed toward the design of team assignments as well as the development of practices influencing leadership behaviors.

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Our work extends prior research in three important ways. First, extant research on improvisation focuses considerable attention on the centrality of team members in shaping the effect of improvisation on individual and group outcomes (Kamoche & Pina e Cunha, 2001), while less emphasis is placed on the function of the leader, who plays a pivotal role in creating conditions that enable teams to be effective (Cascio & Shurygailo, 2003). Previous studies highlight that leaders who are able to provide followers with a "clear set of values [and] a means of expressing these values within the framework of collective

action" (Howell & Shamir, 2005, p. 98) are more likely to emphasize members' connection to a collective entity, triggering behaviors that lead to positive outcomes (Hoegl & Parboteeah, 2006; Howell & Shamir, 2005).

Second, as improvisation is based upon team members' ability to integrate immediately available resources, we argue that a high degree of overload may hinder team ability to improvise effectively. Indeed, overload refers to the perception that members cannot perform a task because they lack critical resources both from a structural and a cognitive perspective (Ahuja & Thatcher, 2005). Our arguments rely on previous research that states that overload has

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a negative influence on behavioral outcomes because individuals perceive that they cannot execute the necessary actions due to a lack of temporal resources or a lack of access to critical resources imposed by the environment (Delbecq & Mills, 1985; Yousef, 2002). When experiencing overload, individuals will be less likely to effectively cope with unexpected events because they do not expect to find ways to solve the immediate problem or even determine how to "get by" (Ellis, 2006).

Third, we follow the spirit of Hambrick's (2007) assertion that organizational researchers must balance theoretical and practical implications. We achieve this by studying the effect of empowering leadership and overload on the

ability of teams to effectively deal with emergent events, consequently providing a better understanding of how HR managers and leaders may help and support teams in emergent situations, allowing team members to be prepared and confident in dealing with such events. By gaining a more thorough understanding of the mechanisms by which empowering leadership and overload influence the improvisation-performance link, HR departments can be better positioned to devise measures that allow the development of novel and useful solutions, which facilitate

team ability to continuously adjust (Crossan, Pina e Cunha, Vera, & Cunha, 2005) and to face the environmental need for flexibility and rapid responses to emergent situations (Smith, Smith, Olian, Sims, O'Bannon, & Scully, 1994).

Theory and Hypotheses

Team Improvisation

Research on improvisation in organizational settings is grounded in metaphors pertaining to jazz music, theater, sports, and public speaking (Cornelissen, 2006; Kamoche et al., 2003; Pina e Cunha, Vieira da Cunha, & Kamoche, 1999). In organizational research, the notion of improvisation has been studied in domains as varied as organizational learning (Miner, Bassoff, & Moorman, 2001), technology implementation (Orlikowski & Hofman, 1997), and new product development (Magni, Proserpio, Hoegl, & Provera, 2009). Previous research defined improvisation in organizational settings as an action in which spontaneity and creativity converge in an attempt to achieve an objective in a new way relying on immediately available resources (Vera & Crossan, 2005). Thus, improvisation can essentially be considered as an action in which spontaneity and creativity occur simultaneously (Vera & Crossan, 2005).

As a spontaneous action, improvisation is extemporaneous, un-premeditated, and unplanned, and refers to the immediate action derived from a certain stimulus undertaken by recombining immediately available resources (Pina e Cunha et al., 1999). Thus, individuals respond to situations on the spur of the moment, in essence composing their actions while they are executing them (Moorman & Miner, 1998b). The spontaneity facet focuses on the need to react to particular stimuli by recombining immediately available resources in a "bricolage" action (Pina e Cunha et al., 1999). Moreover, spontaneity is generally associated with time pressure (Crossan et al., 2005). In fact, under time constraints, failing to respond in the moment may result in a

lost opportunity or an aggravated problem (Crossan & Sorrenti, 1997).

As a creative action, improvisation attempts to develop something new and useful to the situation. It is important to note that improvisation differs from the sole concept of "creativity." Creativity in organizational settings refers to "the creation of a valuable, useful new product, service, idea, procedure or process by individuals working together in a complex social system" (Woodman, Sawyer, & Griffin, 1993, p. 293). However, creativity does not imply improvisation unless there is a short time frame for finding novel solutions to an emergent problem. In other words, creativity represents only one facet of improvisation. Therefore, the creative dimension of improvisation refers to the attempt to look for novel and useful ideas in adopting spontaneous behaviors (Shalley & Gilson, 2004). This facet of improvisation is related to the ambiguity and uncertainty characterizing a certain situation (Weick, 1998), when individuals lack understanding and have to deal with too many or too few interpretations of the emergent issue. It is also worth noting that in conceptualizing the creativity facet of improvisation action, the emphasis is not on the creativity of the outcome itself; rather, the emphasis is on the novelty of the processes and actions that are composed by the team (Kamoche et al., 2003; Magni et al., 2009). Stated differently, the creative dimension of improvisation focuses on how team members "attempt to orient themselves to, and take creative action in, situations or events that are complex, ambiguous, and ill defined" (Drazin, Glynn, & Kazanjian, 1999, p. 287). This explains why improvisation does not necessarily lead to positive outcomes (Vera & Crossan, 2004) and factors like empowering leadership and overload may come into play by facilitating or hindering the effectiveness of improvised action.

Although the extant literature has typically confined examination of these nonroutine situations to high-reliability settings such as nuclear power plants (Waller, Gupta, & Giambatista, 2004), trauma centers (Faraj & Xiao, 2006), and life-threatening response

(Bechky & Okhuysen, 2011), emergent issues are also a part of ordinary work life. Thus, improvisation does not only pertain to highreliability settings, but can also be found in teams that accomplish more traditional tasks, such as software development teams, service teams, or consulting teams (Magni et al., 2009; Magni, Maruping, Hoegl, & Proserpio, 2013; Maruping, Venkatesh, & Agarwal, some improvised 2009). For example, actions are radical and totally deviate from existing routines (such as in the case of the BP team improvising to stop the oil spill in the Gulf of Mexico), adopting processes, materials, and objects outside prior routines for solving similar problems (Robertson &

Lipton, 2010). Other improvisations refer to less dramatic and more common situations, such as the emergent need to incorporate new features in the process of software development because of emergent and unplanned requests from customers or from system incompatibilities not identified in advance (Magni et al., 2009).

In a team-based setting, improvisation is considered to be a collective endeavor that is more than the sum of individual improvisations because the joint activities of individuals create a collective system of action (Hatch, 1997; Moorman & Miner, 1998a; Weick, 1998). Prior research suggests that when people who face an emergent issue involving a team task interact, it is this interaction

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that produces collective improvisation. For example, in a new product development team, one member might identify a problem related to an unexpected pitfall in the choice of the material for the product case (just a few days before starting production of the prototype). A second team member may describe a solution that was adopted in the past to overcome a similar issue on the material choice. Then a third member might link the interventions of the two colleagues to a third, inclusive perspective that allows the team to develop a creative and emergent

solution in a short time frame for meeting the prototype production deadline. In such a scenario, the new product development team did not plan the solution in advance; what is more, the pattern that arises for solving the problem in a short time is not clearly visible and is not simply the sum of independent improvisational actions. Thus, in a teambased setting, individual improvisation alone is not sufficient for developing collective improvisation. Instead, the joint activities of individual people create a collective system of improvisational action (Moorman & Miner, 1998a).

According to this perspective, the effect of contextual factors on improvisation in

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teams represents a critical aspect that should be taken into account in shaping effective improvised action in teams. Thus, following Vera and Crossan (2005), the basic premise of our theoretical framework is that improvisation per se is not inherently associated with effective outcomes. Rather, from a psychological standpoint, improvisation represents a conscious decision to attempt to reestablish the sense of order and direction that may have been lost when an unexpected contingency emerged and rendered existing routines ineffective (Bechky & Okhuysen, 2011; Vera & Crossan, 2004). When surprises occur, team members activate cognitive processes in order to identify those resources that are immediately available and they recombine them in an attempt to solve the problem posed by the surprise (Crossan 1997). Sorrenti, However, & such attempts can either lead to

a positive outcome or a negative outcome (Vera & Crossan, 2005). Consequently, rather than hypothesizing a main effect between improvisation and performance, we focus on those factors that may support or hinder team members in their attempt to respond adequately to surprises when they do occur. By relying on the demand-control

framework, we hypothesize that empowering leadership and overload affect teams' ability to improvise in ways that are likely to yield effective outcomes. Specifically, on the one hand, empowering leadership facilitates the cognitive involvement of team members in dealing with team activities and goal setting (Faraj & Sambamurthy, 2006). We argue that improvisational actions taken in such a context are more likely to yield positive outcomes. On the other hand, we argue that overload may hinder the effectiveness of improvised action by constraining the socialinformation processing and by hampering the psychological development of a sense of efficacy in dealing with the unexpected (Ellis, 2006). Thus, although improvisation can be carried out in both situations (empowering leadership context and overload context), the performance outcomes of such team activity should differ.

Empowering Leadership and Team Improvisation

In today's fast-paced work contexts, in which teams are urged to make rapid decisions on the basis of information that is often inaccurate, unavailable, or equivocal, the role of team leader is paramount in influencing team outcomes (Morgeson, 2005; Yun, Faraj, Xiao, & Sims, 2003). In such situations, organizations are progressively abandoning the classical authority-based hierarchy that dominated relationships between superiors and subordinates in the past few decades (London & Smither, 1999). Instead, HR divisions' efforts are increasingly oriented toward the development of leadership styles that fit best with environmental demands and facilitate the integration of disparate expertise among team members, as well as their involvement in goal accomplishment (Caza, 2011).

Among the different theoretical conceptualizations of leadership, empowering leadership emerges as one of the leadership styles that favors expertise integration through encouraging active participation from team members (Pearce & Sims, 2002). In fact, empowering leadership is defined as a "style of leadership that targets employees to develop

self-control and to act on their own" (Pearce, Manz, & Sims, 2008; Vecchio, Justin, & Pearce, 2010). It encompasses behaviors such as participative decision making, coaching, and informing (Srivastava, Bartol, & Locke, 2006). When team members take extemporaneous action in order to deal with an emergent event, a leadership style that emphasizes interaction and autonomous teamwork promotes the kind of information and resources exchange that is paramount for identifying effective solutions. Previous research demonstrates that leaders who engage in empowering behaviors by involving team members in setting team goals are more likely to enhance individual sense of belonging within the team (Faraj & Sambamurthy, 2006). Through emphasizing a shared understanding of the goal, leaders focus members' attention on the team mission, encouraging their feeling of being directly involved and accountable for team results (Pearce et al., 2003).

We expect empowering leadership to moderate the relationship between team improvisation and team performance. As noted earlier, the creativity facet of team improvisation reflects the extent to which teams engage in novel (nonroutine) approaches to problem solving using existing resources. Teams can engage in such behavior with or without empowering leadership. However, the extent to which empowering leadership is present can affect the outcome of such behavior. Through informing, empowering leadership ensures that team members identify solutions that are relevant to the unanticipated problem at hand. Because of their managerial position, team leaders often have a better awareness of the task environment and the factors that might affect the team's success (Druskat & Wheeler, 2003). This is important because, as teams devise nonroutine responses to unanticipated they often generate events, multiple alternatives (London & Smither, 1999). When team members are better informed through empowering leadership—the team is able to choose the alternative that is most relevant for solving the problem. Empowering leadership also encourages active participation from team members as

they are given responsibility for outcomes. When team members have a stake in the outcome, they are likely to be more diligent in identifying alternative solutions (Zhang & Bartol, 2010). Further, as various alternatives are considered, team members will be more willing to voice their opinions and offer suggestions about the strengths and weaknesses of each (Srivastava et al., 2006). Such internal vetting of ideas increases the likelihood that nonroutine approaches will result in positive performance outcomes. When empowering leadership is high, the spontaneity with which creative action is taken will also have a positive influence on performance. Arnold, Arad, Rhoades, and Drasgow (2000) argue that empowering leadership includes When team

encouraging team members solve problems together rather than individually. This important because teams can act spontaneously with or without empowering leadership. However, empowering leadership will help determine whether such action is conducted collectively independently by members. Through empowering leadership, spontaneous action is coordinated in a short time frame by the team members. Therefore, are more effective mobilizing the necessary resources to address unexpected challenges when they occur. In contrast to team contexts

In contrast to team contexts where empowering leadership is high, we expect team improvisation to have a negative influence on performance in team contexts where empowering leadership is low. Several reasons underlie this expectation. First, the absence of empowering leadership, as might be observed in more autocratic forms of leadership (Yukl, 2002), results in team members/ being people.

in team members' being poorly informed about elements of the task environment that may be important for overcoming

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unanticipated problems (Druskat & Wheeler, 2003). Information and control tend to be centralized under such leadership (Vroom, 2000). Consequently, team members are less able to evaluate the relevance of the nonroutine solutions they identify to address the unexpected problem. This increases the likelihood that teams adopt nonroutine approaches that are ill suited for the problem. resulting in poor performance. Without empowering leadership, team members are less likely to be encouraged to participate in decision making (Faraj & Sambamurthy, 2006; Vroom, 2000). The result is that team members feel less psychologically invested in identifying solutions. They are less willing to fully explore the potential solution space and consider alternatives (Zhang & Bartol, 2010) and in performing their improvised action they may limit the search for a novel solution to the first alternative they identify. Further, under such forms of leadership, team members are less willing to speak up or offer suggestions (Srivastava et al., 2006). So even when teams devise creative solutions (i.e., solutions that are nonroutine), those solutions do not undergo an extensive vetting process, which results in flawed approaches being executed. Finally, in the absence of empowering leadership, team members are less likely to coordinate their activity when spontaneously addressing unanticipated events. Rather, team members will act independently, resulting in suboptimal performance outcomes.

In light of the aforementioned arguments, we hypothesize the following:

Hypothesis 1: Empowering leadership moderates the relationship between improvisation and performance; the relationship is positive when empowering leadership is high but negative when empowering leadership is low.

Overload and Team Improvisation

Overload describes situations in which employees feel that there are too many responsibilities or activities expected of them in light of their abilities and resources (Kahn, Wolfe, Quinn, & Snoek, 1964). According to prior

literature, team overload is linked to team members' perception of scarcity in accessibility to resources, as well as to their feeling like their cognitive resources (in terms of abilities and skills) are not enough to deal with their tasks (Ahuja & Thatcher, 2005; Yousef, 2002). When individuals and teams perceive that available resources are scarce and demands are overwhelming, a "lack of knowledge" pressure arises, leading to negative individual and team outcomes such as job dissatisfaction (Yousef, 2002), lack of innovativeoriented behaviors (Ahuja & Thatcher, 2005), difficulty in developing team mental models (Ellis, 2006), and difficulty in managing team processes (Driskell, Salas, & Johnston, 1999). Building on this research stream and grounding our work in both social cognitive theory as well as the information-processing framework, we postulate that team overload plays a pivotal role when team members have to deal with unexpected events.

The first reason relates to Bandura's (1986) social cognitive theory and refers to the fact that overload can hinder the perception that team members possess the necessary skills and have access to the required resources for accomplishing a specific task because they perceive that they are facing an overwhelming situation (Ellis, 2006; Thomas & Lankau, 2009). Consistent with this approach, when individuals perceive overload, they are more likely to overlook their enactive mastery, decreasing the confidence that team members can rely on their own and each other's abilities (Malhotra, Majchrzak, & Rosen, 2007). This limits the effectiveness of their action of creatively recombining immediately available resources. argument is aligned with previous studies that find that team members' lack of confidence in their abilities is likely to lead to a less effective outcome when involved in a creative process (Gully, Incalcaterra, Joshi, & Beaubien, 2002), and to be less effective in exploring different pathways (Marakas, Yi, & Johnson, 1998). Conversely, the perception of having the necessary abilities to face a specific situation facilitates the development of a can-do attitude (Bandura, 1986), which has been recognized to be tied to effective

team outcomes (Gully et al., 2002). Therefore, when unanticipated issues emerge, a positive perception about the abilities of the team is likely to create self-fulfilling spirals that yield to a more effective process of creatively recombining available resources in a short time frame.

Second, previous research based on information-processing theory underscored that team members tend to interact less when they lack the perception of having adequate resources and abilities to accomplish their tasks (e.g., Driskell & Johnston, 1998; Gladstein & Reilly, 1985), a perception that is considered a critical aspect for effective improvisation (Vera & Crossan, 2005). Specifically, as overload increases, team members tend to be less able to come to a shared organized representation of the team's task environment (Hinsz, Tindale, & Vollrath, 1997); this hinders the team's ability to exchange the information needed to effectively develop a creative solution in a short time frame. When team members feel that they are under pressure, they narrow their breadth of attention, thus becoming more self-focused and less team-focused (e.g., Driskell et al., 1999; Gladstein & Reilly, 1985). This attention shift can disrupt the ability to exchange immediately available resources for developing a common understanding of the emergent issue (Driskell et al., 1999) to come up with creative solutions. Since improvisational action in a team-based setting is more likely to be effective when members are able to develop a collective representation of the team task and when they are able to put together interdependent efforts, we posit that higher levels of overload negatively affect the relationship between improvisation and performance. Our argument is also corroborated by previous research that highlights that under acute overload, individuals are significantly more likely to confuse their roles (Ellis, 2006), resulting in less similar and less accurate development of a shared representation of the situation, hampering their ability to cope with emergent issues. Thus, we posit the following:

Hypothesis 2: Overload moderates the relationship between improvisation and performance; the relationship is negative when overload is high but positive when overload is low.

The Combined Effect of Overload and Empowering Leadership

In addition to influencing the relationship between improvisation and performance individually, we argue that empowering leadership and overload may also exert a joint effect on this relationship. In other words, these factors should act as moderators concurrently such that the effect of improvisation on performance is higher under the condition of low overload and high empowering leadership. Such a perspective is consistent with Karasek (1979), who outlines that individuals' attitudes and behaviors are affected by the conjunction of demand and control.

An environment characterized by empowering leadership allows individuals to work as a team and to have more freedom to choose how to face a given situation. However, high degrees of overload may negatively affect the positive effects of having more room for taking autonomous decisions in dealing with unexpected events, thus hampering effective improvisation. Indeed, teams who are exposed to a more empowering leadership style are likely to be involved in dual-task processing because they have to both make decisions about how to accomplish the task and then accomplish the task itself (Rubinstein, Meyer, & Evans, 2001). Therefore. empowering leadership leads individuals to perform both the cognitive activity related to the decision-making process and the practical activity related to the task. When team members perceive they do not have enough skills but are left with a high degree of discretion, they are more likely to come to feel that they are not supported by their leader because they have to deal with both developing a solution and executing it. Our reasoning is consistent with previous literature that underscores that in case of a high degree of pressure, a more central role of the leader in the decision-making process is needed (Vroom & Jago, 1988), while team-member participation is more appropriate when subordinates perceive that they have enough competencies to achieve the goal in question (Vroom, 2000). Alternatively, teams with a high degree of empowering leadership and low overload would perceive they have both the ability and the freedom to act autonomously, allowing team members to better recombine the immediately available resources for dealing with emergent issues. This reasoning is consistent with previous research that underscored that under such conditions, individuals have the opportunity to create conditions congruent with their work preferences for facing a specific situation (Kaldenberg & Becker, 1992). According to this reasoning, we hypothesize an interaction effect between overload and empowering leadership in shaping the link between improvisation and performance. Formally:

Hypothesis 3: There will be a three-way interaction between improvisation, empowering leadership, and overload such that the relationship between improvisation and performance will be strongest when empowering leadership is high and overload is low.

Method

Sample and Data Collection

To test our research model we conducted field studies in two large European firms. One of the participating firms was based in the retail industry, while the other was based in the financial industry. The participating firms each employed a team-based structure for organizing work. Team members interacted with peers to accomplish their tasks. Each team was responsible for a portfolio of customers, and accountable for managing and satisfying customer needs and requests (e.g., assistance, promotional campaigns, claims, funding services). Consistent with previous research (Shalley & Gilson, 2004), the teams involved in the study fit the team characteristics depicted by Hackman (1987). For instance, all teams had clearly defined membership, operated within organizational boundaries, and

worked on more than one measurable task. Furthermore, according to Wageman (1995), although team members' daily tasks can be described as independent (i.e., going to customer sites to show a promotional campaign), group functioning and performance was highly interdependent since the teams could decide how to manage their work (e.g., division of labor, allocation of resources, performance monitoring, knowledge sharing, complex problem resolution). All targeted teams worked in an environment where improvisation was likely to occur—that is, in jobs with direct contact with external customers or jobs in which teams dealt with one or more of the following: unexpected or novel events, resource scarcity, and urgency. Across the two firms, a total of 810 employees comprising 129 teams were targeted for participation in the study, and 269 usable surveys from members of 48 teams were completed, yielding individual-level and team-level response rates of 33 percent and 37 percent, respectively. In order to obtain an accurate shared team perception of the constructs involved in our study, we only included teams having a within response rate of 70 percent in our analyses. This follows a suggestion by Langfred (2007) that at least the majority of team members should have provided valid responses to provide a robust assessment of team-shared properties. On average, the teams in our sample were made up of seven members.

Prior to data collection, we worked closely with management in the participating firms. We conducted interviews with each firm's managers to get a sense of the work context and the circumstances surrounding the teams. During the interview, managers were also invited to describe events in which their team had to "come up with something really fast" or "think on their feet." The objective was to understand the circumstances in which team members improvise and to examine the factors influencing the success of improvisational action. Based on these interviews, we constructed a questionnaire to collect data relating to the constructs in the research model. In compiling the survey, we coordinated with managers to ensure that the

questions were relevant to the firms' context. About one week prior to the distribution of the survey to potential participants, a senior manager of each firm sent a memorandum to all relevant employees, emphasizing the importance of the research.

Measurement

In order to obtain reliable team-level ratings for the variables in the study and to avoid potential common source bias, we collected responses from multiple sources in each team. Improvisation, empowering leadership, and overload were measured using aggregated responses from team members, while performance was measured through the responses from the team leaders. Because some of the data from this team-level study were collected from multiple individuals within each team, it was necessary to justify the aggregation of individual-level within-team ratings to teamlevel scores (Klein & Kozlowski, 2000; Rousseau, 1985). To accomplish this, we examined the within-group agreement $(r_{wg(i)})$ index and intra-class correlation coefficients (ICCs) for the team-level constructs (James, Demaree, & Wolf, 1984). This included a oneway analysis of variance (ANOVA) based on team membership to test the significance of between-group variation, and the computation of ICC(1) to verify the between-group versus within-group variability in the individual-level responses. The ICC(1) reflects the extent to which variation in individual-level ratings can be attributed to between-team differences (Bliese, 2000). We also calculated the ICC(2) to assess the stability of the team-level means (Bliese, 2000). Unless otherwise stated, all variables were measured on a five-point Likert-type scale with values ranging from "strongly disagree" to "strongly agree."

Improvisation

Team improvisation was measured using a seven-item scale developed by Vera and Crossan (2005). The scale assesses the degree to which team members adopt both creative and spontaneous behaviors. A sample item for the creative facet is: "The team tries new

approaches to problems," while a sample item for the spontaneity dimension is "The team deals with unanticipated events on the spot." Consistent with Vera and Crossan (2005), all items used the team as a referent. Members on each team were asked to rate the extent to which their team engaged in such behaviors over the course of their team activity. The scale had a reliability of .89. Because multiple ratings within teams were obtained for team improvisation, it was necessary to determine if aggregation of individual responses to compute a single team score was appropriate. The mean $r_{wg(i)}$ for team improvisation was .88, indicating high interrater agreement. Results of a one-way ANOVA indicated significant between-team differences in ratings of team improvisation (F = 1.894; p < .01). The ICC(1) for improvisation was .15, suggesting that this truly was a team-level phenomenon. The ICC(2) was .64, indicating stable team-level means for this construct. A team-level score for improvisation was computed by averaging within-team responses to the scale.

Empowering Leadership

The measure related to empowering leadership was adapted from Faraj and Sambamurthy (2006) entailing three interrelated dimensions: encourage teamwork, participative goal setting, and encourage self-development. A sample item for teamwork is: "The team leader urges us to work as a team"; for participative goal setting: "The team leader works with us to develop our performance goals"; and for self-development: "The team leader encourages us to develop ourselves." The scale had a reliability of .96. Because multiple ratings within teams were obtained for empowering leadership, it was necessary to determine if aggregation of individual responses to compute a single team score was appropriate. The mean r_{wg(i)} for empowering leadership was .87, indicating very high interrater agreement. Results of a one-way ANOVA indicated significant between-team differences in ratings of team empowering leadership (F =1.775; p < .01). The ICC(1) for empowering leadership was .16, while the ICC(2) was .70, indicating stable team-level means for this construct. A team-level score for empowering leadership was computed by averaging within-team responses to the scale.

Overload

The measure related to overload was adapted from Ahuja and Thatcher (2005). Sample items are "It often seems that we have too much work for our team to do" and "To be successful on the team task requires more abilities than we currently have." The scale had a reliability of .74. Because multiple ratings within teams were obtained for overload, it was necessary to determine if aggregation of individual responses to compute a single team score was appropriate. The mean $r_{\mathrm{wg(j)}}$ for overload was .82, indicating high interrater agreement. Results of a one-way ANOVA indicated significant between-team differences in ratings of team overload (F = 1.913; p < .01). The ICC(1) for overload was .19, while the ICC(2) was .67, indicating stable team-level means for this construct. A teamlevel score for overload was computed by averaging within-team responses to the scale.

Team Performance

We measured team performance using a fouritem scale. Four items that assess the degree to which the team delivers high-quality output were adapted from Pearce and Sims's (2002) quality effectiveness scale. A sample item is "The team is highly effective at implementing solutions." The scale had a reliability of .77.

Controls

Given that this study includes data from two different firms, we controlled for possible organizational effects in the analysis by including a dummy variable in the regression analysis. This effectively controls for all constant and unmeasured differences across the firms that may explain differences in the variables and relationships investigated. Moreover, to isolate the impact of improvisation and empowering leadership, a number of variables that may affect team performance (Cohen & Bailey, 1997; Hackman & Morris, 1975) were

included as controls. Following Hoegl, Parboteeah, and Munson (2003), we included team size as a control variable. In fact, larger team sizes have been associated with both increased and decreased performance, and larger teams, it is argued, give team members access to a broader array of resources. However, larger teams also create greater coordination complexity, thereby hindering the ability of individuals to collaborate and recombine resources in a short time frame. Since team tasks are characterized by varying degrees of task interdependence in team members' work, the behavior of each team member has an impact not only on the effectiveness of that individual, but also on the effectiveness of the team as a whole (Griffin, Neal, & Parker, 2007). Thus, we included task interdependence as a control variable, and measured it using a threeitem scale adapted from Campion, Medsker, and Higgs (1993), with a reliability of .70. Finally, since the task innovativeness can be related to team outcomes (Vera & Crossan, 2005), we included it as a control variable in our model. Indeed, the degree to which members have to deal with emergent and unexpected situations in performing their activities may affect the way members react to such situations, impacting team performance. Task innovativeness was measured using a three-item scale adapted from Vera and Crossan (2005). This scale had a reliability of .65. Table I shows the descriptive statistics, correlations, and scale reliabilities for the variables in the study.

Analysis and Results

To test our hypotheses, we conducted moderated regression analysis. Consistent with guidelines outlined by Baron and Kenny (1986), we employed a three-step approach to testing for moderation. In the first step, we entered the control variables: firm, team size, task interdependence, and task innovativeness. In the second step, we entered the main effect terms into the model, and in the third step, the interaction terms. Consistent with Aiken and West (1991), we mean-centered the variables before creating the interaction

T A B L E Descriptives, Reliability, and Correlations									
	Alpha	Mean	SD	1	2	3	4	5	6
1. Performance	.77	3.54	.52	_					
2.Team size	_	7.39	4.40	04					
3. Interdependence	.70	3.37	.45	23	10				
4. Task innovativeness	.65	3.78	.32	.14	15	.31*			
5. Improvisation	.89	3.42	.72	.02	08	.17	.18*		
6. Empowering leadership	.96	3.42	.49	.04	.03	.01	.25	.53**	
7. Overload	.74	3.63	.59	09	04	.40**	.24	.17	.09

^{*}p < .05.

terms for the analysis so as to limit the potential for multicollinearity in the model. The results of the regression analysis are presented in Table II. Support for the moderation hypotheses was assessed in several ways. First, we examined the significance of the additional variance explained when the interaction terms were added to the regression model. Second, we studied the significance of the interaction coefficients. Finally, we analyzed the pattern of the interactions via a graphical plot. As the results in Table II (Model 3) indicate, the interaction terms explained an additional 18 percent of the variance in team improvisation over and above that explained by the main effects model (Model 2). The F-statistics suggest that this is a significant increase in the variance explained (ΔF = 2.79; p < .05). The coefficient for the interaction between improvisation and empowering leadership is positive and significant ($\beta = .30$; p < .05), providing additional support for H1, while the coefficient for the interaction between improvisation and overload is negative and significant ($\beta = -.51$, p < .01), thus corroborating H2. Moreover, we found support for H3 since the three-way interaction term is significant ($\beta = -.45$; p < .05). Finally, in order to understand the form of the moderation, we plotted the interaction effects following the guidelines outlined by Aiken and West (1991). Specifically, we plotted the relationship between improvisation and performance at one standard deviation above and below the mean for both team empowering leadership and overload. As Figure 1 illustrates,

improvisation has a positive relationship with team performance when empowering leadership is high, while it turns negative when team empowering leadership is low. As Figure 2 shows, improvisation has a negative relationship with team performance when overload is high, while it turns negative when overload is low. This supports our prediction that increasing overload hinders the relationship between improvisation and performance. The graph of the three-way interaction (Figure 3) indicates that the relationship between improvisation and performance is most positive when empowering leadership is high and overload is low, suggesting that such contingency factors operate jointly in influencing the team improvisation-performance link. Moreover, as depicted in Table II, we also controlled for potential multicollinearity among predictors. The VIF values reported in parentheses point out that multicollinearity was not a threat to our findings because the values are far below the threshold of 10 suggested by Hair, Anderson, Tatham, and Black (1998).

Discussion

The goal of this research was to expand our understanding of the contingencies that enable teams to effectively improvise. Specifically, we sought to examine the effect of empowering leadership and overload on the team improvisation–performance relationship. This was driven by the recognition that organizations are moving toward a team-based structure for

^{**}p < .01.

T A B L E II Regression Analysis Results of Team Performance							
	Model 1	Model 2	Model 3				
Controls:							
Firm	02	02	03				
	(1.500)	(1.681)	(1.871)				
Team size	04	03	.01				
	(1.100)	(1.125)	(1.139)				
Task interdependence	28^{\dagger}	27					
	(1.496)	(1.558)	1.850)				
Task innovativeness	.22	.23	.15				
	(1.121)	(1.249)	(1.329)				
Main effects:							
Improvisation		01	.10				
		(1.735)	(1.955)				
Empowering leadership		01	01				
		(1.663)	(2.168)				
Overload		02	.16				
		(1.366)	(1.914)				
Interaction effects:							
Improvisation*			.30*				
Empowering leadership			(2.224)				
Improvisation* Overload			51 **				
			(1.974)				
Empowering leadership*			.04				
Overload			(2.105)				
Improvisation *			−. 4 5*				
Empowering leadership*			(3.052)				
Overload							
R^2	.10	.10	.28				
ΔR^2		.00	.18				
ΔF		0.08	2.79*				

N=48.

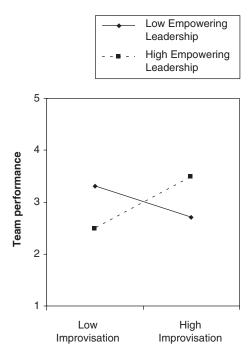
Standardized coefficients shown. Variance Inflation Factors (VIFs) are reported in parentheses.

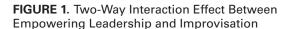
managing complex, knowledge-intensive tasks, overload is an increasing phenomenon that affects teams, and leaders' behavior has been recognized as one of the main variables affecting team outcomes. We reasoned that increasing degrees of empowering leadership would foster team members' ability to realize the benefits of improvisation, while overload would have a negative effect. To the best of our knowledge, this study is the first to

 $^{^{\}dagger}p<$.10.

^{*}*p* < .05.

^{**}p < .01.





Low Overload

Low Overload

Low High Improvisation

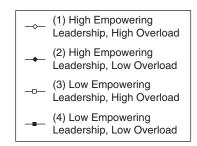
FIGURE 2. Two-Way Interaction Effect Between Overload and Improvisation

examine the role of leadership and overload in influencing the relationship between improvisation and team performance. In addition, this study is among the first to investigate improvisation and its impact on performance in a work setting, departing from a metaphorical conceptualization of improvisation. Our model of team empowering leadership, overload, and improvisation explained 28 percent of the variance in team performance. In light of these results, our research makes several theoretical contributions and offers directions for future research that should be observed in light of the strengths and limitations of the study.

Theoretical Implications and Future Research Directions

First, previous research suggests that improvisational actions are not inherently positive or negative (Vera & Crossan, 2005). As Vera and Crossan (2005) observe, improvisation may not necessarily lead to positive outcomes, and contextual factors such as leadership style need to be taken into account. Indeed, while

previous studies on improvisation have primarily focused on elements related to team characteristics and peer interaction, we contribute to the improvisation literature by incorporating the role of leadership (Moorman & Miner, 1998a; Vera & Crossan, 2005). Recognizing that empowering leadership is increasingly becoming a common leadership style for conducting teams that operate in uncertain contexts, we answered the call to shed light on the implications that this emerging leadership style would have for teams' improvisational efforts. Our investigation of empowering leadership is consistent with the arguments of Yun et al. (2003), who underscore that research on leadership as a contingent factor has gained appeal in recent years, but, unfortunately, empirical support is still limited. In our theorizing on the moderating role of empowering leadership, we reasoned that increasing levels of empowerment would enhance the team ability to effectively improvise. The underlying logic was that teamempowering leaders create a shared vision among team members and leave them room and responsibility for solving emergent issues



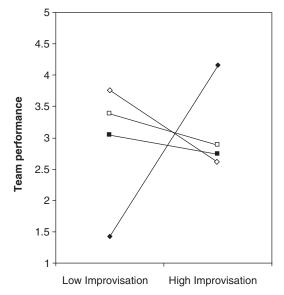


FIGURE 3. Three-Way Interaction Effect of Improvisation With Empowering Leadership and Overload on Performance

by leveraging on teamwork. Thus, empowering leadership has broader implications for those team processes related to recombining resources and searching for new pathways in order to react to nonroutine and/or unanticipated events. Our study complements extant research that explores the role of empowering leadership on team and individual outcomes such as effectiveness and satisfaction (Faraj & Sambamurthy, 2006; Vecchio et al., 2010; Yun et al., 2003). The results of the present study also offer some interesting insights in that the advocates of greater levels of empowering leadership have sought to specify the mechanisms by which improvisation impacts team performance. Empowering leadership decreases dysfunctional resistance, thereby establishing the conditions through which individuals are more likely to deal with emergent issues that require immediate action (Vecchio et al., 2010). Indeed, leadership may

help to overcome team members' resistance to unexpected events by giving more responsibility to the team members, and through developing a sense of self-worth and contribution to the achievement of team goals. The positive effect of empowering leadership on the improvisation-performance link is also consistent with previous work that underscores that team members who need information in a short time look for critical information within their own team in order to recombine that information to face an emergent situation (Crossan & Sorrenti, 1997). Because empowering leadership fosters teamwork, members are more likely to achieve a higher level of knowledge and complementary skills exchange, and less effort is required to obtain needed resources in a short time frame.

Future research needs to expand the set of structural features that characterize teams and the implications that such features have for improvisation in interacting with empowering leadership. For example, we only focused on empowering leadership and overload as contingencies. However, since organizations are moving toward geographically dispersed teams to draw on specialized expertise from remote locations and to capture comparative labor cost advantages (Boh, Ren, Kiesler, & Bussjaeger, 2007), it would be worthwhile to better understand how empowering leadership affects the improvisation process as geographical dispersion increases. Moreover, besides looking at the effect of empowering leadership in the improvisation-performance link, it would be worthwhile to investigate if leaders' behavior may trigger or constrain the occurrence of improvised action. Our rationale for focusing on the moderating role of empowering leadership was that it creates a context in which team improvisation is more likely to yield positive outcomes. This approach was consistent with Vera and Crossan's (2005) assertion that the effects of team improvisation on outcomes are contingent on the context in which such improvisation occurs. However, we acknowledge that a reasonable argument could be made that empowering leadership might foster team improvisation. After all, efforts to encourage

participative decision making certainly could improve the odds of teams engaging in creative and spontaneous actions. In fact, the significant correlation between empowering leadership and team improvisation in our study (r = .53, p < .01) suggests that this may be plausible. We do want to urge caution in how such linkages are established. As we noted before, empowering leadership creates the context in which teams operate. It is how team members psychologically react to this leadership context that informs how teams behave. Thus, it may be instructive to examine the psychological state of teams in which empowering leadership is exercised. For instance, one might expect that psychologically empowered teams are more likely to engage in team improvisation. We encourage future research to examine such relationships.

Second, our study provides a contribution to the stream of research related to overload, highlighting the negative effect of overload in teams leveraging both on social cognitive and information-processing theories (e.g., Gladstein & Reilly, 1985). In particular, our results provide better support for information-processing theory grounded in the argument that under overload conditions, team members are less likely to exchange information, thus hampering their ability to improvise effectively when unanticipated issues emerge. This result is particularly relevant because teams are increasingly required to deal with unexpected issues (Vera & Crossan, 2005). Moreover, team members' ability to respond with quick and creative intervention, as required by the environment, is affected by their perception that their skills are insufficient. Whereas previous studies pointed out the direct effect of overload on team performance, our study is among the first to focus on overload when teams have to face emergent issues. In doing so, we answered the call by Ellis (2006), who argued that more research is needed to understand the effects of overload on how a team responds to events when there is a choice among several alternatives. Moreover, our research expands previous studies on improvisation by adopting a social cognitive

perspective (Bandura, 1986), and indicates that overload does not simply reduce the amount of communication between team members, but rather interferes with their perception of being able to face an emergent issue.

Moreover, our study advances previous research by taking into account empowering leadership and overload simultaneously. Previous research treated such constructs separately without theoretically building a potential joint effect. The results of the present study suggest that the positive effect of empowering leadership on the improvisationperformance link is affected by the level of overload. Teams can experience low

performance when they improvise if they are empowered but they do not think they possess the necessary abilities to accomplish the task at hand. Conversely, high empowering leadership along with the perception of having enough competencies to deal with the task at hand (i.e., low overload) increases the likelihood of team effectiveness in dealing with emergent issues. Such a result is particularly noteworthy in light of the tendency to create empowered teams to gain flexibility and ability to deal with complex situations, without considering the conditions under which this managerial strategy is pursued. Indeed, creating empowered teams without addressing team overload may be detrimental if the team needs to face emergent issues. This aspect extends previous findings that underscore that self-management team negatively affect team interaction processes, thus hampering performance (Langfred, 2007), as well as the process of setting performance objectives. Our study advances research on self-managed teams

by examining how empowering leadership,

traditionally regarded as beneficial for dealing

with unexpected issues, may be associated

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Our results provide

with dysfunctional outcomes if the team is not prepared to leverage on this kind of decentralized responsibility. In our study we show that giving more autonomy to the team to face an unexpected event can have a negative effect, but this is contingent on team members' perception that they lack adequate abilities. Thus, an important component of future research would be studying how the effect of overload may interact with other kinds of leadership behaviors in the face of unexpected events. Indeed, it is possible that overload could have a less negative effect on the improvisation-performance link for those teams that are more subject to leadership behaviors that are more centralized in

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nature. For example, some research advocates the idea that a directive leadership style, through providing more directions to the team, also gives more structure for intrinsically unstructured work (Faraj & Sambamurthy, 2006). In doing so, directive leaders may be perceived as more supportive in case of emergent issues by those teams that do not feel they have adequate abilities for accomplishing their task.

Moreover, our results advance understanding of improvisation in an organizational setting. Indeed, we depart from the metaphorical perspective that dominates the extant literature on improvisation by founding our research on a field setting. Specifically, we were able to strengthen extant theoretical research on improvisation by designing our framework in the natural environment in which individuals are embedded. Our article goes beyond the traditional reliance on jazz and theater by grounding literature development of our theoretical arguments on management theory; our analysis also advances

the growing body of empirical work on improvisation in field settings (Vera & Crossan, 2005). In order to better contribute

to the team improvisation literature in the managerial setting, we believe that future research should also look at the structural characteristics of teams. Indeed, while we focused on shared beliefs of team members. it would be worthwhile to look at structural characteristics, such as team composition, team-member diversity, and team social networks. Such a perspective would provide further insights to those studies that outlined that structural characteristics may affect team outcomes (Bezrukova, Jehn, Zanutto, & Thatcher, 2009; Oh, Chung, & Labianca, 2004) but did not take into account their effects in the team attempt to respond to an emergent issue.

Finally, whereas our study focused on a context where teams were characterized by a high degree of agreement in interpreting the constructs we adopted, we encourage future research to investigate situations in which team members do not present a shared representation of the environment and how this issue may affect the ability of team members to improvise. Indeed, in such a situation it could emerge that team improvisation may suffer from a lack of agreement because of the difficulty to develop shared understanding on the issue to solve.

Strengths and Limitations

Our research study has several strengths that should be noted. First, our study design involved data collection from multiple sources within participating teams. In particular, we were able to get responses to questionnaire items from members in each team as well as their leaders. This is particularly noteworthy given the difficulty of obtaining such data in a field setting. Second, our study of improvisation is based on the analysis of working teams in the field. Third, our field study involved 269 participants in 48 different teams. Compared to previous studies on improvisation and empowering leadership, this is a fairly large sample size.

Despite the strengths of our study, as with any research, our findings need to be interpreted in light of a few limitations. One is the use of a survey method and a

cross-sectional design in the study. Such a design gives rise to the potential for common method bias, as participants can engage in hypothesis guessing and social desirability while completing the questionnaire (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). However, this concern is allayed since we followed recommendations by Podsakoff et al. (2003) by using multiple respondents within each team and different subjects for the independent and dependent variables in the model. Moreover, we conducted a Harman's one-factor test for corroborating that common method variance was not a threat to our findings. The principal components factor analysis results did not identify a single factor and explained 67 percent of the variance, and the first factor did not account for all of the variance (40.1 percent), thus highlighting that a substantial amount of common method variance is not present (Podsakoff & Organ, 1986). An implicit assumption in our study was that team activities are inherently complex (Kemerer, 1995). However, recognizing that there can be variation in the amount of required improvisation across team activities, we controlled for task innovativeness as a main effect. We also ran a post-hoc test in which we considered task innovativeness as a moderator of the improvisation-performance link. Results show that the relationship between improvisation and performance is not contingent to task innovativeness $(\beta = -.04, \text{ ns})$. Such a result corroborates the evidence from the interviews with managers that have been done before the data collection. which outlined that the targeted teams for our study have to deal with emergent issues that do not have preplanned solutions and should be solved in a short time frame. A final limitation is that teams in our sample were from only two organizations, thus affecting the generalizability of our results.

Implications for HRM Practices and Managers

In addition to providing implications for theory, our research offers several insights for HR managers and consultants. From a managerial

perspective, our results underscore the fact that managerial intervention should be directed toward the development of a fertile ground to facilitate the occurrence of effective extemporaneous behaviors for facing emergent issues (Brown & Eisenhardt, 1997; Vera & Crossan, 2004). Leveraging on empowering leadership, HR managers may offer support tools for teams to "prepare to be spontaneous" (Barrett, 1998, p. 606) and "rehearse spontaneity" (Mirvis, 1998, p. 587). If teams develop a sense of teamwork and responsibility toward a shared goal, when unexpected events occur it would be possible to immediately decide to abandon routines and look for an alternative solution, without waiting for approval from the team leader. Indeed, taking a wait-and-see approach may represent an obstacle to effectively dealing with context uncertainty (Kamoche & Pina e Cunha, 2001), and failing to respond in the moment may result in the intensification of a problem (Crossan & Sorrenti, 1997). Thus, HR divisions should be able to implement interventions on team leaders that are focused on the development of empowering leadership in order to facilitate the ability of team members to effectively react to an unexpected situation. This can be done in formal ways, such as designing leader training programs that foster the ability to delegate and to encourage teams to solve their own problems and giving the team full accountability for results. Besides implementing interventions for team leaders, HR managers may support team members for being prepared to face unexpected issues by creating an environment that encourages participative decision making. For instance, training interventions aimed at making shared decisions by considering the interplay among a variety of perspectives can be developed specifically for team members (Gagné, 2009). Taking such managerial action is particularly relevant in managing those teams that have to face tasks that rarely have predetermined templates for achieving team goals. Rather, the ability to develop an environment that facilitates creative and spontaneous initiatives is paramount.

Moreover, our article also informs HR managers about the shortcomings of a blind

implementation of apparently glowing HRM practices (Caza, 2011). Indeed, our study advocates that managers should be careful in

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following the managerial fashion of pushing for leadership models that are empowering in nature when team members perceive they are overloaded. Our results show that under such conditions the presence of empowering leadership hampers the benefits of giving team members more freedom to operate. Further, we advocate the idea that leaders should resist the temptation to put heavier task burdens on the shoulders of their team members, because doing so may negate the very advantages that enable team members to face unexpected events. Leaders should be on the alert for signs that employees are suffering from overload, and when such signs appear, managers should be able to intervene by rebalancing the amount of decisional power they delegate to the team. Moreover, HR managers can support team leaders by promoting training intervention in an attempt to decrease the perceived overload and to enhance

the team perception of being well equipped for addressing emergent issues (Marks, Sabella,

Burke, & Zaccaro, 2002). In doing this, extant HR literature identified cross-training as an intervention that may offer informational and instrumental support by providing individuals with practical knowledge regarding the roles and responsibilities of their teammates, enhancing the ability to develop shared mental models among team members (Hollenbeck, DeRue, & Guzzo, 2004), thus fostering the ability to deal with unexpected events. This managerial suggestion also finds empirical justification in previous studies on improvisation that reveal that training plays a pivotal role in supporting individuals in order to deal with emergent issues (Vera & Crossan, 2005).

Finally, our research offers insights to managers because it takes into account the role of improvisation in situations that are not necessarily related to crisis, grounding it in day-to-day activity. Indeed, according to Vera and Crossan (2005), despite previous literature mostly focused on improvisation in crisis situations, improvisation is likely to occur in everyday situations in which individuals and teams have to deal with limited resources and spontaneity. Thus, our research corroborates this perspective by providing evidence of the effect of improvisation and empowering leadership in the context of working teams, moving from contexts where improvisation is expected (such as product development and crisis situations) to more counterintuitive settings and traditional settings.

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References

- Ahuja, M., & Thatcher, J. (2005). Moving beyond intentions and toward the theory of trying: Effects of work environment and gender on post-adoption information technology use. MIS Quarterly, 29,
- Aiken, L. S., & West, S. G. (1991). Multiple regression: Testing and interpreting interactions. Newbury Park, CA: Sage.
- Arnold, J. A., Arad, S., Rhoades, J. A., & Drasgow, F. (2000). The empowering leadership questionnaire: The construction and validation of a new scale for measuring leader behaviors. Journal of Organizational Behavior, 21, 249–269.
- Bandura, A. (1986). Social foundations of thought and action: A social cognitive theory. Englewood Cliffs, NJ: Prentice-Hall.
- Baron, R. M., & Kenny, D. A. (1986). The mediatormoderator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. Journal of Personality and Social Psychology, 5, 1173–1182.
- Barrett, F. (1998). Creativity and improvisation in jazz and organizations: Implications for organizational learning. Organization Science, 9, 543–555.
- Bechky, B. A., & Okhuysen, G. A. (2011). Expecting the unexpected? How SWAT officers and film crews handle surprises. Academy of Management Journal, 54, 239–261.
- Bezrukova, K., Jehn, K. A., Zanutto, E., & Thatcher, S. M. B. (2009). Do workgroup faultlines help or hurt? A moderated model of group faultlines, team identification, and group performance. Organization Science, 20(1), 35–50.
- Bliese, P. D. (2000). Within-group agreement, nonindependence, and reliability: Implications for data aggregation and analysis. In K. J. Klein &

- S. W. Kozlowski (Eds.), Multilevel theory, research, and methods in organizations (pp. 349–381). San Francisco, CA: Jossey-Bass.
- Boh, W. F., Ren, Y., Kiesler, S., & Bussjaeger S. (2007). Expertise and collaboration in the geographically dispersed organization. Organization Science, 18, 595–612.
- Brown, S. L., & Eisenhardt, K. M. (1997). The art of continuous change: Linking complexity theory and time-paced evolution in relentlessly shifting organizations. Administrative Science Quarterly, 42, 1–34.
- Campion, M. A., Medsker, G. J., & Higgs, A. C. (1993).
 Relations between work group characteristics and effectiveness: Implications for designing effective work groups. Personnel Psychology, 46, 823–847.
- Carmeli, A., & Schaubroeck, J. (2005). How leveraging human resource capital with its competitive distinctiveness enhances the performance of commercial and public organizations. Human Resource Management, 44, 391–412.
- Cascio, W. F., & Shurygailo, S. (2003). E-leadership and virtual teams. Organizational Dynamics, 31, 362–376.
- Caza, A. (2011). Testing alternate predictions for the performance consequences of middle managers' discretion. Human Resource Management, 50, 9–28.
- Cohen, S. G., & Bailey, D. E. (1997). What makes teams work: Group effectiveness research from the shop floor to the executive suite. Journal of Management, 23, 239–290.
- Cornelissen, J. P. (2006). Making sense of theory construction: Metaphor and disciplined imagination. Organization Studies, 27, 1579–1597.
- Crossan, M., & Sorrenti, M. (1997). Making sense of improvisation. Advances in Strategic Management, 14, 155–180.

- Crossan, M., Pina e Cunha, M., Vera, D., & Cunha, J. (2005). Time and organizational improvisation. Academy of Management Review, 30, 129–145.
- Delbecq, A. L., & Mills, P. K. (1985). Managerial practices that enhance innovation. Organizational Dynamics, 14(1), 24–34.
- Drazin, R., Glynn, M. A., & Kazanjian, R. K. (1999). Multilevel theorizing about creativity in organizations: A sensemaking perspective. Academy of Management Review, 24, 286–307.
- Driskell, J. E., & Johnston, J. H. (1998). Stress exposure training. In J. A. Cannon-Bowers & E. Salas (Eds.),
 Making decisions under stress: Implications for individual and team training (pp. 191–218).
 Washington, DC: American Psychological Association.
- Driskell, J. E., Salas, E., & Johnston, J. (1999). Does stress lead to a loss of team perspective? Group Dynamics: Theory, Research, and Practice, 3, 291–302.
- Druskat, V. U., & Wheeler, J. (2003). Managing from the boundary: Leadership of self-managing work teams. Academy of Management Journal, 46, 435–457.
- Ellis, A. (2006). System breakdown: The role of mental models and transactive memory in the relationship between acute stress and team performance.

 Academy of Management Journal, 49, 576–589.
- Faraj, S., & Sambamurthy, V. (2006). Leadership in software development teams. IEEE Transactions on Engineering Management, 53, 238–249.
- Faraj, S., & Xiao, Y. (2006). Coordination in fastresponse organizations. Management Science, 52, 1155–1169.
- Gagné, M. (2009). A model of knowledge-sharing motivation. Human Resource Management, 48, 571–589.
- Gersick, C. J., & Hackman, R. J. (1990). Habitual routines in task-performing groups. Organizational Behavior and Human Decision Processes, 47, 65–97.
- Gladstein, D. L., & Reilly, N. P. (1985). Group decision making under threat: The tycoon game. Academy of Management Journal, 28, 613–627.
- Griffin, M. A., Neal, A., & Parker, S. K. (2007). A new model of work role performance: Positive behavior in uncertain and interdependent contexts. Academy of Management Journal, 50, 327–347.
- Gully, S. M., Incalcaterra, K. A., Joshi, A., & Beaubien, J. M. (2002). A meta-analysis of team-efficacy, potency, and performance: Interdependence and level of analysis as moderators of observed relationships. Journal of Applied Psychology, 87, 819–832.

- Hackman, J. R. (1987). The design of work teams. In J. W. Lorsch (Ed.), Handbook of organizational behavior (pp. 315–342). Englewood Cliffs, NJ: Prentice-Hall.
- Hackman, J. R., & Morris, C. G. (1975). Group tasks, group interaction process, and group performance effectiveness: A review and proposed integration. In L. Berkowitz (Ed.), Advances in experimental social psychology (Vol. 8, pp. 45–99). New York, NY: Academic Press.
- Hair, J. F., Anderson, R. E., Tatham, R. L., & Black, W. C. (1998). Multivariate data analysis (5th ed.). Upper Saddle River, NJ: Prentice Hall.
- Hambrick, D. C. (2007). The field of management's devotion to theory: Too much of a good thing? Academy of Management Journal, 50, 1346–1352.
- Hatch, M. J. (1997). Jazzing up the theory of organizational improvisation. In J. Walsh & A. Huff (Eds.), Advances in strategic management (Vol. 14, pp. 181–191). Greenwich, CT: JAI Press.
- Hinsz, V. B., Tindale, R. S., & Vollrath, D. A. (1997). The emerging conceptualization of groups as information processors. Psychological Bulletin, 121, 43–64.
- Hoegl, M., & Parboteeah, K. P. (2006). Autonomy and teamwork in innovative projects. Human Resource Management, 45, 67–79.
- Hoegl, M., Parboteeah, K. P., & Munson, C. L. (2003). Team-level antecedents of individuals' knowledge networks. Decision Sciences, 34, 741–770.
- Hollenbeck, J. R., DeRue, D. S., & Guzzo, R. (2004). Bridging the gap between I/O research and HR practice: Improving team composition, team training and team task design. Human Resource Management, 43, 353–366.
- Howell, J. M., & Shamir, B. (2005). The role of followers in the charismatic leadership process: Relationships and their consequences. Academy of Management Review, 1, 96–112.
- Ilgen, D. R., Hollenbeck, J. R., Johnson, M., & Jundt, D. (2005). Teams in organizations: From input-processoutput models to IMOI models. Annual Review of Psychology, 56, 517–543.
- James, L. R., Demaree, R. G., & Wolf, G. (1984). Estimating within-group interrater reliability with and without response bias. Journal of Applied Psychology, 69, 85–98.
- Kahn, R. L., Wolfe, D., Quinn, R., & Snoek, J. D. (1964). Organizational stress: Studies in role conflict and ambiguity. New York, NY: Wiley.
- Kaldenberg, D. O., & Becker, B. W. (1992). Workload and psychological strain: A test of the French,

- Rodgers, and Cobb hypothesis. Journal of Organizational Behavior, 13, 617–624.
- Kamoche, K., & Pina e Cunha, M. (2001). Minimal structures: From jazz improvisation to product innovation. Organization Studies, 22, 733–764.
- Kamoche, K., Pina e Cunha, M., & Vieira da Cunha, J. (2003). Towards a theory of organizational improvisation: Looking beyond the jazz metaphor. Journal of Management Studies, 40, 2023–2051.
- Karasek, R. A. (1979). Job demands, job decision latitude, and mental strain: Implications for job redesign. Administrative Science Quarterly, 24, 285–308.
- Karasek, R., & Theorell, T. (1990). Healthy work: Stress, productivity, and the reconstruction of the working life. New York, NY: Basic Books.
- Kemerer, C. F. (1995). Software complexity and software maintenance: A survey of empirical research. Annals of Software Engineering, 1, 1–22.
- Kirsch, L. J. (1996). The management of complex tasks in organizations: Controlling the systems development process. Organization Science, 7, 1–21.
- Klein, K. J., & Kozlowski, S. W. (2000). From micro to meso: Critical steps in conceptualizing and conducting multilevel research. Organizational Research Methods, 3, 211–236.
- Kozlowski, S. W. J., Gully, S. M., Nason, E. M., & Smith, E. M. (1999). Developing adaptive teams: A theory of compilation and performance across levels and time. In D. R. Ilgen & E. D. Polakos (Eds.), The changing nature of performance: Implications for staffing, motivation, and development (pp. 240–292). San Francisco, CA: Jossey-Bass.
- Langfred, C. W. (2007). The downside of selfmanagement: A longitudinal study of the effects of conflict on trust, autonomy, and task interdependence in self-managing teams. Academy of Management Journal, 50, 885–900.
- LePine, J. A. (2003). Team adaptation and postchange performance: Effects of team composition in terms of members' cognitive ability and personality.

 Journal of Applied Psychology, 88, 27–39.
- London, M., & Sessa, V. (2007). How groups learn continuously. Human Resource Management, 46, 651–669.
- London, M., & Smither, J. (1999). Empowered selfdevelopment and continuous learning. Human Resource Management, 38, 3-15.
- MacCormack, A., Verganti, R., & lansiti, M. (2001). Developing products on "Internet time": The

- anatomy of a flexible development process. Management Science, 47, 133–150.
- Magni, M., Maruping, L. M., Hoegl, M., & Proserpio, L. (2013). Managing the unexpected across space: Improvisation, dispersion, and performance in NPD teams. Journal of Product Innovation Management, 30, 1009–1026.
- Magni, M., Proserpio, L., Hoegl, M., & Provera, B. (2009). The role of team behavioral integration and cohesion in shaping individual improvisation. Research Policy, 33, 1153–1165.
- Malhotra, A., Majchrzak, A., & Rosen, B. (2007). Leading virtual teams. Academy of Management Perspectives, 2, 60–70.
- Marakas, G. M., Yi, M.Y., & Johnson, R. D. (1998). The multilevel and multifaceted character of computer self-efficacy: Toward clarification of the construct and an integrative framework for research. Information Systems Research, 9, 126–163.
- Marks, M. A., Sabella, M. J., Burke, C. S., & Zaccaro, S. J. (2002). The impact of cross training on team effectiveness. Journal of Applied Psychology, 87, 3–13.
- Maruping, L. M., Venkatesh, V., & Agarwal, R. (2009).

 A control theory perspective on agile methodology use and changing user requirements. Information Systems Research, 20, 377–399.
- Miner, A. S., Bassoff, P., & Moorman, C. (2001). Organizational improvisation and learning. Administrative Science Quarterly, 46, 304–337.
- Mirvis, P. H. (1998). Practice improvisation. Organization Science, 9, 586–592.
- Moorman, C., & Miner, A. S. (1998a). The convergence of planning and execution: Improvisation in new product development. Journal of Marketing, 62(3), 1–20.
- Moorman, C., & Miner, A. S. (1998b). Organizational improvisation and organizational memory.

 Academy of Management Review, 23, 698–723.
- Morgeson, F. P. (2005). The external leadership of self-managing teams: Intervening in the context of novel and disruptive events. Journal of Applied Psychology, 90, 497–508.
- Oh, H., Chung, M.-H., & Labianca, G. (2004). Group social capital and group effectiveness: The role of informal socializing ties. Academy of Management Journal, 47, 860–875.
- Orlikowski, W. J., & Hofman, J. D. (1997). An improvisational model for change management: The case of groupware technologies. Sloan Management Review, 38(2), 11–21.
- Pearce, C. L., Manz, C. C., & Sims, H. P. (2008). The roles of vertical and shared leadership in the

- enactment of executive corruption: Implications for research and practice. Leadership Quarterly, 19, 353–359.
- Pearce, C. L. & Sims, H. P. (2002). Vertical versus shared leadership as predictors of the effectiveness of change management teams: An examination of aversive, directive, transactional, transformational, and empowering leader behaviors. Group Dynamics:Theory, Research, and Practice, 6, 172–197.
- Pearce, C. L., Sims, H. P., Cox, J. F., Ball, G., Schnell, E., & Smith, K. A. (2003). Transactors, transformers and beyond: A multi-method development of a theoretical typology of leadership. Journal of Management Development, 22, 273–307.
- Pina e Cunha, M., Vieira da Cunha, J., & Kamoche, K. (1999). Organizational improvisation: What, when, how and why. International Journal of Management Reviews, 1, 299–341.
- Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. Journal of Applied Psychology, 88, 879–903.
- Podsakoff, P. M., & Organ, D. W. (1986). Self-reports in organizational research: Problems and prospects. Journal of Management, 12, 69–82.
- Robertson, C., & Lipton, E. (2010, April 30). BP is criticized over oil spill, but U.S. missed chances to act. NewYorkTimes. Retrieved from http://www.nytimes.com/2010/05/01/us/01gulf.html?pagewanted=all&_r=0
- Rousseau, D. M. (1985). Issues of level in organizational research: Multi-level and cross-level perspectives. Research in Organizational Behavior, 7, 1–37.
- Rubinstein, J. S., Meyer, D. E., & Evans, J. E. (2001). Executive control of cognitive processes in task switching. Journal of Experimental Psychology. 27, 763–797.
- Shalley, C. E., & Gilson, L.L. (2004). What leaders need to know: A review of social and contextual factors that can foster or hinder creativity. Leadership Quarterly, 15, 33–53.
- Smith, K. G., Smith, K. A., Olian, J. D., Sims, H. P., O'Bannon, D. P., & Scully, J. A. (1994). Top management team demography and process: The role of social integration and communication. Administrative Science Quarterly, 39, 412–438.
- Srivastava, A., Bartol, K. M., & Locke, E. A. (2006). Empowering leadership in management teams:

- Effects on knowledge sharing, efficacy, and performance. Academy of Management Journal, 49, 1239–1251.
- Takeuchi, R., Shay, J. P., & Li, J.T. (2008). When does decision autonomy increase expatriate managers' adjustment? An empirical test. Academy of Management Journal, 51, 45–60.
- Thomas, C. H., & Lankau, M. J. (2009). Preventing burnout: The effects of LMX and mentoring on socialization, role stress, and burnout. Human Resource Management, 48, 417–432.
- Van Der Doef, M., & Maes, S. (1999). The job demandcontrol(-support) model and psychological wellbeing: A review of 20 years of empirical research. Work Stress, 13, 87–114.
- Vecchio, R. P. Justin, J. E., & Pearce, C. L. (2010) Empowering leadership: An examination of mediating mechanisms within a hierarchical structure. Leadership Quarterly, 21, 530–542.
- Vera, D., & Crossan, M. M. (2004). Theatrical improvisation: Lessons for organization. Organization Studies, 25, 727–749.
- Vera, D., & Crossan, M. M. (2005). Improvisation and innovative performance in teams. Organization Science, 16, 203–224.
- Vroom, V. H. (2000). Leadership and the decision-making process. Organizational Dynamics, 28(4), 82–94.
- Vroom, V. H., & Jago, A. G. (1988). The new leadership: Managing participation in organizations. Englewood Cliffs, NJ: Prentice Hall.
- Wageman, R. (1995). Interdependence and group effectiveness. Administrative Science Quarterly, 40, 145–180.
- Waller, M. J., Gupta, N., & Giambatista, R. C. (2004).
 Effects of adaptive behaviors and shared mental models on control crew performance. Management Science, 50, 1534–1544.
- Weick, K. E. (1998). Improvisation as a mindset for organizational analysis. Organization Science, 9, 543–555.
- Woodman, R. W., Sawyer, J. E., & Griffin, R. W. (1993). Toward a theory of organizational creativity. Academy of Management Review, 18, 293–321.
- Yan, M., Peng, K. Z., & Francesco, A. M. (2011). The differential effects of job design on knowledge workers and manual workers: A quasi-experimental field study in China. Human Resource Management, 50, 407–424.
- Yousef, D. A. (2002). Job satisfaction as a mediator of the relationship between role stressors and organisational commitment: A study from an

- Arabic cultural perspective. Journal of Managerial Psychology, 17, 250–266.
- Yukl, G. (2002). Leadership in organizations. Upper Saddle River, NJ: Prentice Hall.
- Yun, S., Faraj, S., Xiao, Y., & Sims, H. P. (2003). Team leadership and coordination in trauma resuscitation. Advances in Interdisciplinary Study of Work Teams: Team-Based Organizing, 9, 189–214.
- Zaccaro, S., & Banks, D. (2004). Leader visioning and adaptability: Bridging the gap between research and practice on developing the ability to manage change. Human Resource Management, 43, 367–390.
- Zhang, X., & Bartol, K. M. (2010). Linking empowering leadership and employee creativity: The influence of psychological empowerment, intrinsic motivation and creative process engagement. Academy of Management Journal, 53, 107–128.