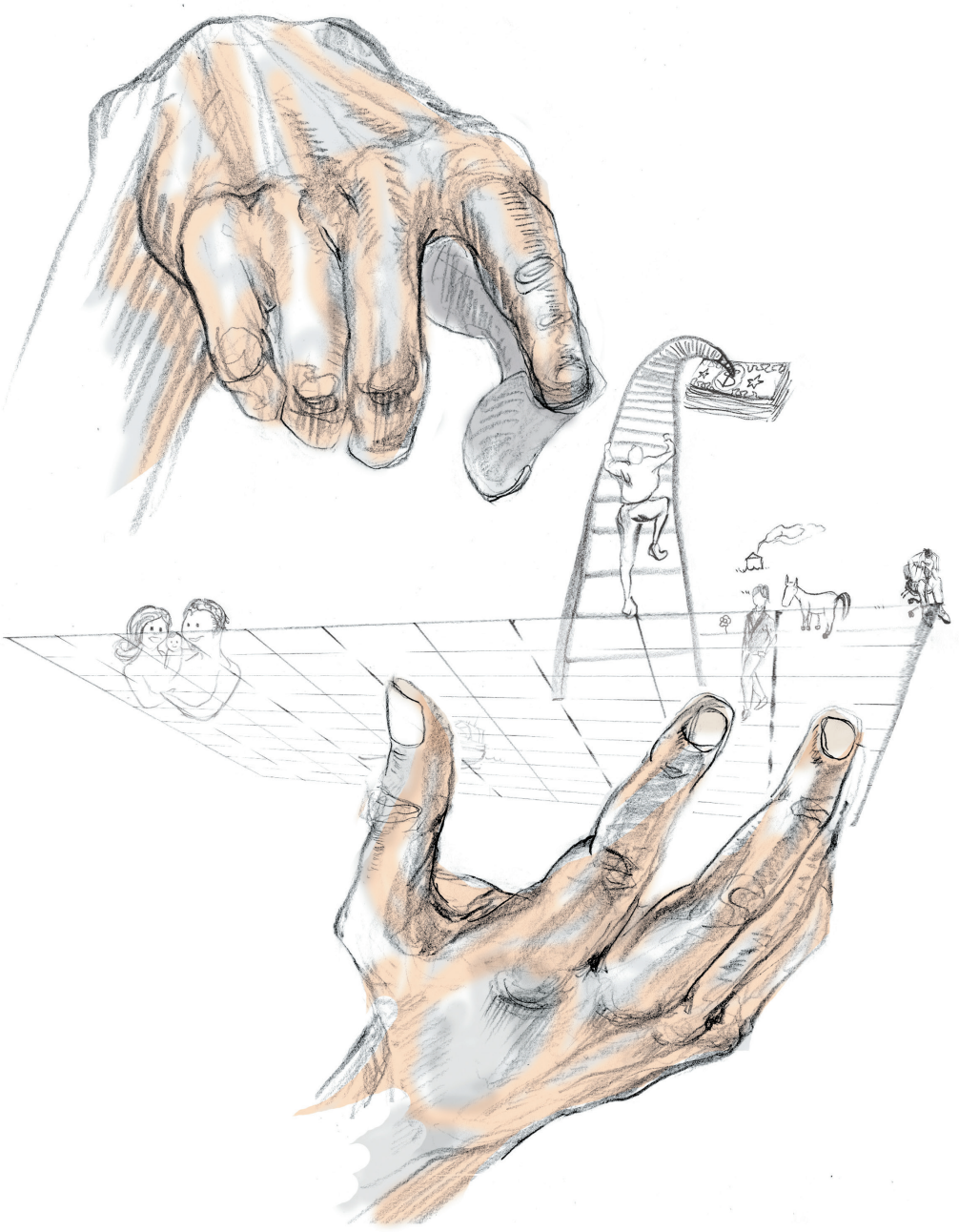
TOBIAS DENNERLEIN

Empowering Leadership and Employees' Achievement Motivations

The Role of Self-Efficacy and Goal Orientations in the Empowering Leadership Process



Empowering Leadership and Employees' Achievement Motivations: The Role of Self-Efficacy and Goal Orientations in the Empowering Leadership Process

Empowering Leadership and Employees' Achievement Motivations: The Role of Self-Efficacy and Goal Orientations in the Empowering Leadership Process

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De rol van self-efficacy en goal orientations in het empowering leiderschapsproces

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To my children.

PREFACE

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Tobias Dennerlein

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CHAPTER 1 – INTRODUCTION

"Power doesn't always corrupt. Power can cleanse. What I believe is always true about power is that power always reveals." – Robert Caro

In a corporate landscape that is characterized increasingly by flattened hierarchies and team-based ways of organizing work (Schwartz, Bohdal-Spiegelhoff, Gretczko, & Sloan, 2016) empowering leadership practices have assumed special importance (Bennis & Townsend, 1997) as they align well with the structural and managerial requirements of today's organizations (Sharma & Kirkman, 2015). Empowering leadership can be directed at individuals or teams and comprises of behaviors such as transferring authority to employees, promoting their self-direction and autonomous decision making, encouraging them to set their own goals, coaching, and expressing confidence in their ability to successfully complete tasks (cf. Kirkman & Rosen, 1997; Kirkman & Rosen, 1999; Sharma & Kirkman, 2015). Although companies rely on empowering leadership to get the best out of their employees, it is far from clear that managers who simply engage in empowering leadership behaviors will succeed in boosting employee performance. As a case in point, some research has demonstrated that there are conditions under which *directive* rather than empowering leadership may be more effective to stimulate performance (e.g., Lorinkova, Pearsall, & Sims, 2013; Yun, Faraj, & Sims, 2005). Accordingly, it is not just a manager's enactment of empowering leader behaviors as such, but rather a manager's knowledge of which factors impact employees' reactions to empowering leadership and how the effect of empowering leadership unfolds that will ensure empowering leadership to prove most fruitful.

Thus, given that empowering leadership is both a contemporary phenomenon but also difficult to implement successfully, a key motivation for the research presented in this dissertation was to advance knowledge on when and why empowering leadership is most effective. In tackling this question, I combine insights from theories on empowering leadership and achievement motivation to determine key individual differences that moderate the effect of empowering leadership. Empowering leadership is – arguably more so than any other type of leadership behavior – about putting employees in the "driver's

seat." So the questions I asked myself are: Do all individuals alike want to be empowered and, as a consequence, benefit from empowering leadership? And, how does the effect of empowering leadership unfold to impact performance outcomes? Put simply, I was interested in finding out what it is about people that makes them respond more or less positively to empowering leadership and why this happens.

A likely place to look for an answer to this question was the literature on achievement motivation. People's underlying motivations for why they engage in goal directed behavior in achievement situations (such as in their jobs) in the first place should also influence their reactions to a leader who empowers employees and hereby changes the nature of that very achievement context. For instance, it is a key consequence of empowering leadership to create opportunities for employees to potentially both develop themselves and to demonstrate their competence. These notions of development and competence resonate well with conceptualizations of two core achievement motivations, namely individuals' goal orientations (Dweck, 1986; Dweck & Leggett, 1988; VandeWalle, 1997) and generalized work-role self-efficacy beliefs (Chen, Gully, & Eden, 2001; Eden, 2001; Judge, Locke, & Durham, 1997) which is why they assume center stage in this dissertation. Both goal orientations and efficacy beliefs carry implications that were assumed to differentiate people in terms of how empowering leadership affects them.

Moreover, I identify key mechanisms that link empowering leadership to important performance outcomes. At the individual level, I focus on how psychological states (i.e., psychological empowerment, meaning, and competence) differentially link empowering leadership to different performance outcomes (i.e., creativity and in-role performance) depending on employees goal orientations. At the team level, I demonstrate that the group processes of team versus leader direction of information exchange are the underlying mechanisms through which the effects of empowering versus directive leadership unfold to impact team members' individual creativity.

Dissertation Overview

In its core this dissertation consists of three empirical chapters (Chapters 2-4) that are based on extensive, distinct data I collected both in the field and the lab. Even though these chapters have been crafted as stand-alone research articles and each has its unique

focus, readers will find some overlap across chapters because they all focus on employees' achievement motivations as boundary conditions of empowering leadership in affecting individual performance. Stated differently, the research presented is about the "limits" that empowering leadership can have – be it whether there might be too much of it (Chapter 2) or the differential effects it might have on employees depending on their goal orientations (Chapters 3 and 4). As the empirical work presented in this dissertation is a result of a joint effort with my academic advisors and other co-authors, I use the term "we" rather than "I" in the empirical chapters in order to acknowledge their contribution.

In Chapter 2, drawing from activation theory, we posit that empowering leadership is beneficial for employee creativity and in-role performance only up to a point, and that it is ineffective – and potentially overburdening for employees – if supervisors "overdo it" with engaging in empowering leadership. Moreover, we put forward that this inverted U-shaped relationship between empowering leadership and employee performance depends on employees' generalized work-role self-efficacy beliefs. Specifically, we propose that employees low on work-role self-efficacy benefit most from empowering leadership – but that they do so only up to a certain level of empowering leadership in excess of which the positive effect of empowering leadership vanishes. In contrast, we expect high work-role self-efficacy to substitute for the effects of empowering leadership on employee performance. Our findings confirm that work-role self-efficacy indeed is an important determinant of how subordinates respond to empowering leadership. Results diverged across low and high levels of work-role self-efficacy, such that empowering leadership has a positive, decreasing effect on employees' creativity and in-role performance for employees low on work-role self-efficacy, whereas empowering leadership has no effect on these outcomes for employees high on work-role self-efficacy. To test our predictions, we collected field data from 155 employee–supervisor dyads across a variety of organizations located predominantly in the Midwestern United States.

In Chapter 3, we combine tenets from empowering leadership and goal orientation theory to argue that depending on employees' goal orientations empowering leadership is related to creativity or in-role performance via psychological empowerment. We posit that employees high on learning goal orientation will demonstrate increased levels of creativity as a result of empowering leadership because their ultimate goal is to master new challenges

and seek opportunities that allow them to grow and develop their skills, and engaging in non-routine, creative tasks allows them to pursue this goal. Moreover, we expect empowering leadership to impact in-role performance for employees high on performance orientations (prove or avoid). For these individuals the ultimate goal in achievement situations is to gain positive or avoid negative competence judgments by others and focusing on in-role performance tasks is a promising way to achieve these goals. We also posit that the positive effect of empowering leadership on both creativity and in-role performance occurs via feelings of psychological empowerment. Contrary to our predictions, post-hoc analyses allowed us to draw a more nuanced picture: Empowering leadership positively affected meaning and, in turn, creativity for employees high on learning goal orientation, while it increased competence and, in turn, in-role performance for individuals high on performance avoid goal orientation. To test our hypotheses, we collected field data from 255 employee–supervisor dyads across a variety of organizations located in the Netherlands.

In Chapter 4 we take a cross-level perspective and focus on the effect of *team* empowering leadership on *individual* creativity. We propose that owing to the implications of empowering leadership behaviors, empowering leadership should first and foremost trigger a team coordination process that we label team direction of information exchange. We contrast empowering leadership with directive leadership which we expected to result in a greater amount of leader direction of information exchange. Again drawing from goal orientation theory, we further predict that – depending on their goal orientations – team members will vary in the extent to which their individual creativity benefits from the team process of team direction of information exchange. We argue that team members holding a learning goal orientation should benefit from team direction of information exchange to a greater extent in terms of their creativity than team members holding performance goal orientations. We conducted a laboratory experiment with 156 participants in which we manipulated both leadership behavior (i.e., empowering versus directive) and team members' goal orientations (i.e., learning, prove, and avoid) to test our predictions. Team leaders headed a discussion phase during which they enacted empowering or directive leader behaviors and members performed a creativity task which required discussing and integrating information that was distributed across team members.

Finally, in Chapter 5 I provide a summary of the findings of the empirical chapters

and reflect on how they extend previous work as well as on the potential avenues for future research they invite.

Declaration of contributions and authorship

Multiple authors contributed to the chapters included in this dissertation. Chapter 1 was written by T. Dennerlein (TD) and reviewed by D. van Knippenberg (DvK). In Chapter 2, the quantitative study was designed and conducted by TD. R.E. Johnson (REJ) assisted in the data collection effort by providing access to a sample. TD conducted the data analysis. The chapter was written by TD and reviewed by REJ, DvK, and JD. Likewise, in Chapter 3, the quantitative study was designed and conducted by TD. TD was responsible for the data collection and analysis. The chapter was written by TD and reviewed by DvK and JD. In Chapter 4, the experimental paradigm and design for the lab study was developed by TD under guidance from I.J. Hoever (IJH) and DvK. Data collection and analysis for the lab study was conducted by TD. TD also wrote Chapter 4, which was subsequently reviewed by DvK and IJH. Chapter 5 was written by TD and reviewed by DvK.

The authorship for the empirical Chapters 2, 3, and 4 is as follows:

- Chapter 2: Dennerlein, Johnson, van Knippenberg, Dietz
- Chapter 3: Dennerlein
- Chapter 4: Dennerlein, van Knippenberg, Hoever

CHAPTER 2

The Curvilinear Effect of Empowering Leadership and its Moderation by Work-Role Self-Efficacy

Abstract

Drawing from activation theory, we posit that empowering leadership is beneficial for employee creativity and in-role performance only up to a point, and that it is ineffective, and possibly overburdening for employees, if supervisors "overdo it" with their empowering leadership behaviors. Moreover, we put forward that this inverted U-shaped relationship between empowering leadership and employee performance depends on employees' generalized work-role self-efficacy beliefs. Specifically, we propose that employees low on work-role self-efficacy benefit most from empowering leadership – but that they do so only up to a certain level of empowering leadership in excess of which the positive effect of empowering leadership vanishes. In contrast, we expect high work-role self-efficacy to substitute for the effects of empowering leadership on employee performance. Our findings confirm that work-role self-efficacy indeed is an important determinant of how subordinates respond to empowering leadership, and results diverged across low and high levels of work-role self-efficacy, such that empowering leadership has a positive, decreasing effect on employees' creativity and in-role performance for employees low on work-role self-efficacy, whereas empowering leadership has no effect on these outcomes for employees high on work-role self-efficacy.

Organizations rely increasingly on empowering leadership as a means to boost desired workplace outcomes, such as employee creativity and in-role performance (Sharma & Kirkman, 2015). This appears a reasonable course of action given existing evidence of the effectiveness of empowering leadership in increasing both employee creativity (e.g., Harris, Li, Boswell, Zhang, & Xie, 2014; Zhang & Bartol, 2010; Zhang & Zhou, 2014) and performance (e.g., Ahearne, Mathieu, & Rapp, 2005). Sharma and Kirkman (2015: 194) refer to empowering leadership as leader behaviors consisting of "delegating authority to employees, promoting their self-directed and autonomous decision making, coaching, sharing information, and asking for input." In spite of evidence for the effectiveness of empowering leadership, findings from a meta-analysis also demonstrate that effect sizes vary, implying that the impact of empowering leadership depends on moderating factors (Burke, Stagl, Klein, Goodwin, Salas, & Halpin, 2006). Moreover, this warrants that scholars theorize about curvilinear effects as the effect of empowering leadership might differ depending on the range of empowering leadership that has been sampled. These considerations provided our starting point to develop theory to shed more light on the question why curvilinear effects of empowering leadership may occur and what factors might moderate them.

Although little or no autonomy and power is detrimental for employees, managers might engage in empowering leadership excessively for various reasons, such as high personal job demands or a hype of empowering leadership practices within their organizations. The extant literature suggests that excessive empowering leadership results in ever-increasing levels of employee performance because it rests on the assumption that the effect of empowering leadership unfolds in a positive, linear fashion (cf. Sharma & Kirkman, 2015). Drawing from activation theory (Scott, 1966) as well as research on the Too-Much-of-a-Good-Thing effect (TMGT effect; Pierce & Aguinis, 2013), we revisit this assumption and posit that empowering leadership is beneficial for employee creativity (i.e., a work outcome that is both a novel and appropriate response to heuristic tasks which lack pre-defined procedures or scripts to follow for task completion; Amabile, 1983) and in-role performance (i.e., in-role behaviors that are "recognized by formal reward systems and are part of the requirements as described in job descriptions"; Williams & Anderson, 1991: 606) only up to a point, and that it is ineffective, and possibly overburdening for employees, if

supervisors "overdo it" with their empowering leadership behaviors.

Another insight from the literature is that the effectiveness of empowering leadership varies as a function of moderator variables (e.g., Ahearne et al., 2005; Zhang & Bartol, 2010). Yet, the literature has thus far been void of theoretical guidance as to whether individual differences might *substitute* for the effect of empowering leadership. However, Brockner's (1988) behavioral plasticity hypothesis states that individuals are "affected by external factors, such as social influences" (Pierce, Gardner, Dunham, & Cummings, 1993: 273) depending on levels of self-esteem. We build on this tenet and work by Eden and colleagues (Eden & Aviram, 1993; Eden & Kinnar, 1991; Eden & Zuk, 1995), to propose that the inverted U-shaped relationship between empowering leadership and employee performance depends on employees' generalized beliefs about their ability to perform well in their current work roles. Specifically, we propose that employees *low* on work-role self-efficacy benefit most from empowering leadership – but that they do so only up to a certain level of empowering leadership in excess of which the positive effect of empowering leadership vanishes and becomes negative. In contrast, in line with the plasticity rationale we expect *high* work-role self-efficacy weakens the effects of empowering leadership on employee performance and ultimately substitutes for it.

Our theoretical model specifies instances when and for whom empowering leadership may be most beneficial and offers the following contributions to the literature. First, building on premises from activation theory we build theory that explains why empowering leadership relates to employee performance in a curvilinear manner. This theoretical advancement has important implications for future theory development as it challenges the extant notion of a positive, linear ("the more the better") effect of empowering leadership (cf. Sharma & Kirkman, 2015). Instead, our theoretical propositions and empirical findings paint a more complete picture of the effects of empowering leadership by taking into account and demonstrating the existence of tipping points of this effect. Moreover, we extend previous work that investigated potential negative outcomes of empowering leadership (e.g., Humborstad & Kuvaas, 2013; Lorinkova et al., 2013) in another important way by proposing and showing that a positive effect of empowering leadership on positive workplace outcomes levels out and eventually "flips" to become negative. Second, by incorporating rationales from the plasticity hypothesis, our theory

accounts for the fact that individual differences moderate – and *substitute* – the effect of empowering leadership. This is a particularly important insight as it implies that empowering leadership may be *ineffective* when certain boundary conditions are in place. Our advancement of empowering leadership theory thus opens the floor for future conceptual and empirical work on employees' individual differences as boundary conditions of the curvilinear effect of empowering leadership by establishing employees' generalized work-role self-efficacy beliefs as a moderator of this effect. Interestingly, while conventional wisdom might suggest that employees should be equipped with a minimum amount of work-role self-efficacy in order to be able to benefit fully from empowering leadership, our findings paint a different picture.

Theory Development and Hypotheses

Curvilinear Empowering Leadership Effect

As outlined above, empowering leadership is generally conceived of in terms of behaviors that boost employee performance because of the motivational effects they elicit (Kirkman & Rosen, 1997; Sharma & Kirkman, 2015). These leader behaviors are proposed to increase motivation among subordinates because of their positive impact on employees' felt psychological empowerment (i.e., "an orientation in which an individual wishes and feels able to shape his or her work role and context"; Spreitzer, 1995: 1444), and because they grant employees greater self-determination for their own work behaviors which helps to satisfy basic psychological needs of autonomy and competence (e.g., Deci, Connell, & Ryan, 1989; Deci & Ryan, 2000). Indeed, evidence supports the effectiveness of empowering leadership to increase employee creativity (e.g., Harris et al., 2014; Zhang & Bartol, 2010; Zhang & Zhou, 2014) and job performance (e.g., Ahearne et al., 2005). However, with one exception (Humborstad, Nerstad, & Dysvik, 2014) previous research has theorized about the effects of empowering leadership in a way that only considered positive, linear relationships between empowering leadership and workplace outcomes (cf. Sharma & Kirkman, 2015).

We extend this previous work in several important ways and argue that the assumption of this positive, linear relationship may be unrealistic as displaying high levels of empowering leadership can be ineffective for the following reasons. First, an increase in

empowering leadership beyond a certain point is likely to have a diminishing marginal effect in terms of yielding positive employee outcomes and, therefore, is an inefficient course of action for managers to pursue. Second, enacting empowering leadership behaviors beyond an inflection point may in fact prove detrimental to employee performance because employees might feel overburdened and, as a consequence, their performance will deteriorate. For example, too much autonomy might lead to feelings of role ambiguity about what to do first and how (e.g., Humborstad & Kuvaas, 2013), and too much delegation can lead to work overload and feelings of job induced tension (e.g., Cheong, Spain, Yammarino, & Yun, 2016). Third, engaging in empowering leadership excessively might be wrongfully perceived as laissez-faire leadership, thus resulting in poorer motivation and performance owing to employees' negative perceptions and evaluations of the leader (e.g., Lam, Huang, & Chan, 2015; Wong & Giessner, 2015). Fourth, we extend the study by Humborstad et al. (2014) in two key respects by building theory that explicates why empowering leadership does *not* add value beyond a certain point and that illustrates under which conditions employees' individual differences *substitute* for the effect of empowering leadership.

Building on tenets from activation theory (Scott, 1966), we propose that empowering leadership behaviors will have an inverted U-shape relationship with employee performance. In activation theory terms, activation describes the degree of neural excitation in a person's reticular activating system of the central nervous system. People have a characteristic level of activation at which their central nervous system functions most efficiently (Gardner & Cummings, 1988). Deviations in individuals' experienced level of activation from their characteristic level of activation cause inefficiencies in the central nervous system resulting in, for instance, lower quality motor responses and thought processes (e.g., information processing capacities). Importantly, this implies that the effects of experienced activation result in the "hypothesis of an inverted-U relationship between experienced activation level and goal-directed behavior" (Gardner & Cummings, 1988: 85) and that "to the extent that behavioral efficiency is necessary for effective job performance (…) job performance level declines as a job performers' experienced activation level deviates from the characteristic level" (Gardner & Cummings, 1988: 88; for evidence in support of an inverted U-shaped relationship between activation levels and performance see, e.g., Baschera & Grandjean, 1979; Gardner, 1986; Weber, Fussler, O'Hanlon, Gierer, &

Grandjean, 1980). This rationale is also in line with the Too-Much-of-a-Good-Thing effect (TMGT effect; Pierce & Aguinis, 2013), such that many ostensibly positive relationships eventually reach an inflection point and become negative.

In applying activation theory to the organizational context, it is necessary to distinguish low impact from high impact job environments whereby the former generally result in low activation levels whereas the latter cause high activation levels. Features in the job environment that create high impact environments include, for example, the need to process a lot of information, stimulation from the job that is unexpected and/or has not been experienced before, and high variance in job stimulation that prevents habituation (Gardner & Cummings, 1988). We posit that empowering leadership behaviors are a key driver of all of these job-related stimuli for employees because of their scope and wide-ranging implications for employees' work context. Empowering leadership implies – likely more so than any other type of leadership – to put subordinates in the "driver's seat." Engaging in empowering leadership will, thus, transform employees' work contexts from low to high impact jobs. That is, as the amount of empowering leadership behaviors increases, subordinates will face a work environment characterized by increasing levels of autonomy, information, decision-making authority, responsibility, and task variety, which are all stimuli that constitute high impact jobs as discussed above. Therefore, empowering leadership should cause an increase in employees' experienced activation levels. Based on activation theory's logic, both too little and too much empowering leadership should be detrimental to employees' goal-directed behaviors and, ultimately, performance. This reasoning conforms with empirical evidence from the field of job design research where scholars generally found support for an inverted U-shape relationship between, for example, job scope and affective responses and performance (e.g., Champoux, 1978, 1980, 1992; Gardner, 1986; Gardner & Cummings, 1988).

Individuals are motivated to maintain their characteristic activation level (Gardner & Cummings, 1988). Thus, when empowering leaders cause activation levels to deviate from the optimal level, employees will engage in behaviors that are aimed to restore their characteristic level of activation (i.e., so-called impact modifying behaviors). To do so, they will engage in either activation increasing (e.g., seeking more challenging assignments) or decreasing behaviors (e.g., withdrawal from task-related activities). Both types of actions

will cause employees to show lower levels of performance. For creativity which depends among other things on task motivation (Amabile, 1983), engaging in these actions means that at least part of an employee's motivational attention is being directed away from the creative task in order to entertain behaviors that can restore the characteristic activation level. The same holds true for in-role performance: To the extent that attention and energy is spent on impact modifying behaviors rather than on in-role behaviors and fulfilling job requirements, in-role performance will suffer. This implies that both too low and too high levels of activation resulting from empowering leadership will cause in-role performance to decline.

Hypothesis 1: Empowering leadership has an inverted U-shaped relationship with employee (a) creativity and (b) in-role performance.

Moderating Role of Work-Role Self-Efficacy

We also set out to answer the question whether there are individual differences in how the curvilinear relationship between empowering leadership and employee performance unfolds. We decided to investigate employees' generalized self-efficacy beliefs for their work roles (hereafter labeled "work-role self-efficacy") – which we refer to as one's belief in one's overall competence to succeed in performance requirements across a wide variety of achievement situations within one's work role (Eden, 2001; Judge et al., 1997) – as a moderator of empowering leadership for several reasons. First, as to why we focus on self-efficacy beliefs, we do so because self-efficacy beliefs are an important driver of people's motivation as reflected in their goal choice, goal or task persistence, goal revision, and goal-striving behavior (Bandura, 1989). Work-role self-efficacy therefore could be indicative both of how "prepared" employees feel to deal with empowering leadership and of the extent to which employees still can benefit from it (e.g., in terms of developing themselves). Second, we focused on generalized (vs. specific) self-efficacy because we studied two different performance outcomes (i.e., creativity and in-role performance) that may be associated with different work tasks within the domain of a person's job. Thus, the conceptualization of our moderator ought to align with the broad scope of outcomes studied

as opposed to being specific to a single task or domain.

The importance of generalized self-efficacy as a moderator has been established by Eden and colleagues who demonstrated across three field experiments that among participants with low generalized self-efficacy the impact of experimental treatments on motivation and performance was greater than among those with high generalized self-efficacy (Eden & Aviram, 1993; Eden & Kinnar, 1991; Eden & Zuk, 1995). They drew from Brockner's (1988) concept of behavioral plasticity which describes the extent to which an individual "is affected by external factors, such as social influences" (Pierce et al., 1993: 273) depending on levels of self-esteem. Eden and colleagues argued that generalized self-efficacy would have the same impact as self-esteem and showed that experimental treatments affected motivation and performance to a greater extent (i.e., greater behavioral plasticity) among individuals with low generalized self-efficacy than among those with high generalized self-efficacy (Eden & Aviram, 1993; Eden & Zuk, 1995). Chen et al. (2001) found additional support for the plasticity argument for the case of generalized self-efficacy in their study and concluded that a generalized belief of self-efficacy "acts as both a main effect predictor variable and as a moderator of motivational processes of major interest to organizational scholars" (Chen et al., 2001: 64).

Owing to the implications of generalized self-efficacy for behavioral plasticity, we propose that employees low on work-role self-efficacy are more strongly influenced by empowering leadership behaviors than are employees high on work-role self-efficacy. Specifically, employees' *low* on work-role self-efficacy are likely to experience a greater degree of uncertainty with regard to the appropriateness of their task-related behaviors which makes them more receptive for cues from external sources (cf. Brockner, 1988). Therefore, as empowering leadership transforms the job environment from a low to a high impact environment, low work-role self-efficacy employees will experience increasing levels of activation. For example, employees lower on work-role self-efficacy will be more stimulated by empowering leadership behaviors, such as expressions of confidence and trust, due to their greater susceptibility to role-related information and their low confidence in their ability to master work-role requirements. Moreover, as low work-role self-efficacy employees doubt their own ability to succeed in work-role related performance tasks, they might be more likely to seek acceptance and approval by conforming behaviorally to their

superiors' expectations such as empowering leaders' expressions of high performance expectations (cf. Brockner, 1988) resulting in higher levels of activation. As empowering leadership behaviors increase (and, hence, cause employees' experienced activation levels to raise to their characteristic activation levels), the positive effect of empowering leadership on low work-role self-efficacy employees' should become increasingly smaller and, eventually, turn negative. Once empowering leadership induces an amount of stimulation that surpasses the characteristic activation level (Scott, 1966) of low work-role self-efficacy employees, feelings of role overload or other stress-related responses will outweigh the benefits associated with empowering leadership yielding an overall negative effect of empowering leadership on performance.

For creativity as an outcome this implies that employees benefit from empowering leadership as it can positively affect all components of creative performance (i.e., task motivation, creativity relevant skills, and domain relevant skills; cf. Amabile, 1983) until the characteristic level of activation is reached. Specifically, empowering leadership includes practices such as expressing confidence and trust in employees which will feed employees' task motivation. Moreover, because of the autonomy and authority granted to employees by empowering leaders, employees will be able to proactively fill knowledge or competence gaps (both in terms of domain and creativity relevant skills) because they receive the latitude to do so by empowering leaders. With regard to in-role performance empowering leadership is also ideally suited to increase performance levels for similar reasons. First, it offers employees the authority and autonomy to make decisions which enables employees to deal with in-role requirements more quickly and efficiently as compared to when they would have to wait for approval from their supervisors. Moreover, empowering leaders typically encourage subordinates to set their own goals and to resolve their performance problems independently both of which should stimulate feelings of ownership and, hence, motivation to perform well. For both performance outcomes, however, as argued above once the characteristic activation level is reached via stimulation through empowering leadership, employees will strive to maintain this level. Hence, when too much empowering leadership occurs, employees will engage in impact reducing behaviors that will redirect their motivation and energy away from performance-related activities.

Employees *high* on work-role self-efficacy, on the other hand, are shielded more from external cues, thus weakening the capacity of empowering leadership to stimulate and increase activation. For example, employees higher on work-role self-efficacy will be better equipped to cope with stimulation-increasing work-role stressors because of their greater self-confidence (Brockner, 1988; Pierce et al., 1993). Kahn and Byosiere (1992) proposed that self-efficacy acts as a coping resource that can affect how individuals' appraise situations, which coping behaviors they choose, and how vigorous an adopted course of action is undertaken. In this sense, work-role self-efficacy should act as a buffer that dampens the stimulating effect of empowering leadership. Moreover, employees higher on work-role self-efficacy are prepared to devote greater effort due to their own high expectations of success. This effect will occur independent of empowering leadership's effect of creating a high impact job environment because high work-role self-efficacy employees will be motivated to expend great effort in an attempt to avoid states of dissonance (Festinger, 1957). In addition, individuals are typically motivated to act in a manner that is consistent with their self-view (e.g., Korman, 1970), meaning that high work-role self-efficacy employees will exert high levels of effort (irrespective of leader behaviors) in line with their perceived greater efficacy. This implies that employees higher on work-role self-efficacy will experience high activation levels independent of the stimulation resulting from empowering leadership behaviors. Therefore, the relationship between empowering leadership and employee performance will be weaker or non-existent for high (vs. low) work-role self-efficacy employees because they tend to show higher levels of performance independent of external stimulating cues.

For creativity and in-role performance alike, high work-role self-efficacy will act as a substitute for the effect of empowering leadership. When work-role self-efficacy is high, this implies that employees possess high levels of generalized achievement motivation to engage in work-related tasks. As these employees believe that they can generally achieve well across the domain of their jobs, this motivation will positively affect both creative and in-role performance because efficacy beliefs are an important driver of both performance outcomes (e.g., Judge & Bono, 2001; Stajkovic & Luthans, 1998; Tierney & Farmer, 2002). Hence, there is no need for employees higher on work-role self-efficacy to rely on external stimulation by an empowering leader to feed motivation because their own high levels of

motivation are sufficient to bring out the best in them.

Hypothesis 2: Work-role self-efficacy moderates the curvilinear relationship between empowering leadership and employee performance, such that empowering leadership has a positive, decreasing effect on (a) creativity and (b) in-role performance for employees low on self-efficacy, whereas empowering leadership has no effect on these outcomes for employees high on self-efficacy.

Method

Sample and Procedure

The sample comprised a matched set of 155 employee–supervisor dyads across a variety of organizations located predominantly in the Midwestern US. Employees' average age was 24.5 years (*sd* = 9.5), 48% were female, they had an average of 3.6 years (*sd* = 1.3) of post-high school education, and an average of 22.3 months (*sd* = 34.1) of job tenure. In terms of the ethnicity of employees, 74.8% indicated they were Caucasian, 11% were Asian or Pacific Islander, 7.7% were Black or African American, 2.6% were Hispanic or Latino, and the rest selected "Other." Supervisors' average age was 38.7 years (*sd* = 12.7), 50% were female, they had an average of 4.7 years (*sd* = 2.1) of post-high school education, and an average of 80.5 months (*sd* = 96.2) of tenure in their current jobs. In terms of the ethnicity of supervisors, 81.9% indicated they were Caucasian, 6.5% were Black or African American, 6.5% were Asian or Pacific Islander, 1.9% were Hispanic or Latino, and the rest selected "Native American or American Indian" or "Other."

Following prior research (e.g., Groth, Hennig-Thurau, & Walsh, 2009; Koopman, Matta, Scott, & Conlon, 2015; Wo, Ambrose, & Schminke, 2015), participants for this study were recruited via a large undergraduate management course at a university in the Midwestern US. Students in this course could earn extra course credit through one of the following two options: a) If students were employed, they could participate in the employee survey themselves. In this case, they were required to also recruit their direct supervisor at work by getting their consent to participate in a supervisor survey; or b) Students could identify a person to serve as the focal employee (i.e., a peer, family member, or colleague)

and were asked to provide the research team with this person's contact information. For the second option students had to ensure to get the focal employee's consent before passing on their contact information. All study materials were administered online. Once we received employees' email addresses we invited them to participate in the employee survey. As part of this survey, participants were required to enter the email address and full name of their direct supervisor at work. Hence, supervisor data were collected after the subordinate data following a two-wave design. We programmed the survey software such that invitations to supervisors were sent out automatically and personalized such as to mention their own as well as their subordinates' names in the invitation emails. Moreover, the survey software automatically generated anonymous numeric codes to match supervisor and subordinate responses.

Measures

Unless otherwise noted, the response scale for all items ranged from 1 ("Strongly Disagree") to 7 ("Strongly Agree"). The employee survey contained measures of empowering leadership and work-role self-efficacy, and supervisors provided ratings of subordinate creativity and in-role performance at a later point in time.

Empowering leadership. Supervisors' empowering leadership behaviors (ELB) were assessed by subordinates using a 14-item scale (α = .82) developed by Kirkman and Rosen (1999). Participants were instructed to think about their immediate supervisor and rate how strongly they agreed with each item. The question stem was "In general, (name of leader), my supervisor/ team leader..." and example items include "...gives my team many responsibilities" and "...encourages work group members to express ideas/suggestions."

Work-role self-efficacy. We adapted 8 items (α = .88) from Chen et al. (2001) that participants used to rate their own generalized self-efficacy at work (the full set of items is included in the Appendix). The question stem was "In my current work role/job..." and an example item is "...I will be able to achieve most of the work goals that I have set for myself."

Creativity. Supervisors rated subordinates' creativity using a 9-item scale (α = .93) from Tierney et al. (1999). Example items include "(Subordinate's name) demonstrates originality in his/her work" and "(Subordinate's name) generates novel, but operable work-related ideas."

In-role performance. Subordinates' in-role performance was assessed by their supervisors on a 7-item scale (α = .80) by Williams & Anderson (1991). Example items include "(Subordinate's name) meets formal performance requirements of the job" and "(Subordinate's name) fulfills responsibilities specified in his/her job description."

Control variables. We controlled for subordinates' age, gender, post-high school education, hours at work per week, and tenure in the job. In addition, following past research (e.g., Zhang & Bartol, 2010) we controlled for job complexity as perceived by subordinates by having them rate skill variety ("The job requires me to use a number of complex or high-level skills"; Hackman & Oldham, 1980; Morgeson & Humphrey, 2006) and task variety ("The job is quite simple and repetitive" <reverse-scored>; Hackman & Oldham, 1974). We did so because complex jobs provide more opportunity to demonstrate creativity than simple jobs (Tierney & Farmer, 2002).

Analytic Strategy

To test the hypothesized interaction between squared empowering leadership and work-role self-efficacy on performance, we estimated the following equation (see Lam et al., 2015, for an application):

$$Y = B_0X + B_1X^2 + B_2Z + B_3XZ + B_4X^2Z + c_0$$

where X is the linear term of empowering leadership, X^2 is the squared term of empowering leadership, Z is the linear moderator of work-role self-efficacy, XZ is the linear interaction between empowering leadership and work-role self-efficacy, and X^2Z is the interaction term of squared empowering leadership and work-role self-efficacy. We centered all variables prior to the analyses (Aiken & West, 1991).

Results

Presented in Table 1 are the means, standard deviations, and inter-correlations for the focal variables. Before testing the hypotheses we conducted a series of confirmatory factor analyses (CFAs) in STATA 14.1 to evaluate the discriminant validity of the study constructs. We did this for the subordinate-rated and supervisor-rated constructs separately.

Table 1. Means, Standard Deviations, and Correlations

Variable	*M*	*SD*	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(1) Age	24.52	9.52										
(2) Gender	.52	.50	-.13									
(3) Education	3.57	1.27	.15	.11								
(4) Hours per week	21.09	11.41	.57***	.10	.20*							
(5) Job tenure	22.32	34.13	.59***	-.08	.11	.33***						
(6) Skill variety	4.64	1.52	-.03	.10	.04	.03	.01					
(7) Task variety	4.52	1.72	-.30***	-.10	-.17*	-.33***	-.12	-.39***				
(8) Empow. leadership	5.76	.55	-.05	.02	.04	-.04	-.04	.21**	.01			
(9) Work-role self-effic.	5.94	.60	.12	-.07	.02	.08	.09	.08	.07	.44***		
(10) Creativity	5.70	.84	.14	-.05	-.03	.14	.16*	.01	-.14	.22**	.23**	
(11) In-role perform.	6.24	.74	.13	-.20*	-.14	-.04	.09	.02	-.13	.13	.30***	.42***

Note: N = 155 dyads; Gender coded 0 = Female, 1 = Male; Education in years (post-high school); Job tenure in months; Variables 6-11 rated on 7-point scales.
*p < .05, **p < .01, ***p < .001

For subordinate-rated empowering leadership and work-role self-efficacy, a 2-factor model (χ^2 = 358.96; df = 208; RMSEA = .07; CFI = .87) fit the data significantly better than a 1-factor model (χ^2 = 596.71; df = 209; RMSEA = .11; CFI = .67; $\Delta\chi^2$ = 237.75; Δdf = 1; p < .001). Likewise, for supervisor-rated creativity and in-role performance, a 2-factor model (χ^2 = 251.56; df = 103; RMSEA = .10; CFI = .91) fit the data significantly better than a 1-factor model (χ^2 = 751.01; df = 104; RMSEA = .20; CFI = .62; $\Delta\chi^2$ = 499.45; Δdf = 1; p < .001). Lastly, the 4-factor model yielded acceptable fit (χ^2 = 972.62; df = 659; RMSEA = .06; CFI = .89).

Tests of Hypotheses

Hypothesis 1 proposes that empowering leadership has an inverted U-shaped relationship with employee creativity (Hypothesis 1a) and in-role performance (Hypothesis 1b). With regard to Hypothesis 1a, as shown in Table 2 (Model 3), after entering the control variables and main effects, the squared term for empowering leadership was not significant (b = –.25, *ns*). Thus, Hypothesis 1a was rejected. Regarding Hypothesis 1b, as shown in Table 3 (Model 3), after entering the control variables and main effects, the squared term of empowering leadership was significant (b = –.29, p < .05). Failing to reject Hypothesis 1b, the relationship of empowering leadership with in-role performance follows an inverted U-shaped pattern (see Figure 1).

Hypothesis 2 posits that work-role self-efficacy will moderate the curvilinear relationship between empowering leadership and outcomes, such that empowering leadership will have a beneficial effect on employee creativity (Hypothesis 2a) and in-role performance (Hypothesis 2b) in particular for employees low on work-role self-efficacy (but with a decreasingly marginal effect), and that it will have no effect for employees high on work-role self-efficacy. With regard to Hypothesis 2a, the interaction term of squared empowering leadership and work-role self-efficacy (Table 2, Model 6) was a significant predictor (b = .42, p < .05) of creativity. Moreover, with regard to Hypothesis 2b, the interaction term of squared empowering leadership and work-role self-efficacy (Table 3, Model 6) was significant (b = .39, p < .05).[1]

[1] Results of these analyses remain virtually unchanged when excluding all controls. We report the models with controls included because we believe they provide more conservative tests. When we additionally controlled for

Next, we examined the simple slopes (see Table 4) of the regression curves for both outcomes corresponding to all possible combinations of high (1 *SD* above the mean), moderate (mean), and low (1 *SD* below the mean) empowering leadership with high and low work-role self-efficacy (Aiken & West, 1991). For creativity, Figure 2 plots this curvilinear effect, depicting how the relationship between empowering leadership and creativity follows a U-shaped pattern in the case of high work-role self-efficacy and an inverted U-shape when work-role self-efficacy is low. As shown in Table 4 and Figure 2, in the case of *high* work-role self-efficacy, low empowering leadership was not related to creativity, but increasingly high empowering leadership (ranging from moderate to high levels) was positively related to creativity though failing to reach significance in this sample. In contrast, when work-role self-efficacy was *low*, empowering leadership at low levels was positively related to creativity ($b = .57$, $p < .01$). This relation became non-significant at medium levels of empowering leadership ($b = .14$, *ns*) and trended negative when empowering leadership was high ($b = -.29$, *ns*).

For in-role performance, Figure 3 plots this curvilinear effect, depicting how the curvilinear relationship between empowering leadership and in-role performance varies depending on employees' work-role self-efficacy. Empowering leadership follows a U-shaped pattern in the case of high work-role self-efficacy while the curve follows an inverted U-shape when work-role self-efficacy is low. As shown in Table 4 and Figure 3, in the case of *high* work-role self-efficacy, empowering leadership was not significantly related to in-role performance. In contrast, when work-role self-efficacy was *low*, empowering leadership at low levels was positively related to in-role performance ($b = .34$, $p < .05$). This relation became non-significant at medium levels of empowering leadership ($b = -.02$, *ns*) and trended negative when empowering leadership was high ($b = -.37$, *ns*). In sum, the patterns of the moderated curvilinear effects fail to reject Hypotheses 2a and 2b.

subordinates' psychological empowerment (assessed using the scale developed by Spreitzer, 1995), these results did not change either.

Table 2. Regression Results for Creativity

Predictor	Creativity					
	Model 1	**Model 2**	**Model 3**	**Model 4**	**Model 5**	**Model 6**
Controls						
Age	-.00 (.01)	-.00 (.01)	-.00 (.01)	-.01 (.01)	-.00 (.01)	-.01 (.01)
Gender	-.09 (.14)	-.09 (.14)	-.12 (.14)	-.10 (.14)	-.09 (.14)	-.08 (.14)
Education	-.05 (.05)	-.06 (.05)	-.04 (.05)	-.04 (.05)	-.04 (.05)	-.05 (.05)
Hours/week	.01 (.01)	.01 (.01)	.01 (.01)	.01 (.01)	.00 (.01)	.01 (.01)
Job tenure	.00 (.00)	.00 (.00)	.00 (.00)	.00 (.00)	.00 (.00)	.00 (.00)
Skill variety	-.02 (.05)	-.06 (.05)	-.07 (.05)	-.07 (.05)	-.07 (.05)	-.07 (.05)
Task variety	-.07 (.05)	-.08 (.05)†	-.08 (.05)†	-.09 (.05)*	-.09 (.05)*	-.10 (.05)*
Predictors						
EL		.39 (.12)**	.34 (.12)**	.25 (.14)†	.24 (.14)†	.13 (.15)
EL^2			-.25 (.15)†	-.23 (.15)	-.17 (.17)	-.14 (.17)
WRSE				.21 (.12)†	.20 (.13)	.07 (.14)
Interaction terms						
EL x WRSE					-.14 (.21)	-.01 (.22)
EL^2 x WRSE						.42 (.21)*
R^2	.06	.12*	.14*	.15**	.16**	.18**
ΔR^2		.06**	.02†	.02†	.00	.02*

Note: N = 155 dyads; Reported coefficients are unstandardized with standard errors in parentheses; EL = Empowering leadership; WRSE = Work-role self-efficacy.
$^{\dagger}p < .10$, $*p < .05$, $**p < .01$, $***p < .001$.

Table 3. Regression Results for In-role Performance

Predictor	In-role Performance					
	Model 1	**Model 2**	**Model 3**	**Model 4**	**Model 5**	**Model 6**
Controls						
Age	.01 (.01)	.01 (.01)	.01 (.01)	.01 (.01)	.01 (.01)	.01 (.01)
Gender	-.25 (.12)*	-.25 (.12)*	-.27 (.12)*	-.25 (.11)*	-.22 (.11)†	-.21 (.11)†
Education	-.08 (.05)†	-.09 (.05)†	-.07 (.05)	-.07 (.04)	-.06 (.04)	-.08 (.04)†
Hours/week	-.01 (.01)	-.01 (.01)	-.01 (.01)	-.01 (.01)	-.01 (.01)†	-.01 (.01)†
Job tenure	.00 (.00)	.00 (.00)	.00 (.00)	.00 (.00)	.00 (.00)	.00 (.00)
Skill variety	-.01 (.04)	-.03 (.04)	-.04 (.04)	-.05 (.04)	-.04 (.04)	-.04 (.04)
Task variety	-.08 (.04)†	-.08 (.04)*	-.08 (.04)*	-.10 (.04)**	-.10 (.04)**	-.11 (.04)**
Predictors						
EL		.20 (.11)†	.15 (.11)	-.02 (.11)	-.03 (.11)	-.13 (.12)
EL^2			-.29 (.13)*	-.26 (.12)*	-.12 (.14)	-.09 (.14)
WRSE				.36 (.10)**	.34 (.10)**	.22 (.12)†
Interaction terms						
EL x WRSE					-.32 (.18)†	-.19 (.18)
EL^2 x WRSE						.39 (.17)*
R^2	.10*	.12*	.15**	.22***	.24***	.26***
ΔR^2		.02†	.03*	.07***	.02†	.03*

Note: N = 155 dyads; Reported coefficients are unstandardized with standard errors in parentheses; EL = Empowering leadership; WRSE = Work-role self-efficacy.
$^{\dagger}p < .10$, $*p < .05$, $**p < .01$, $***p < .001$.

Table 4. Tests of Simple Slopes

Work-Role Self-Efficacy	Empowering leadership	Creativity		In-role Performance	
		b	***SE***	***b***	***SE***
Low	Low	.57**	.19	.34*	.16
Low	Medium	.14	.20	-.02	.17
Low	High	-.29	.38	-.37	.31
High	Low	.01	.35	-.40	.29
High	Medium	.13	.19	-.24	.16
High	High	.25	.27	-.08	.22

Note: High = 1 *SD* above the mean; medium = mean value; low = 1 *SD* below the mean; *$p < .05$, **$p < .01$, ***$p < .001$.

Figure 1. The Curvilinear Relationship between Empowering Leadership and In-role Performance

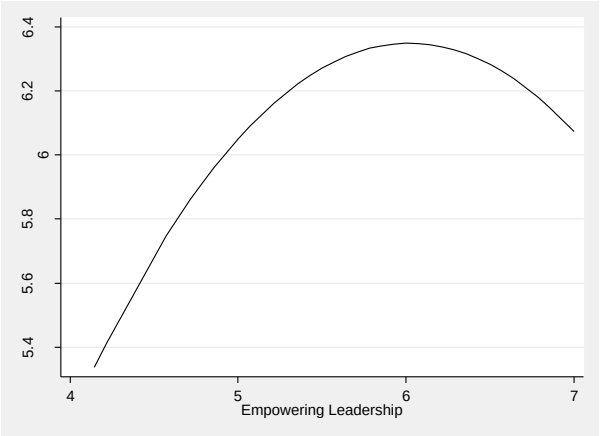
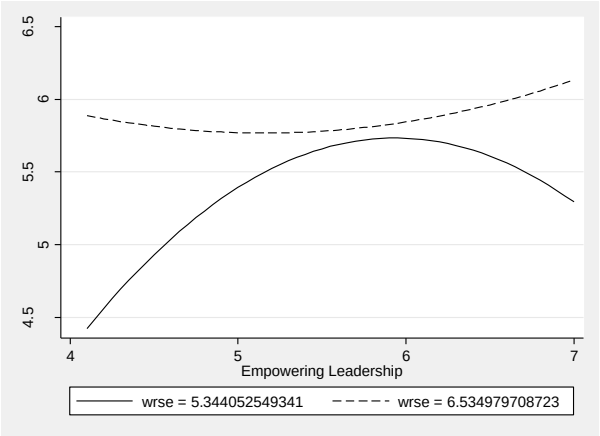
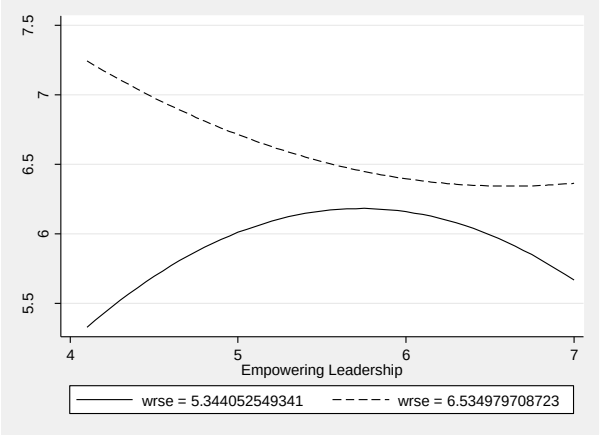


Figure 2. Moderating Effect of Work-Role Self-Efficacy on the Relationship between Empowering Leadership and Creativity



Note: WRSE = Work-role self-efficacy.

Figure 3. Moderating Effect of Work-Role Self-Efficacy on the Relationship between Empowering Leadership and In-role Performance



Note: WRSE = Work-role self-efficacy.

Discussion

In heeding calls to examine possible curvilinear effects of empowering leadership (Sharma & Kirkman, 2015) we also set out to examine whether such a curvilinear effect might be moderated by employees' generalized work-role self-efficacy beliefs. Indeed, work-role self-efficacy emerged as an important determinant of how subordinates respond to empowering leadership, and results diverged across high and low levels of work-role self-efficacy. Specifically, work-role self-efficacy moderates the curvilinear relationship between empowering leadership and employee performance, such that empowering leadership has a positive, decreasing effect on employees' creativity and in-role performance for employees low on work-role self-efficacy, whereas empowering leadership has no effect on these outcomes for employees high on work-role self-efficacy. Thus, we established work-role self-efficacy as an individual difference that can substitute for the effect of empowering leadership.

Theoretical Implications

The findings of our study offer several implications for future theory development and research. First, building on activation theory (Scott, 1966) and research on the Too-Much-of-a-Good-Thing effect (TMGT effect; Pierce & Aguinis, 2013), we develop theory that posits that empowering leadership relates to employee performance in a curvilinear manner for employees low on work-role self-efficacy. In so doing we challenge the existing conception that empowering leadership will positively and linearly affect desired performance outcomes. The test of our theoretical model confirmed its tenets and, thus, our findings call for future work to acknowledge a more nuanced picture of the relationship between empowering leadership and employee performance by building on the theoretical model we advance in this paper. In particular, we took a first step to extend empowering leadership theory to incorporate notions about why and when its effects reach tipping points (i.e., when it becomes inefficient and possibly overburdening). Interestingly, our work shows that for the case of desirable performance outcomes such as creativity and in-role performance the positive effect of empowering leadership might turn to become negative once an optimum level of empowering leadership behavior is passed. This finding is generally in line with the finding of curvilinear effects for other types of leader behaviors

such as leader assertiveness or giving voice (Ames & Flynn, 2007; Harris & Kacmar, 2006; Peterson, 1999) so an integration of insights on curvilinear effects from other bodies of work into empowering leadership theory might prove promising. Moreover, it might be worthwhile to extend our theoretical model to include the notions of potential threshold or ceiling effects of empowering leadership.

Second, drawing from Brockner's (1988) behavioral plasticity hypothesis and related work by Eden and colleagues (Eden & Aviram, 1993; Eden & Kinnar, 1991; Eden & Zuk, 1995) we advanced a theoretical account about generalized work-role self-efficacy acting as boundary condition of the curvilinear empowering leadership effect. Importantly, we extend empowering leadership theory by proposing that individual differences such as work-role self-efficacy can *substitute* for empowering leadership's effects. Our theoretical propositions were confirmed demonstrating that generalized work-role self-efficacy acts as a moderator of the curvilinear empowering leadership effect – and that it substitutes for it. Therefore, our conceptual model opens the floor for future theorizing on and empirical investigations of individual differences that may act as (additional) moderators of empowering leadership. We particularly encourage scholars to further investigate the notion that employees' individual differences can substitute for the effect of empowering leadership as is evident from the non-significant effect of empowering leadership for individuals higher on work-role self-efficacy. Future work can take our extension of empowering leadership theory as a starting point to theorize about individual difference factors that might have a similar (or different) substitution pattern thus rendering empowering leadership ineffective.

In addition, counter to the common sense expectation that employees might need a minimum level of work-role self-efficacy before they can actually make full use of the empowered job environment their leader provides them with, we argue and our findings show that it is those lower on work-role self-efficacy who are benefiting most from empowering leadership – but that this occurs only up to a certain point. This finding may help reconcile previous findings in the empowering leadership literature. For example, Ahearne et al. (2005) expected that individuals high on employee empowerment readiness (i.e., "the extent to which employees possess an array of task-relevant knowledge and experience that will enable them to benefit from, and to be successful in, an empowered environment"; Ahearne et al., 2005: 948) should benefit more from empowering leadership.

However, contrary to the authors' predictions those individuals with lower empowerment readiness (i.e., knowledge and experience) actually benefited more from empowering leadership. While their study positioned self-efficacy as a mediator of empowering leadership, we speculate that – to the extent that knowledge and experience in a job are fueling employees' work-role self-efficacy – their finding on empowerment readiness might resemble what we find for generalized work-role self-efficacy.

Another implication of our work to consider is to examine the following dilemma: While we build theory and find that generalized work-role self-efficacy is a boundary condition of empowering leadership, others have argued and demonstrated that empowering leadership *builds* self-efficacy beliefs at both the individual and team level because of its motivational scope (Ahearne et al., 2005; Kirkman & Rosen, 1999). We propose that this apparent tension can be resolved by integrating conceptualizations of self-efficacy as both trait and state-like, as well as by considering longitudinal effects of empowering leadership. Specifically, we focus our theoretical treatment on generalized work-role self-efficacy which we conceptualize on purpose in *trait*-like and broad terms, meaning that we view self-efficacy as a stable individual difference that varies across employees and that is *independent* from empowering leadership. A more state-like conceptualization of work-role self-efficacy on the other hand would imply that self-efficacy beliefs are more strongly influenced by and tied to a specific situation or context, and that levels of self-efficacy can vary for a given employee depending on the situational context. Empowering leadership behaviors may be relatively more effective in increasing employees' state-like as opposed to trait-like efficacy beliefs given their strong situational and contextual impact. However, it is conceivable that over the long term empowering leadership also works to steadily increase employees' trait-like work-role self-efficacy beliefs. For instance, employees who over the course of their careers repeatedly and constantly are being exposed to empowering leadership should in the long run also experience a boost in their trait-like work-role self-efficacy. This notion and the findings from our study imply that empowering leaders might make themselves (or their empowering behaviors) "superfluous" eventually – in the sense that once they built up employees' work-role self-efficacy beliefs to reach a certain level, their empowering behaviors will no longer yield beneficial effects. This implication of our work remains to be investigated and tested in future longitudinal research.

Another possible avenue for future work in this area pertains to the nature and shape of the curve. While Humborstad et al. (2014) found a J-shaped relationship between empowering leadership and in-role performance and organizational citizenship behaviors, we found a *moderated* curvilinear relationship that resembled an inverse U for individuals holding low work-role self-efficacy beliefs. Given that they appear to have sampled a lower range of empowering leadership behaviors it might also be possible that over the whole range there are actually two inflection points (one when empowering leadership kicks in and one when its effects level off) pointing to the possibility of a cubic relationship. Another explanation for the different shapes of the curve might lie in the difference in conceptualizations of empowering leadership across studies.

Moreover, more work is needed in order to examine whether the negative downward slope for employees low on work-role self-efficacy is more pronounced for certain performance outcomes or maybe in combination with other factors in the work environment (e.g., job demands or stressors) or with other individual differences (e.g., need for structure). For instance, employees who are both low on self-efficacy and high on need for structure may experience a negative performance effect of empowering leadership much sooner (and significantly so). Another interesting question to study is how the curvilinear effect of empowering leadership unfolds over time (Sharma & Kirkman, 2015). For instance, will employees lower on self-efficacy eventually experience no positive effect of empowering leadership and how does the shape of the curvilinear function change? Lastly, it would be interesting to investigate whether and how empowering leaders might be able to also positively impact employees higher on work-role self-efficacy via additional leader interventions such as, for example, verbal appeals.

Practical Implications

A practical implication of our findings is that they suggest leaders need to be aware of subordinates' work-role self-efficacy before exhibiting empowering behavior. If the goal is to increase creativity and the workgroup has high work-role self-efficacy, then empowering leader behaviors will have little impact. However, if one or more subordinates are lacking in such self-efficacy, then they would benefit from moderate levels of empowering leadership. In this case, leaders should seek to optimize their empowering

behaviors by reaching the inflection point, thus maximizing creativity. The aim of maximizing in-role performance, however, is more complicated. For subordinates with high work-role self-efficacy, empowering leadership showed a U-shaped trend with performance, whereas the relation was an inverted-U for subordinates with low work-role self-efficacy (see Figure 3). This pattern creates a tension when managing in-role performance because low empowering leadership brings out the best in subordinates with high work-role self-efficacy yet it brings out the worst in those with low work-role self-efficacy. As empowering leadership increases, depending on the composition of the work group, overall in-role performance may remain stagnant because any performance gains from subordinates with low work-role self-efficacy will be offset by performance losses from subordinates with high work-role self-efficacy. Leaders must therefore tailor their empowering behavior based on the make-up of the work group. Alternatively, leaders could also take steps to bolster the work-role self-efficacy of all subordinates (e.g., by creating mastery experiences, showing encouragement, etc.; Bandura, 1977), thus enabling them to display consistent empowering behavior to everyone.

Limitations

As with all research endeavors, our study is not without limitations. First, while we theorize about possible mechanisms that may explain why the curvilinear effect of empowering leadership occurs (e.g., heightened activation and feelings of role overload once an optimum level of empowering leadership is surpassed) we did not empirically assess these mechanisms. Hence, we are not able to formally test any hypotheses pertaining to underlying processes of the observed effects. Future work should attempt to measure potential mediating mechanisms in order to enable us to understand what underlying processes drive the findings in our study.

Second, despite the use of multi-source data and the collection of performance data subsequent to predictor data, our lack of an experimental study design limits our ability to draw clear causal inferences. For instance, the notion discussed above that empowering leadership might build self-efficacy beliefs would imply a causal path from empowering leadership to work-role self-efficacy which we cannot meaningfully assess given our design. Moreover, we acknowledge the possibility that employees' work-role self-efficacy in our

study may in part be due to trait and state like components but posit that this would not alter the interpretation of conclusions derived from the current study substantially. Based on our conceptual rationales and the time lag between collecting the predictor and outcome data, we are confident that our findings are replicable in other samples. A remedy to this shortcoming of our study is to design an experiment in which subjects enact subordinate roles after being primed to endorse either a low or high work-role self-efficacy state and are confronted with empowering leadership at varying levels (e.g., low, medium, and high), and to compare subordinates' outcomes across these treatment groups. Nonetheless, our multi-source and multi-wave design provides an empirical contribution beyond previous work that explored possible curvilinear effects of empowering leadership using data collected from a single source at one point in time (e.g., Humborstad et al., 2014).

Third, our findings may be prone to biases arising from endogeneity which occurs when variables in the model are correlated with the model error term (Stock & Watson, 2012). Despite scholars generally paying little attention to this phenomenon, the problem is very common to field studies as such a correlation can result from various reasons, e.g., important predictors being omitted from the model, independent variables being measured with error, or simultaneous causality (Kennedy, 2008; Stock & Watson, 2012; Tabachnick & Fidell, 2007). Future research can resolve this issue by relying on experimental designs or by identifying instrumental variables that can be used in two-stage least-squares regression techniques (Kennedy, 2008; Stock & Watson, 2012).

Conclusion

In conclusion, our findings challenge the prevailing notion that empowering leadership boosts desired work outcomes in a linear fashion. We demonstrate that the relationship of empowering leadership with both employee creativity and in-role performance follows an inverse U-shape for employees low on work-role self-efficacy and that it does not significantly affect these outcomes for employees high on self-efficacy. Moreover, we show that individual differences can substitute for the effect of empowering leadership. We therefore call for future work to investigate more explicitly when and why the effect of empowering leadership for positive outcomes switches from positive to negative and whether there are other individual differences that may substitute for

empowering leadership.

Appendix

Items for Work-Role Self-Efficacy Measure

The items for this scale were modeled after the generalized self-efficacy measure by Chen et al. (2001). Scale items were introduced by the following instructions: "Below are several statements about you. Using the response scale, please indicate your agreement or disagreement with each item. In my current work role/job..."

1. *I will be able to achieve most of the work goals that I have set for myself.*
2. *When facing difficult work tasks, I am certain that I will accomplish them.*
3. *In general, I think that I can obtain job outcomes that are important to me.*
4. *I believe I can succeed at most any endeavor in my job to which I set my mind.*
5. *I will be able to successfully overcome many work role challenges.*
6. *I am confident that I can perform effectively on many different tasks at work.*
7. *Compared to other people, I can do most tasks in my job very well.*
8. *Even when things are tough, I can perform quite well in my work role.*

CHAPTER 3

How Empowering Leadership Boosts Employee Creativity and In-Role Performance: The Moderating Role of Goal Orientations

Abstract

Combining tenets from empowering leadership and goal orientation theory we argue that depending on employees' goal orientations empowering leadership is related to creativity or in-role performance via psychological empowerment. We posit that employees high on learning goal orientation will demonstrate increased levels of creativity as a result of empowering leadership because their ultimate goal is to master new challenges and seek opportunities that allow them to grow and develop their skills, and engaging in non-routine, creative tasks allows them to pursue this goal. Moreover, we expect empowering leadership to impact in-role performance for employees high on performance orientations (prove or avoid). For these individuals the ultimate goal in achievement situations is to gain positive or avoid negative competence judgments by others and focusing on in-role performance tasks is a promising way to achieve these goals. We expect the positive effect of empowering leadership on both creativity and in-role performance to occur via psychological empowerment. Contrary to our predictions, post-hoc analyses allowed us to paint a more nuanced picture: Empowering leadership positively affected meaning and, in turn, creativity for employees high on learning goal orientation, while it increased competence and, in turn, in-role performance for individuals high on performance avoid goal orientation.

The pressure of increasing competition in many industries leads organizations to expect employees to be both creative in their jobs to fuel innovation and to perform well within work roles to sustain firm operations and financial viability. Empowering leadership might be a lever to achieve these goals (Sharma & Kirkman, 2015). Zhang and Bartol (2010: 109) refer to empowering leadership "as the process of implementing conditions that enable sharing power with an employee by delineating the significance of the employee's job, providing greater decision-making autonomy, expressing confidence in the employee's capabilities, and removing hindrances to performance". Given its focus on creating the conditions for employees to display their talents and evidence of its effectiveness at both the individual (e.g., Ahearne et al., 2005; Chen, Sharma, Edinger, Shapiro, & Farh, 2011; Konczak, Stelly, & Trusty, 2000; Zhang & Bartol, 2010) and team level (e.g., Kirkman & Rosen, 1999; Srivastava, Bartol, & Locke, 2006), empowering leadership seems to hold the promise to enable companies to encourage their employees to explore new ways of using corporate resources (i.e., to increase employee creativity) and to exploit these resources (i.e., to increase employee in-role performance).

Notwithstanding the evidence for the effectiveness of empowering leadership, findings from a meta-analysis also show that there is heterogeneity in effect sizes, indicating that the effects of empowering leadership are contingent on moderator influences (Burke et al., 2006). Moreover, various mediating mechanisms have been proposed by previous research to explain how empowering leadership fuels employee performance (Chen et al., 2011; Harris et al., 2014; Zhang & Bartol, 2010; Zhang & Zhou, 2014). This suggests that in order to understand when and how empowering leadership stimulates creativity and in-role performance, we need to consider moderating influences as well as the possibility of a broader underlying mechanism that can boost both creativity and in-role performance simultaneously. These observations are the jumping-off point for the current analysis.

By integrating empowering leadership theory and the goal orientation framework (Dweck, 1986; Dweck & Leggett, 1988; VandeWalle, 1997) we seek to address these issues. Goal orientations describe individual differences in achievement motivations – a focus on personal growth and development (learning goal orientation), on displaying one's competence (performance prove goal orientation), and on avoiding looking incompetent (performance avoid goal orientation; VandeWalle, 1997). We combine insights from both

theoretical paradigms to propose that empowering leadership will make individuals with a stronger learning goal orientation thrive on creative tasks, whereas it will make individuals with a stronger performance goal orientation (prove or avoid) thrive on in-role performance tasks. We further propose that this performance boosting effect of empowering leadership occurs via empowering leadership's positive effect on psychological empowerment (i.e., "an orientation in which an individual wishes and feels able to shape his or her work role and context"; Spreitzer, 1995: 1444) because psychological empowerment's broad motivational scope is beneficial for both creativity and in-role performance.

By building and testing theory that links empowering leadership to employee creativity and in-role performance via psychological empowerment and depending on employees' goal orientations, our research makes an important contribution to the literature. Performance on the job is generally recognized as the key indicator of leadership effectiveness (Kaiser, Hogan, & Craig, 2008), and creativity and in-role performance arguably are the two most important aspects of performance in this respect. Clarifying that empowering leadership can influence both these outcomes, but contingent on different moderating influences and via the broad motivational mechanism of psychological empowerment thus is core to further developing empowering leadership theory – a theory that is gaining in importance with the increased emphasis on self-management and teamwork in today's organizations (Schwartz et al., 2016) as well as in view of the recent discrediting of the charismatic-transformational leadership framework as the dominant perspective in leadership research (van Knippenberg & Sitkin, 2013). A second key contribution of our study emerged from post-hoc exploratory analyses: We find that a focus on meaning and competence as separate dimensions of the multidimensional psychological empowerment construct (Spreitzer, 1995) proves more useful than treating these dimensions as part of an aggregated psychological empowerment construct. We thus answer calls to focus on the separate dimensions rather than the aggregate (Maynard, Gilson, & Mathieu, 2012; Spreitzer, 1995; Spreitzer, 2008) in a way that shows the value-added of this differentiated approach; meaning and competence have differential influence through different moderated paths. Our development of empowering leadership theory thus also has implications for the study of psychological empowerment more broadly.

Theory Development and Hypotheses

In this section, we trace the development of our conceptual model by first discussing the general nature of empowering leadership and its potential to boost both employee creativity and performance via its effect on psychological empowerment. Next, we investigate how empowering leadership triggers creativity for employees high on learning goal orientation and how it fuels in-role performance for people with stronger performance goal orientations (prove and avoid).

Empowering Leadership, Psychological Empowerment, and Employee Performance

Empowering leadership is conceptualized generally in terms of behaviors that yield positive employee work outcomes because of their broad motivational scope (e.g., Ahearne et al., 2005; Kirkman & Rosen, 1997; Kirkman & Rosen, 1999; Sharma & Kirkman, 2015; Zhang & Bartol, 2010). This effect is proposed to occur via the psychological states it elicits in employees. In particular, psychological empowerment (i.e., "an orientation in which an individual wishes and feels able to shape his or her work role and context"; Spreitzer, 1995: 1444) has been established as an important mediating mechanism between empowering leadership and employee performance (Chen et al., 2011; Zhang & Bartol, 2010). Following this prior line of work, we argue below that the effect of empowering leadership on both employee creativity and in-role performance occurs via its impact on psychological empowerment.

Creative work is characterized by problems that are ill-defined and complex in nature (Mumford, Scott, Gaddis, & Strange, 2002; Tierney, 2008). Amabile (1983) conceptualized creative performance as being a function of – besides other things – task motivation, such as attitudes toward the task and perceptions of own motivation for undertaking the task. Among the drivers of employee creativity are supervisory style (e.g., Oldham & Cummings, 1996) and management practices (e.g., Amabile, 1996). Empowering leadership is a potentially powerful trigger of creativity because it allows employees to adapt novel and useful approaches that they deem appropriate given their understanding of organizational workflows and problems rather than having to follow top-down guidance and directives for task completion. Given the increased autonomy and decision-making authority that comes with empowering leadership, employees are also more free to experiment and

find creative solutions to organizational problems that otherwise might not be envisioned. Moreover, empowering leadership will have a positive effect on creativity due to an increased amount of information and knowledge that employees receive from empowering leaders. This additional knowledge permits employees to come up with more creative solutions to organizational problems because it can help to increase both a problem solution's novelty and usefulness. Lastly, empowering leaders' expressions of trust and confidence should feed employees' motivation for engaging in creative tasks. Overall, empowering leadership behaviors generally will trigger in employees a pro-active or empowered state of being able and willing to affect their work context (i.e., of feeling psychologically empowered) which in turn will result in increased creativity due to higher task motivation.

In terms of in-role performance, empowering leadership practices such as sharing information and knowledge, coaching, increasing autonomy and expressing confidence, should enable employees to perform better within their roles than employees who face a non-empowering leader. Increased access to information and knowledge combined with heightened autonomy allows subordinates to make the right decisions at the right time rather than having to wait for input or the "green light" from superiors. This holds true in particular for clearly definable in-role performance tasks where quick decisions might be needed on a daily basis. In this sense empowering leadership can help to reduce bottleneck problems in decision-making or other roadblocks to performance located at the supervisor level. Moreover, empowering leadership should positively impact employees' motivation and efficacy beliefs which in turn leads to a boost in in-role performance. These rationales are supported by previous evidence that found a positive link between empowering leadership and performance or productivity outcomes (e.g., Burke et al., 2006; Kirkman & Rosen, 1999; Srivastava et al., 2006). Taken together, empowering leadership should increase in-role performance via its effect on psychological empowerment because it is in multiple ways intended to stimulate in employees feelings of ownership and efficacy, and, thus, fuel a state of feeling psychologically empowered.

However, we posit that employees' achievement motivations as captured by their goal orientations determine whether empowering leadership has stronger implications for either employees' creativity or in-role performance. According to Dweck and colleagues

(1986; 1988) goal orientations capture the extent to which people differ with regard to the broader goals they pursue and their goal preferences in achievement situations (such as their jobs). VandeWalle (1997) differentiates three types of goal orientations for the work domain, which he labeled learning goal orientation, performance prove goal orientation and performance avoid goal orientation. People high on learning goal orientation are driven by a motivation to develop themselves, acquire new skills, master new situations, and improve their competence. Individuals holding a performance prove goal orientation are motivated by the desire to show what they are capable of and gain positive judgments about their competence. Lastly, people endorsing a performance avoid goal orientation are guided by a motivation to avoid negative appraisals of their ability and avoid the refutation of their competence (VandeWalle, 1997).

One important consequence of goal orientations for organizations is that they shape how people view achievement situations in their jobs because they influence mental frames and beliefs about the characteristics of personal effort and ability (Dweck & Leggett, 1988). Individuals with a learning goal orientation generally display behaviors characterized by seeking challenges that foster their personal learning and they show high persistence in their task-directed behaviors. Independent of their own perceived current level of ability (it might be perceived as low or high) learning goal oriented people generally are mastery-oriented, implying that the ultimate goal of their behavior is to broaden their competence or attain mastery of a subject or task. Lastly, individuals holding a learning orientation tend to adopt personal, relative (rather than normative or absolute) standards to assess their success, to choose tasks that are subjectively perceived as challenging and difficult, and are more task (rather than ego) involved (cf. Farr, Hofmann, & Ringenbach, 1993).

Individuals holding a performance prove orientation are also mastery-oriented in that they seek challenges and show high persistence; however, their primary objective is *not* to foster their own learning (i.e., increase their competence) but to demonstrate their competence. Finally, individuals with a performance avoid goal orientation are characterized by low levels of perceived own ability and by showing "helpless" behavioral patterns, meaning that they avoid challenges and show low persistence in goal striving behavior. The ultimate goal of individuals characterized by a performance avoid goal orientation is to avoid looking incompetent. In sum, performance prove and avoid oriented individuals are

concerned about a job's potential to yield positive or avoid negative performance appraisals by others. This implies an assessment of that potential in terms of one's own competence in relation to that of others. Moreover, individuals with a performance orientation generally adopt normative criteria to gauge their success, choose tasks where success is guaranteed, and are more ego-involved meaning that they care about their (in)competence in relation to that of others (cf. Farr et al., 1993).

Empowering Leadership, Learning Goal Orientation, and Creativity

When individuals *high* on learning goal orientation face an empowering leader they are likely to react in positive ways: Given their ultimate goal is personal growth and the development of their competence, they will appreciate an increase in empowering leadership as it allows them to more intensely pursue their developmental goals. This implies that for employees high on learning goal orientation empowering leadership fuels the state of psychological empowerment because these employees have a clear vision of how to use increased levels of autonomy and authority. For instance, a learning oriented employee likely is motivated to address personal knowledge gaps, to seek others' feedback and opinions, or to experiment to arrive at a solution for a work problem because she is not afraid of negative feedback or personal setbacks. The environment created by empowering leadership allows such an employee to engage in all these activities and, thus, should fuel a state of feeling psychologically empowered because she is allowed and encouraged to be more in control of shaping her job. An environment characterized by low levels of empowering leadership on the other hand offers relatively little leeway for learning oriented individuals to explore ways to develop themselves which will suppress feelings of psychological ownership because low empowering leadership does not offer the conditions that make a proactive orientation toward the job possible.

Employees *low* on learning goal orientation on the other hand likely feel psychologically empowered to a lesser extent when empowering leadership increases because it is not clear to them how to actively make use of the empowered context. Stated differently, employees low on learning goal orientation lack a clear understanding of what to do with increasing levels of empowering leadership which should weaken the effects of empowering leadership on feelings of empowerment. Therefore, feelings of being able and

willing to shape their work context, or a proactive orientation toward the job, as a result of increasing levels of empowering leadership will be weaker for employees low on learning goal orientation.

Lastly, as a learning goal orientation focuses individuals on activities, such as experimentation and learning (Hirst, van Knippenberg, & Zhou, 2009), that are particularly conducive for creativity we propose that empowering leadership increases creativity in particular for individuals high on learning goal orientation. These individuals will use an empowered work context to actively seek opportunities for development – and to work on something novel (i.e., creative tasks) offers a potentially rewarding route to do so. This rationale is in line with propositions put forward by Parker, Bindl, and Strauss (2010) who argue that a learning goal orientation influences multiple proactive goals in employees which results in "can do" and "reason to" motivational states. Stated differently, the fact that learning oriented employees feel more able to and see more value in pursuing proactive (potentially risky or negative feedback-involving) behaviors and goals will lead them to choose creative over in-role performance tasks because an engagement in creative tasks is much more likely to allow them to move beyond their current routine and competence levels.

Hypothesis 1a: Empowering leadership increases creativity more strongly for employees high on learning goal orientation than for those low on learning goal orientation.

Hypothesis 1b: Empowering leadership indirectly affects creativity via psychological empowerment and this effect is stronger for employees high on learning goal orientation than for those low on learning goal orientation.

Empowering Leadership, Performance Goal Orientations, and In-role Performance

We propose that employees with stronger performance goal orientations (prove or avoid) will focus on in-role requirements when being empowered as these offer a well-known and, thus, straightforward (and safe) route via which competence vis-à-vis others can be demonstrated and incompetence would be most evident. Stated differently, while learning oriented employees will tend to focus on new, creative tasks that offer plenty of opportunities

for personal development as a result of being empowered, we argue that the interactive effects of empowering leadership and performance orientations will bear stronger implications for known, in-role tasks as these offer well-defined opportunities for displaying one's competence as well as a more evident benchmark for looking incompetent. This rationale is in line with previous work that argued that performance oriented employees stay clear of more proactive types of work behaviors (such as creativity or innovation related tasks) because these individuals prefer to remain inside their comfort zone and shy away from behaviors that are more likely to yield uncertain outcomes as it reduces their "can do" motivational states (Parker et al., 2010).

Individuals *high* on a performance prove goal orientation seek to gain positive judgments about their performance. We expect that engaging in in-role behaviors as compared to activities targeted at augmenting creative performance, will appear as the relatively more promising and safe route for high performance prove oriented individuals to harvest positive performance appraisals. In line with the rationale for learning oriented employees, empowering leadership also triggers increased levels of psychological empowerment for employees high on performance prove orientation because these employees have a clear vision about how to make use of the empowered context that empowering leadership creates. When empowering leadership is high, the leeway for performance prove oriented employees to engage in behaviors that might yield positive competence judgments is large. Therefore, they should feel able and willing to impact their job (i.e., psychologically empowered) as a result of high levels of empowering leadership. For employees *low* on performance prove orientation on the other hand, there is relatively little gain in being empowered by leaders because they lack a strong underlying goal that will fuel their feelings of psychological ownership of their jobs in an empowered context.

> *Hypothesis 2a: Empowering leadership increases in-role performance more strongly for employees high on performance prove goal orientation than for those low on performance prove goal orientation.*
>
> *Hypothesis 2b: Empowering leadership indirectly affects in-role performance via psychological empowerment and this effect is stronger for employees high on performance prove goal orientation than for those low on performance prove goal*

orientation.

Performance avoid oriented employees want to avoid looking incompetent in front of others. We argue that a leader's engagement in empowering leadership practices and the implied expressions of the leader's confidence and trust in employees' competence and ability to perform well, will mitigate the perceived risk of being judged incompetent. Moreover, empowering leadership also helps to prevent that avoid oriented individuals revert to helpless behavioral patterns as it represents a well-intentioned stimulus for engaging in work-related activities. That is, an empowering leader's expression of confidence, encouragement, and trust in an employee's ability to perform is akin to creating a job environment that is characterized by a *non*-existence (or low likelihood) of negative competence judgments. Hence, empowering leadership creates an environment that allows avoid oriented employees to engage in in-role behaviors by taking away potential fears of being perceived or judged as incompetent. This creates a context that resonates well with performance avoid oriented individuals' motivation which fuels their feelings of psychological empowerment. As is the case for performance prove oriented individuals, we expect that engaging in work activities targeted at increasing in-role performance as compared to creative performance, should appear as the relatively more promising route for high performance avoid oriented individuals to prevent obtaining negative performance appraisals because it likely is perceived to be more predictable and, hence, less risky in terms of being able to meet performance expectations. Stated differently, a focus on in-role behaviors may be viewed as the relatively "safer" route for steering clear of negative competence appraisals.

Individuals *high* on performance avoid orientation will benefit more from increasing levels of empowering leadership than those low on it because they are more receptive to empowering leadership's potential to compensate for their fear of receiving negative performance appraisals. A context characterized by low levels of empowering leadership offers relatively fewer features of a safe work environment such as expressions of confidence, encouragement, or trust, which is why employees higher on performance avoid orientation will feel uncomfortable and not willing nor able to shape their own work context (i.e., they experience low levels of feeling psychologically empowered). A high

empowering leadership context, however, affects employees high on performance avoid orientation strongly because they are more receptive to empowering leadership's cues than are employees low on avoid orientation. In sum, empowering leaders provide an empowerment-boost and "insurance of safety" that in particular high avoid oriented employees are receptive to, and thereby create opportunities for employees to engage in performance tasks without having to worry overly about receiving negative appraisals. Hence, employees high on avoid orientation will feel more psychologically empowered than those low on avoid orientation as empowering leadership increases, and as a result display increased levels of in-role performance.

Hypothesis 3a: Empowering leadership increases in-role performance more strongly for employees high on performance avoid goal orientation than for those low on performance avoid goal orientation.

Hypothesis 3b: Empowering leadership indirectly affects in-role performance via psychological empowerment and this effect is stronger for employees high on performance avoid goal orientation than for those low on performance avoid goal orientation.

Method

Sample and Procedure

We tested our hypotheses using data from a sample of supervisor-subordinate dyads recruited via a research support service agency based in the Netherlands. Following a cross-sectional study design, 977 supervisors completed the supervisor survey out of which 736 (75.3%) provided the email address of one of their subordinates. These subordinates were in turn invited by the research support agency to participate in a different online survey and a total of 255 (34.6%) subordinates completed the subordinate survey. All subordinate surveys could be linked successfully to those of their supervisors by use of anonymous codes that were generated by the research agency. This resulted in a total final sample of 255 leader-subordinate dyads. Supervisors (31% female, M_{age} = 41.18, SD_{age} = 10.64) indicated to work an average of 38.05 hours per week (SD = 8.13) while subordinates (41% female,

M_{age} = 36.91, SD_{age} = 10.61) spent an average of 35.05 hours per week (*SD* = 7.52) at work. Supervisors and subordinates had on average 6.2 (*SD* = 2.84) and 5.15 (*SD* = 2.73) years of post-high school education, respectively. The majority of respondents were Dutch nationals (98% for both supervisor and subordinate samples). All study materials were administered online in Dutch. As detailed below, we relied on established and validated measures as well as translation back-translation procedures to ensure the translated items assessed the intended constructs (Brislin, 1980).

Measures

Unless otherwise noted, the response scale for all items ranged from 1 ("strongly disagree") to 7 ("strongly agree"). Subordinates assessed the extent to which they perceived their leaders to display empowering leadership behaviors, their goal orientations, and their level of psychological empowerment on the job. Supervisors provided ratings of subordinates' creativity and in-role performance.

Empowering leadership. Supervisors' empowering leadership behaviors were assessed by subordinates using a 14-item scale (α = .89) by Kirkman and Rosen (1999). We excluded one item in the subsequent analyses due to a mistake in the translation back-translation procedure which led the item to score in the wrong direction. Participants were instructed to think about their immediate supervisor or manager and to decide how strongly they agreed with each of the statements that were introduced with the question stem "In general, my supervisor/ team leader…". An example item is "gives my team many responsibilities."

Goal orientations. Subordinates assessed their goal orientations using VandeWalle's (1997) 13-item measure (α of .88, .86, and .87, for learning, performance prove and performance avoid orientation, respectively). Participants were instructed to assess statements regarding themselves in a work context and to indicate how strongly they agreed with each statement. The set of statements was introduced with "At work…". Learning goal orientation was assessed using five items and an example item is "I am willing to select a challenging work assignment that I can learn a lot from." Performance prove goal orientation was assessed using four items and an example item is "I'm concerned with showing that I can perform better than my coworkers." An example of the four items that

were used to assess performance avoid goal orientation is "I prefer to avoid situations at work where I might perform poorly."

Psychological Empowerment. To assess subordinates' levels of psychological empowerment we used 12 items by Spreitzer (1995; α = .90). Subordinates were instructed to assess questions about themselves in their current job and to indicate the extent to which they agreed with each statement. The items were introduced by "In my current work role/ job…" and an example item is "I am confident about my ability to do my job."

Creativity. Supervisors assessed subordinates' creativity on a nine-item scale by Tierney et al. (1999; α = .91). Supervisors were instructed to indicate the extent to which they agreed that the following statements were characteristic of the subordinate they invited to participate in the study. Items were preceded with the subordinate's name "(Subordinate's name)…" and an example is "Generates novel, but operable work-related ideas."

In-role performance. Subordinates' in-role performance was assessed by supervisors on a seven-item scale by Williams & Anderson (1991; α = .82). For this set of items supervisors also had to indicate the extent to which they agreed that the items were characteristic of their subordinate and the statements were preceded with the subordinate's name. An example item is "Fulfills responsibilities specified in his/her job description."

Control variables. We entered subordinates' age, gender, education (years of post-high school education), and tenure with the supervisor (in months) as statistical controls.

Analytic Strategy

We relied on regression analyses to test our hypotheses. As per our conceptual rationales, our models allowed for a moderation of the first stage of the indirect effect (from empowering leadership to psychological empowerment) as well as for the direct effect (cf. Model F in Edwards & Lambert, 2007). Moreover, when testing for a given empowering leadership X goal orientation interaction we controlled for the remaining two empowering leadership X goal orientation interaction terms in all models (e.g., we controlled for the empowering leadership X prove orientation and empowering leadership X avoid orientation interaction terms when testing the empowering leadership X learning goal orientation interaction).

Results

Table 5 presents the means, standard deviations, and correlations of the study variables. Before testing the hypotheses we conducted a confirmatory factor analyses (CFA) in STATA 14.1 to establish whether the three-factor structure for the goal orientations measure that has been established in prior research (VandeWalle, 1997) was tenable in our data. As anticipated, a three-factor model yielded the best fit (χ^2 = 195.76; df = 62; RMSEA = .09; CFI = .93). Table 6 reports fit statistics for alternative model specifications.

To test Hypothesis 1a we regressed creativity on the empowering leadership X goal orientation interaction terms, their main effects, and the controls (see Table 7, Model 1). The interaction term of empowering leadership X learning goal orientation was not significant (b = .21, p < .1) thus rejecting Hypothesis 1a. To test Hypothesis 1b, as a first step we ran separate regressions for the first and second stages of the model. To test the first stage, we regressed psychological empowerment on the three empowering leadership X goal orientation interaction terms, their main effects, and the controls (F = 38.6; p < .001; R^2 = .64). The empowering leadership X learning goal orientation interaction term was not significant (b = .13, p > .05). Regarding the second stage of the model, we regressed creativity on psychological empowerment, the three empowering leadership X goal orientation interaction terms, their main effects, and the controls (F = 8.21; p < .001; R^2 = .29). Psychological empowerment was not a significant predictor of creativity (b = .17, p > .1). This pattern of results leads us to reject Hypothesis 1b.

To test Hypothesis 2a we regressed in-role performance on the empowering leadership X goal orientation interaction terms, their main effects, and the controls (see Table 7, Model 4). The interaction term of empowering leadership X performance prove goal orientation was not significant (b = .01, p > .1) thus rejecting Hypothesis 2a. To test Hypothesis 2b, we first ran separate regressions for the first and second stage of the model. First, we regressed psychological empowerment on the three empowering leadership X goal orientation interaction terms, their main effects, and the controls (F = 38.6; p < .001; R^2 = .64). The empowering leadership X performance prove goal orientation interaction term was a significant predictor of psychological empowerment (b = -.14, p < .01), however in opposite direction than expected. In terms of the second stage of the model, we regressed in-role performance on psychological empowerment, the three empowering leadership X goal

Table 5. Means, Standard Deviations, and Correlations

Variable	*M*	*SD*	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(1) Age[a]	36.91	10.61										
(2) Gender[a]	.59	.49	-.04									
(3) Education[a]	5.15	2.73	.20**	.07								
(4) Tenure w/ super.[a]	36.00	39.00	.34***	-.00	.08							
(5) EL[a]	5.38	.67	.09	-.07	.01	.17**	**(.89)**					
(6) LGO[a]	5.54	.71	.08	-.11	.06	.18**	.60***	**(.88)**				
(7) PPGO[a]	5.11	.95	-.07	-.07	-.01	.17**	.49***	.49***	**(.86)**			
(8) PAGO[a]	4.14	1.30	-.08	.05	-.00	-.20**	-.06	-.13*	.21***	**(.87)**		
(9) Psy. Empower.[a]	5.44	.71	.16*	-.06	.08	.25***	.71***	.66***	.54***	.00	**(.90)**	
(10) Creativity[b]	5.29	.82	.09	-.09	.06	.13*	.40***	.49***	.37***	-.05	.45***	**(.91)**
(11) Performance[b]	5.57	.86	.26***	-.14*	.01	.19**	.36***	.32***	.10	-.41***	.27***	.29***

Note: N = 255 dyads; [a] = Subordinate-rated; [b] = Supervisor-rated; Gender coded 0 = Female, 1 = Male; Education in years (post-high school); Tenure with supervisor in months; EL = Empowering leadership; LGO = Learning goal orientation; PPGO = Performance prove goal orientation; PAGO = Performance avoid goal orientation; Variables 5-11 rated on 7-point scales; Coefficient alphas are on the diagonal. *p < .05, **p < .01, ***p < .001

Table 6. Confirmatory Factor Analyses

Models	χ^2	d*f*	$\Delta\chi^2$	Δd*f*	RMSEA	CFI
Goal orientations						
Three-factor	195.76	62	-	-	.09	.93
Two-factor (learning and both performance orientations combined)	681.03	64	485.27***	2	.19	.66
Two-factor (learning and performance prove combined and performance avoid)	532.40	64	336.64***	2	.17	.74
One-factor	1023.60	65	827.85***	3	.24	.47

orientation interaction terms, their main effects, and the controls (F = 10.34; p < .001; R^2 = .34). Psychological empowerment did not emerge as a significant predictor of in-role performance (b = -.01, p > .1). This pattern of results leads us to reject Hypothesis 2b.

Lastly, to test Hypothesis 3a we regressed in-role performance on the empowering leadership X goal orientation interaction terms, their main effects, and the controls on (see Table 7, Model 4). The interaction term of empowering leadership X performance avoid goal orientation was not significant (b = .05, p > .1) thus rejecting Hypothesis 3a. To test Hypothesis 3b, we first tested the first stage of the model by regressing psychological empowerment on the three empowering leadership X goal orientation interaction terms, their main effects, and the controls (F = 38.6; p < .001; R^2 = .64). The empowering leadership X performance avoid goal orientation interaction term was not a significant predictor of psychological empowerment (b = .05, p > .1). The test for the second stage of the model is identical to the test performed for Hypotheses 2b. Psychological empowerment did not emerge as a significant predictor of in-role performance (b = -.01, p > .1). This pattern of results leads us to reject Hypothesis 3b.

Table 7. Regression Results for Creativity and In-role Performance

Predictor	Model 1: CREA	Model 2: MEAN	Model 3: CREA	Model 4: PERF	Model 5: COMP	Model 6: PERF
Controls						
Age	.00 (.00)	.01 (.00)*	.00 (.00)	.02 (.00)***	.00 (.00)	.02 (.00)***
Gender	-.07 (.09)	.01 (.09)	-.06 (.09)	-.14 (.09)	.07 (.07)	-.15 (09)†
Education	.01 (.02)	.01 (.02)	.01 (.02)	-.01 (.02)	.01 (.01)	-.01 (.02)
Tenure	-.00 (.00)	.00 (.00)	.00 (.00)	-.00 (.00)	.00 (.00)*	-.00 (.00)
Predictors						
ELB	-.84 (.61)	-.66 (.58)	-.73 (.61)	-.14 (.62)	.05 (.43)	-.18 (.61)
LGO	-.71 (.65)	-1.01 (.62)	-.47 (.65)	-.13 (.65)	.57 (.46)	-.32 (.66)
PPGO	.50 (.44)	1.29 (.42)**	.31 (.44)	-.02 (.44)	.10 (.31)	-.00 (.45)
PAGO	-.24 (.31)	-.95 (.29)**	-.21 (.32)	-.50 (.31)	-.87 (.22)***	-.31 (.32)
Mediators						
MEAN			.16 (.07)*			-.04 (.07)
COMP			-.13 (.09)			.26 (.09)**
Interaction terms						
ELBxLGO	.21 (.12)†	.26 (.12)*	.16 (.12)	.05 (.13)	-.06 (.09)	.07 (.13)
ELBxPPGO	-.07 (.08)	-.19 (.08)*	-.04 (.08)	.01 (.08)	.00 (.06)	.00 (.08)
ELBxPAGO	.04 (.05)	.16 (.05)**	.03 (.06)	.05 (.05)	.14 (.04)***	.02 (.06)
R^2	.28***	.51***	.30***	.34***	.47***	.36***

Note: N = 255 dyads; Reported coefficients are unstandardized with standard errors in parentheses; Tenure = tenure with supervisor in months; ELB = Empowering leadership behaviors; LGO = Learning goal orientation; PPGO = Performance prove goal orientation; PAGO = Performance avoid goal orientation; MEAN = Meaning; CREA = Creativity; COMP = Competence; PERF = In-role performance; $^{\dagger}p < .1$, $*p < .05$, $**p < .01$, $***p < .001$

Supplementary Analyses

When testing the first stages of our mediation models only the empowering leadership X performance prove goal orientation interaction term emerged as a significant predictor of psychological empowerment – and in a direction opposite to the one predicted. In addition, the other two interaction terms (i.e., empowering leadership X learning goal orientation and empowering leadership X performance avoid goal orientation) failed to reach significance by what might be argued to reflect a merely marginal extent. This pattern of results and an ongoing debate in the literature (Maynard et al., 2012; Seibert, Wang, & Courtright, 2011; Spreitzer, Kizilos, & Nason, 1997) made us question whether psychological empowerment is best studied as a unidimensional construct and whether the pattern of results would remain unchanged when analyzing the effect of empowering leadership on the distinct dimensions of psychological empowerment (i.e., meaning, competence, impact, and self-determination) separately.

In this regard it is important to note that even though Seibert et al. (2011) argue for analyzing empowerment using a unidimensional approach, Spreitzer (1995; 2008) proposed repeatedly that there is value in investigating different antecedents and consequences of the dimensions of empowerment and provided initial support for this view (Spreitzer et al., 1997). Likewise, Maynard, Gilson and Mathieu (2012: 1237) conclude in their review of the empowerment literature that "there is still merit in assessing the dimensions of the construct" and that "research is needed to determine factors that may serve as antecedents to certain dimensions (and not to others), as well as the resulting influence that such dimensions may have on various outcomes." In support of adapting a multi-dimensional view of psychological empowerment, empirical evidence demonstrates that antecedents, outcomes, or both, can be uniquely linked to different dimensions of psychological empowerment – but not to others (e.g., Ergeneli, Arı, & Metin, 2007; Kraimer, Seibert, & Liden, 1999; Moye, Henkin, & Egley, 2005; Spreitzer et al., 1997).

To test our suspicion that psychological empowerment might be more suitably studied by adopting a multi-dimensional perspective, we first conducted a confirmatory factor analysis (CFA). We tested whether the one or four-factor model of psychological empowerment yielded a better fit in our data. As anticipated, a four-factor model (χ^2 = 159.54; df = 48; RMSEA = .09; CFI = .93) fitted the data significantly better than the one

factor model (χ^2 = 622.92; df = 54; RMSEA = .20; CFI = .66; $\Delta\chi^2$ = 463.38; Δdf = 6; p < .001). We thus proceeded with an exploratory investigation of our conceptual model by replacing the one-factor psychological empowerment construct with the single dimensions of psychological empowerment. Specifically, instead of testing psychological empowerment as one mediator we proceeded to explore to which extent meaning, competence, impact, and self-determination might act as mediators between our empowering leadership X goal orientation interactions and employee creativity and in-role performance, respectively.

With regard to the first stage of our model, we first regressed *meaning* on the three empowering leadership X goal orientation interaction terms, their main effects, and the controls (F = 23.04 p < .001; R^2 = .51). The empowering leadership X learning goal orientation (b = .26, p < .05), empowering leadership X performance prove goal orientation (b = -.19, p < .05), and the empowering leadership X performance avoid goal orientation (b = .16, p < .01) interaction terms emerged as significant predictors of meaning. Second, we regressed *competence* on the same set of predictors (F = 19.5 p < .001; R^2 = .47). The empowering leadership X learning goal orientation (b = -.06, p > .1) and empowering leadership X performance prove goal orientation (b = -.19, p > .1) interaction terms were not significant, but the empowering leadership X performance avoid goal orientation (b = .14, p < .001) interaction term emerged as a significant predictor of competence. Third, we regressed *impact* on the same set of predictors (F = 15.21 p < .001; R^2 = .41). The empowering leadership X learning goal orientation (b = .25, p > .05) and empowering leadership X performance avoid goal orientation (b = -.07, p > .1) interaction terms were not significant, but the empowering leadership X performance prove goal orientation (b = - .21, p < .05) interaction term emerged as a significant predictor of impact. Fourth, we regressed *self-determination* on the same set of predictors (F = 17.33 p < .001; R^2 = .44). The empowering leadership X learning goal orientation (b = .06, p > .1) and empowering leadership X performance avoid goal orientation (b = -.05, p > .1) interaction terms were not significant, but the empowering leadership X performance prove goal orientation (b = -.15, p < .05) interaction term emerged as a significant predictor of self-determination.

In terms of testing the second stage of our model, we first explored the relationships of the single empowerment dimensions with creativity. To this end, we regressed *creativity* on the four psychological empowerment dimensions, empowering leadership, the three goal

orientations, and the controls ($F = 8.63$ $p < .001$; $R^2 = .30$). Only meaning emerged as a marginally significant predictor of creativity ($b = .14$, $p = .05$). Next, we regressed *in-role performance* on the four psychological empowerment dimensions, empowering leadership, the three goal orientations, and the controls ($F = 11.73$ $p < .001$; $R^2 = .37$). In this analysis, only competence emerged as a significant predictor of in-role performance ($b = .24$, $p < .05$). The fact that only meaning and competence emerged as predictors of creativity and in-role performance, respectively, in combination with our reading of the literature that meaning and competence are the two psychological states most commonly shared across extant conceptualizations of empowering leadership (cf., Ahearne et al., 2005; Chen et al., 2011; Kirkman & Rosen, 1999; Konczak et al., 2000; Srivastava et al., 2006; Zhang & Bartol, 2010) led us to narrow down our subsequent analyses to these two dimensions. Specifically, we hypothesized that meaning (i.e., "the value of a work goal or purpose, judged in relation to an individual's own ideals or standards"; Spreitzer, 1995: 1443) might be a more powerful mediator for creativity and competence (i.e., "an individual's belief in his or her capability to perform activities with skill"; Spreitzer, 1995: 1443) for in-role performance.

Hence, we tested a variation of Hypothesis 1b as a post-hoc hypothesis, namely whether empowering leadership would boost employee creativity via meaning (i.e., replacing psychological empowerment by meaning) depending on employees' learning goal orientation. To test this and the following exploratory indirect effect models we used the PROCESS Macro (version 2.13) by Hayes (Hayes, 2013, Model 8) in SPSS 23. We specified the models as we did in our main analysis (see Section Analytic Strategy above). In addition, we simultaneously entered the other mediator as a competing mediating mechanism in our analyses (i.e., the two mediators meaning and competence were allowed to operate in parallel). For instance, for creativity as an outcome besides meaning we additionally entered competence in our models. To assess the magnitude of indirect effects, we relied on bias-corrected confidence intervals (Mackinnon, Lockwood, & Williams, 2004) based on 15,000 bootstrap samples to avoid shortcomings of the classical causal steps approach and the parametrical Sobel test (Baron & Kenny, 1986; Edwards & Lambert, 2007; Hayes, 2009). Support for our hypotheses requires the conditional indirect effects of the empowering leadership X goal orientation interactions through meaningfulness or competence, respectively, to be significant (Preacher, Rucker, & Hayes, 2007). Failing to reject our first

post-hoc hypothesis, the indirect effect of the empowering leadership X learning goal orientation interaction term on creativity through meaning was significant (b = .04, 95% BCCI [.002; .131]). This coefficient for the indirect effect consists of the product of the path coefficients from the interaction term to meaning, and from meaning to creativity.

We also tested variations of Hypotheses 2b and 3b by replacing psychological empowerment with competence, respectively. Rejecting the post-hoc prediction of an indirect effect of the empowering leadership X performance prove goal orientation interaction on in-role performance through competence, the confidence interval for the indirect effect included zero (b = .00, 95% BCCI [- .04; .04]). However, the indirect effect of the empowering leadership X performance avoid goal orientation interaction on in-role performance via competence perceptions was significant (b = .04, 95% BCCI [.01; .09]) therefore failing to reject this post-hoc hypothesis.

Importantly, and in additional support of our exploratory model, the empowering leadership X learning goal orientation interaction on creativity was not significant through mediator competence (b = .01, 95% BCCI [- .01; .06]), and neither the empowering leadership X performance prove goal orientation interaction nor the empowering leadership X performance avoid goal orientation interaction on performance were significant through mediator meaning (b = .01, 95% BCCI [- .02; .06] and b = - .01, 95% BCCI [- .04; .01], respectively). This evidence fails to reject our post-hoc contention that the interactive effect of empowering leadership X learning goal orientation on creativity is mediated by meaning and that the interactive effect of empowering leadership X performance avoid goal orientation on performance is mediated by competence. Table 7 presents the results of the main and exploratory regression analyses for creativity (Models 1-3) and performance (Models 4-6).

We conducted post-hoc simple slope analyses of the significant empowering leadership X goal orientation interactions on meaning and competence, respectively. The interaction of empowering leadership and learning goal orientation on meaningfulness was significant (b = .26, p < .05; Table 7, Model 2). Figure 4 depicts this interaction. The slope was nonsignificant when learning goal orientation was low (one standard deviation below the mean; b = .59, t = 1.84, p < .1) and positive and significant when it was high (one standard deviation above the mean; b = .96, t = 2.42, p < .05). The interaction of empowering

Figure 4. Moderating Effect of Learning Goal Orientation on the Relationship between Empowering Leadership and Meaning

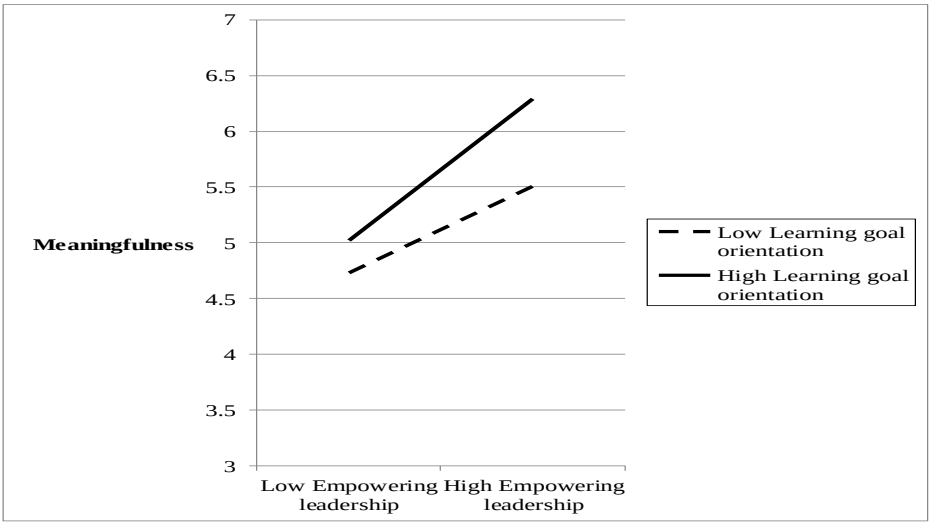
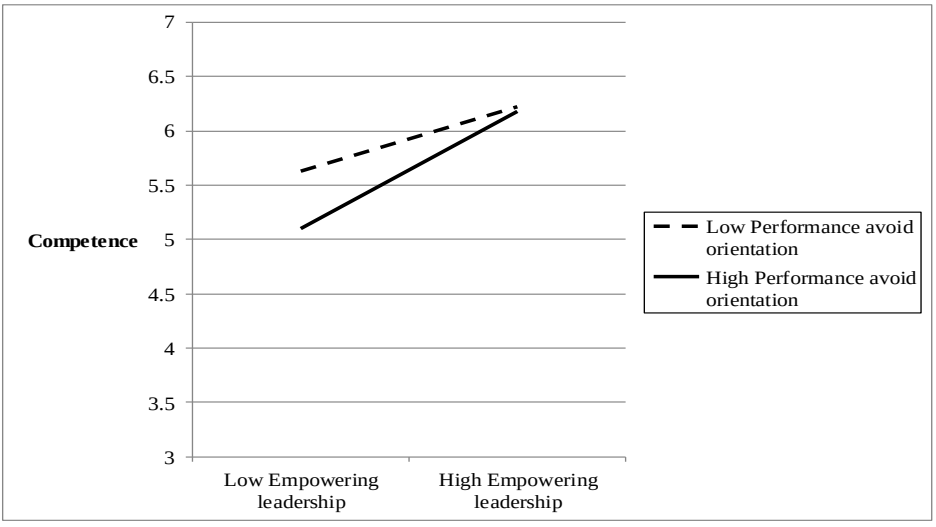


Figure 5. Moderating Effect of Performance Avoid Goal Orientation on the Relationship between Empowering Leadership and Competence



leadership and performance avoid goal orientation on competence was significant (b = .14, p < .001; Table 7, Model 5). Figure 5 depicts this interaction. The slope was nonsignificant when performance avoid goal orientation was low (one standard deviation below the mean; b = .45, t = 1.15, p > .1) and positive and significant when it was high (one standard deviation above the mean; b = .82, t = 2.16, p < .05).

For the significant indirect effects of our exploratory hypotheses (i.e., the modified versions of Hypotheses 1b and 3b), conditional indirect effects were computed for three levels (i.e., M - 1SD, M, and M + 1SD) of the moderators (i.e., learning goal orientation and performance avoid goal orientation, respectively) and considered significant if the bias-corrected 95% confidence interval did not include zero. Details of this probing of the conditional indirect effects at varying levels of the moderating variables are reported in Table 8. In line with our exploratory hypotheses, the indirect effect of empowering leadership increased with increasing levels of the moderators.

Table 8. Conditional Indirect Effects of Empowering Leadership on Outcomes

Model	Level of moderator	Indirect effect	Bootstrap SE	95% CI	
ELB X LGO →	M - 1SD	.09	.10	-.01	.39
MEAN → CREA	M	.12	.11	-.00	.45
	M + 1SD	.15	.13	.001	.526
ELB X PAGO →	M - 1SD	.12	.14	-.08	.48
COMP → PERF	M	.16	.15	-.02	.54
	M + 1SD	.21	.15	.004	.599

Note: ELB = Empowering leadership behaviors; LGO = Learning goal orientation; MEAN = Meaning; CREA = Creativity; PAGO = Performance avoid goal orientation; COMP = Competence; PERF = In-role performance; 95% CI is bias-corrected and based on 15,000 bootstrap samples.

Discussion

We set out to clarify how empowering leadership impacts employee creativity and in-role performance via psychological empowerment and depending on employees' goal orientations. Our findings demonstrate that psychological empowerment did not act as a mediator between empowering leadership and creativity or in-role performance. However, as a result of exploratory analyses our findings show that empowering leadership indirectly affects creativity via the psychological state of meaning for employees with a stronger learning goal orientation. Moreover, we find that empowering leadership triggers in-role performance via competence in particular for employees with a stronger performance avoid goal orientation.

Theoretical Implications

Our model extends theory on empowering leadership by integrating it with the goal orientation framework (Dweck, 1986; Dweck & Leggett, 1988; VandeWalle, 1997). While the data led us to reject our main hypotheses it did encourage us to explore additional, distinct pathways of how empowering leadership might relate to creativity and in-role performance, respectively. Given that previous evidence also demonstrates that distinct mediating mechanisms fuel creativity and in-role performance (Harris et al., 2014), we decided to follow this route. As our exploratory analysis highlights, it seems that unique moderated paths link empowering leadership differentially to distinct performance outcomes depending on employees' goal orientations. These post-hoc findings warrant further discussion as they bear important implications for future work.

First, our findings imply that in terms of what is psychologically important to employees, empowering leadership can mean different things to different people and that employees' achievement motivations – as captured by their goal orientations – determine whether empowering leadership has stronger implications for either people's state of meaning or competence. Empowering leadership provides employees with a sense of meaning and purpose because it is about highlighting the significance of employees' work. This increased sense of meaning seems to make it more apparent for employees how they can be creative on the job. Stated differently, meaning helps employees understand how to move beyond "routine" performance and being creative is such an opportunity. In this sense,

engaging in creative tasks is an opportunity for development derived from a sense of meaning and a means that allows learning oriented employees to not having to stick to in-role routines (cf. the notion of creative or innovative behavior as a form of proactive behavior that is particularly interesting to learning oriented individuals; Parker et al., 2010). This appears to appeal to learning oriented employees more so than to those who are performance oriented and also implies that the effect of empowering leadership on creativity occurs via meaning. Moreover, meaning as compared to competence seems to be the more important mechanism that links empowering leadership to creativity for employees holding a learning goal orientation, because heightened feelings of the significance and underlying purpose of the work provide these employees with a better sense of where opportunities to move beyond in-role or routine tasks are to be found.

Yet, empowering leadership also speaks to employees' competence beliefs as is evident from empowering leadership practices such as expressing confidence in successful task completion and encouraging employees to aim for high performance standards. Ultimately, employees high on performance goal orientations care – or are concerned – about competence more so than those high on learning goal orientation. They also likely care more about the psychological state of competence than about the psychological state of meaning. As in-role performance requirements arguably are clearer, their pursuit may be less contingent on a sense of meaning (even when still positively influenced by it). Performance goal orientations thus appear to focus individuals primarily on in-role performance as the "arena" in which competence can be displayed best and incompetence would be judged most harshly. From their focus on displaying their competence (and not their incompetence), the psychological state of competence seems to be a particularly important driver of in-role performance efforts for people with a stronger performance goal orientation (cf. the notion that for performance oriented individuals it is particularly important to stay away from behaviors that carry the risk to reduce their "can do" motivational state; Parker et al., 2010). Thus, empowering leadership motivates in-role performance in particular for people with a stronger performance goal orientation, mediated by competence.

While initial evidence by Humborstad, Nerstad, and Dysvik (2014) also identified learning goal orientation as a moderator of empowering leadership, our findings extend this previous work in important ways. First and foremost, a key contribution of our work is to

demonstrate that different mechanisms with different moderators link empowering leadership to different outcomes. Humborstad et al.'s study does not provide insights into the distinct processes linking empowering leadership to different performance outcomes, nor into how these indirect effects might be moderated by employees' goal orientations. Second, the authors did not theorize about the implications of empowering leadership for employees holding performance avoid goal orientations (nor did they include the full goal orientations measure as advanced by VandeWalle, 1997, in their study). This is no trivial point as this partial treatment of goal orientations precludes an advancement of our conceptual understanding pertaining to how empowering leadership impacts employees with an avoid goal orientation. As demonstrated in our study, given that avoid oriented employees might actually *benefit* from empowering leadership the omission of the avoid goal orientation in previous work limits the advancement of empowering leadership theory.

Second, a key implication of our exploratory findings and post-hoc rationales is to reconsider theory about psychological empowerment (Spreitzer, 1995). Specifically, there is an ongoing debate in the literature about whether psychological empowerment should be conceived of as a one-dimensional construct (thus collapsing its four dimensions into one factor) or whether there is value added in positioning the single dimensions of psychological empowerment as distinct and unique antecedents or consequences of other constructs. Our empirical findings and post-hoc theoretical treatment, advocate the latter view and demonstrate that it is worthwhile to theorize about the nomological network of the single dimensions of psychological empowerment in a more fine-grained fashion (Maynard et al., 2012; Spreitzer, 1995; Spreitzer, 2008). We therefore echo other scholars' calls to more fully investigate and theorize about the drivers and consequences of the single dimensions of psychological empowerment. The evidence presented in our study suggests that empowering leadership might stimulate primarily certain empowerment dimensions but not others, or that the other dimensions (i.e., impact and self-determination) also differentially link to performance outcomes via unique moderated paths.

Third, while we conceptualize empowering leadership and trait goal orientations as independent constructs, an implication of our findings is that future conceptual work should also theorize about how *other* aspects of leadership might impact employees' *state*-like goal orientations. For instance, the goal orientation literature showed that factors such as

communicating an emphasis on learning or the types of feedback provided could help shifting employees' goal orientations toward learning or performance (cf. Farr et al., 1993). Adopting a functional view on leadership in teams (e.g., Morgeson, DeRue, & Karam, 2010) suggests that leaders are responsible for providing feedback to the team. In so doing, leaders can make use of verbal appeals that signal either a "learning advocacy" or "performance advocacy". In the short term, this may help to instill a sensation of fit between the leader's empowering behavior and employees' goals. This in turn should enhance the effectiveness of empowering leadership because of the additional value people derive from an experience of fit (Cesario, Grant, & Higgins, 2004; Higgins, 2000, 2002). Evidence in support of this notion showed that leader behavior is more effective when there is a fit between a leader's style and employees' characteristic (e.g., Benjamin & Flynn, 2006; Damen, van Knippenberg, & van Knippenberg, 2008; Lambert, Tepper, Carr, Holt, & Barelka, 2012; Stam, van Knippenberg, & Wisse, 2010).

Fourth, future theory development would benefit from continuing the integration of theory on empowering leadership and achievement motivations that we initiated in order to be able to paint a more comprehensive picture of how the two work together in affecting employee performance. While we took an important first step in this direction by proposing employees' goal orientations (Dweck, 1986; Dweck & Leggett, 1988; VandeWalle, 1997) as a boundary condition of empowering leadership, we hope that future work in this area will also consider other theories of achievement motivation (e.g., goal setting theory, self-determination theory, social cognitive theory; cf. Bandura, 1971; Deci & Ryan, 1985; Locke, 1968) that might complement our model and further refine our understanding about how and when empowering leadership works most effectively. For instance, it might be possible that empowering leadership and goal orientations additionally interact with employees' self-efficacy beliefs (cf. Bandura, 1977; Chen et al., 2001). The notion of efficacy beliefs is already implied by theorizing on goal orientations as captured by propositions that high or low levels of confidence in present ability determine whether individuals adopt an approach or avoid orientation (cf. Dweck, 1986). Yet, owing to the implications of goal orientations it might prove promising to investigate broad (domain-level) but specific types of self-efficacy which more accurately map onto goal orientation theory's notions of developing versus displaying competence. Specifically, self-efficacy for development and improvement

(cf. Maurer, 2001) and role breadth self-efficacy (cf. Parker, 1998) or a generalized form of work-role self-efficacy (cf. Chen et al., 2001) might moderate the effect of empowering leadership depending on employees' goal orientations. These beliefs are located at the job or career domain level, not at the task nor global level of self-efficacy beliefs (cf. Bandura, 1997). An interesting implication of our model thus is that it points to the possibility that the effectiveness of empowering leadership additionally depends on other types of achievement motivation and their potential interactions with goal orientations.

Practical Implications

Our findings also carry important practical implications by helping managers to understand what important contingency factors of the empowering leadership process are and how empowering leadership unfolds. The findings of our study therefore equip leaders with the knowledge to better understand when and why empowering leadership leads to creativity and in-role performance. For instance, while we focused our investigation on employees' stable goal orientations (i.e., traits) leaders can actively try to influence their subordinates' goal orientations and trigger state-like goal orientations as discussed above. In so doing a leader might want to focus on increasing state-like *learning* goal orientation in particular in order to boost employees' creativity. There are various ways for leaders to induce state-like learning goal orientation. For instance, leaders might want to use verbal appeals to convey messages that are conducive to focusing employees' minds on activities of learning, highlight that improving one's skills is more important than showing that one is (more) competent, or explain that mistakes and set-backs are normal and not something to fear or worry about. Moreover, leaders might want to adjust performance appraisals forms and procedures. Rather than emphasizing performance in terms of achievement vis-à-vis others or in relation to absolute (external) benchmarks, performance could instead be assessed in terms of own development and growth in order to cause a shift in people's mind sets toward an orientation to learning (cf. Farr et al., 1993).

Another practical implication of our study is that it can create awareness among managers that employees higher on performance prove goal orientation likely will not benefit much from empowering leadership – neither in terms of their creativity nor in regard to their in-role performance. In this sense, managers might be better off to redirect their

empowering efforts from individuals higher on performance prove goal orientation to those higher on learning goal orientation or performance avoid goal orientation. Interestingly, employees higher on performance avoid goal orientation were not "scared off" by empowering leaders as might be commonly assumed. Managers, hence, do not need to worry that their empowering leadership behaviors might intimidate employees who fear looking incompetent in front of others.

Limitations

The findings of our study should be interpreted in light of its limitations. First, although we relied on multi-source data our study is cross-sectional which inhibits our ability to ultimately infer causality. However, based on our theoretical considerations we are confident that the proposed relationships work in the hypothesized direction. Future research can address this limitation by conducting an experiment which manipulates empowering leadership and subordinates' goal orientations as well as the type of performance outcome studied. Given previous experimental evidence that demonstrated that empowering leadership can act as a causal driver to impact subordinate performance (e.g., Chen et al., 2011; Lorinkova et al., 2013; Martin, Liao, & Campbell, 2013) we are confident that our model works in the proposed direction. Second, our statistical findings might suffer from endogeneity bias. Endogeneity occurs when there is a correlation between variables in the model and the model's error term (Stock & Watson, 2012). Field research in general is prone to the endogeneity problem because a correlation between the regressors in a model and the model error term can result from issues such as measurement error in independent variables, simultaneous causality, or important predictors not being included in the model (Kennedy, 2008; Stock & Watson, 2012; Tabachnick & Fidell, 2007). A way to address the endogeneity problem is to conduct a true experiment or to make use of instrumental variables and two-stage least-squares regression techniques (Kennedy, 2008; Stock & Watson, 2012).

Conclusion

Our findings challenge the idea that empowering leadership fuels desired performance outcomes in a straightforward fashion. Contrary to this conception, we demonstrate that the effect of empowering leadership on employee creativity and in-role performance unfolds differentially via distinct moderated paths. Specifically, we show that

empowering leadership fuels creativity via its effect on meaning for employees higher on learning goal orientation. Moreover, we demonstrate that in-role performance is positively affected by empowering leadership via an increase of employees' competence beliefs for those higher on performance avoid goal orientation. We call for future theoretical and empirical work to more fully establish which underlying processes link empowering leadership to distinct outcomes and to consider other moderators that may be important additions to our model.

Appendix

Supplementary Analyses: Constructive Replication of Chapter 2 Findings

The data reported in this chapter offered an opportunity to test whether the findings from the curvilinear study reported in Chapter 2 would replicate in another sample. Thus, we used the competence dimension of psychological empowerment as a proxy for the construct work-role self-efficacy which we studied in Chapter 2. However, we hasten to add that this constitutes at most a constructive replication (Lykken, 1968) because the constructs are neither conceptualized nor operationalized in an identical manner and, thus, the findings reported here have to be interpreted with caution and in light of these differences.

Hypothesis 2 of Chapter 2 posits that work-role self-efficacy moderates the curvilinear relationship between empowering leadership and outcomes, such that empowering leadership will have a beneficial effect on employee creativity (Hypothesis 2a) and in-role performance (Hypothesis 2b) in particular for employees low on work-role self-efficacy (but with a decreasingly marginal effect), and that it will have no effect for employees high on work-role self-efficacy. In the current analyses we used competence instead of work-role self-efficacy as a moderator to test these hypotheses. With regard to Hypothesis 2a, the interaction term of squared empowering leadership and competence was a significant predictor ($b = .26$, $p < .05$) of creativity. Regarding Hypothesis 2b, the interaction term of squared empowering leadership and competence was not a significant predictor ($b = .01$, *ns*) of in-role performance[2].

For creativity we thus proceeded to examine the simple slopes of the regression curve. As in Chapter 2, the relationship between empowering leadership and creativity followed a U-shaped pattern in the case of high competence and an inverted U-shape when competence is low. For *low* competence, empowering leadership at low levels was positively related to creativity ($b = .31$, $p < .05$) but became weaker and non-significant at medium ($b = .17$, *ns*) and high ($b = .03$, *ns*) levels of empowering leadership. This finding replicates our findings from Chapter 2 almost perfectly. For the case of *high* competence, low empowering leadership was not related to creativity ($b = .04$, *ns*), but medium ($b = .37$, $p <$

[2] In these analyses we controlled for liking (both of the leader as reported by the subordinate and of the subordinate as reported by the leader).

.001) and high levels (b = .69, p < .001) of empowering leadership were positively related to creativity. This finding shows a similar pattern as the findings from Chapter 2 with the exception that medium and high levels of empowering leadership were significantly positively associated with creativity in the current sample but not in the sample of Chapter 2.

CHAPTER 4

Empowering versus Directive Leadership and Employee Creativity: The Role of Employees' Goal Orientations and Team Information Exchange

Abstract

We propose that owing to its implications empowering leadership should first and foremost trigger a team coordination process that we label team direction of information exchange. We contrast empowering leadership with directive leadership which we expected to result in a greater amount of leader direction of information exchange. Drawing from goal orientation theory, we further predict that – depending on their goal orientations – team members will vary in the extent to which their individual creativity benefits from the team process of team direction of information exchange. We argue that team members holding a learning goal orientation should benefit from team direction of information exchange to a greater extent in terms of their creativity than team members holding performance goal orientations. We conducted a laboratory experiment in which we manipulated both leadership behavior and team members' goal orientations to test our predictions. Our findings demonstrate that in teams with an empowering leader, team members with a learning goal orientation came up with more creative task solutions than those with a performance (prove or avoid) goal orientation. Moreover, the effect of empowering and directive leadership on individual creativity occurred indirectly and across levels.

Increased competition and heightened demands for creativity (i.e., the development of jointly novel and useful ideas for products and services; Amabile, 1983) in many industries drive companies to organize work in flatter, team-based structures (Schwartz et al., 2016). Empowering leadership (e.g., Kirkman & Rosen, 1997; Kirkman & Rosen, 1999; Zhang & Bartol, 2010) is a leadership style that aligns well with the requirements of flat organizations because at its core it is about shifting autonomy and authority down the hierarchy and, thus, goes hand in hand with more decentralized ways of organizing. Moreover, empowering leadership has been recognized as a critical driver of creativity both at the individual (e.g., Harris et al., 2014; Zhang & Bartol, 2010; Zhang & Zhou, 2014) and team level (e.g., Hon & Chan, 2013; Zhu & Chen, 2016). Empowering leadership therefore offers a double benefit for organizations as it appears to be an effective response to both the challenges associated with decentralized decision-making and the need for increased employee creativity. More traditional, top-down approaches to leadership, such as directive leadership, on the other hand, likely are not suitable responses to the challenges resulting from the new responsibilities of managers in flat organizations (Sharma & Kirkman, 2015). Yet, effect sizes of empowering leadership vary considerably across studies indicating the need to take possible boundary conditions that qualify the effect of empowering leadership into account (see the meta-analysis by Burke et al., 2006). Thus, the question remains for which employees empowering leadership is most effective in boosting creativity.

Empowering leadership entails giving employees more decision-making autonomy and authority and encouraging employees to set their own goals as well as to resolve performance problems autonomously (Kirkman & Rosen, 1999). In contrast, directive leadership is about leaders initiating, structuring, and coordinating subordinates' work, assigning tasks, emphasizing goal attainment, and expressing expectations about goal compliance and adherence to instructions (House, 1971; Pearce, Sims, Cox, Ball, Schnell, Smith, & Trevino, 2003). The two leadership styles thus differ in two key aspects, i.e., the extent to which autonomy and authority are relinquished to employees and the way they influence the salience and nature of goals and expectations within teams. In sum, while empowering leadership aims at empowering subordinates to strive for their own goals autonomously, directive leadership aims at directing employees to (also) adopt and follow goals the leader deems important.

If followers are empowered to strive for their own goals, then their effectiveness should depend on how well these goals are aligned with the requirements of the task at hand. The types of goals individuals pursue are reflected in their goal orientations (Dweck, 1986; Dweck & Leggett, 1988; VandeWalle, 1997) which capture individuals' motivations for engaging in achievement situations such as their jobs. Goal orientations differentiate individuals based on whether they are driven by a focus on improving their competence, on displaying that they are better performers than others, or on avoiding looking incompetent compared to others (VandeWalle, 1997). Goal orientations also affect the behavioral patterns individuals display during goal striving processes and whether people think about competence in relative or absolute terms. As an example, while learning oriented individuals generally are characterized by high levels of persistence during goal striving and concerned about relative competence improvement (e.g., their personal current competence as compared to their past competence), avoid oriented individuals tend to display helpless behavioral patterns and think about competence in more absolute terms (Dweck, 1986; Dweck & Leggett, 1988).

As becomes evident from this example, individuals' goal orientations are ideally suited to understand employees' responses to the key implications of empowering versus directive leadership, i.e., a shift in autonomy and a change in goal and expectation structures. Stated differently, the extent to which empowering leadership increases employee creativity will vary as a function of how strongly employees make use of the increased autonomy and more flexible goal setting environment that empowering leadership creates – and goal orientations reflect both employees' inclination and motives for making use of that empowered environment. Thus, we argue that employees' goal orientations moderate the effect of empowering leadership on employee creativity. In particular, individuals holding a learning goal orientation will benefit more from empowering leadership than will performance (prove or avoid) oriented employees because a focus on improving one's competence in combination with the leeway and authority to do so as granted by empowering leaders is particularly conducive to boosting the novelty and usefulness of proposed solutions (i.e., creativity).

In flat and team-based organizations managers are also increasingly put in positions where they are charged with leading entire *teams* with the ultimate goal of maximizing

individual creativity. This poses a challenge for managers as it implies that their behavior can influence employee creativity not only directly but also *indirectly* via the team processes (i.e., "the means by which members work interdependently to utilize various resources"; Marks, Mathieu, & Zaccaro, 2001: 357) they stimulate within a team. Stated differently, team leaders are not the only resource for team members to draw from because team members may also benefit from each other (i.e., the team process) in coming up with creative solutions. In particular, individual team members' performance on creative, knowledge-intensive problems benefits from the coordination process (cf. Marks et al., 2001) of information exchange (Gong, Kim, Lee, & Zhu, 2013; Hoever, van Knippenberg, van Ginkel, & Barkema, 2012; van Knippenberg, 2017) as creativity depends on gathering the right information and knowledge which often is held by different members of a team. The challenge that arises is that managers should try to affect the information exchange process in a way that is most beneficial for individual creativity as otherwise this team process might cancel out any potential positive effects that would otherwise result from empowering leadership. Owing to the key differences between empowering and directive leadership, these leadership styles differ markedly in the way they impact the process of information exchange within teams such that empowering leadership stimulates *team* direction of information exchange while directive leadership engenders a *leader*-directed information exchange process.

We argue that it is via the process of team direction of information exchange that the beneficial effect of empowering leadership on individual creativity unfolds – and that this indirect effect varies as a function of team members' goal orientations. We predict that team direction of information exchange increases the creativity of learning oriented team members more so than that of performance (prove or avoid) oriented members because learning oriented team members will make better use of both the increased autonomy and the flexibility in goal setting that a team-directed context allows for when addressing the requirements of creative problems. Moreover, we predict that leader direction of information exchange is particularly detrimental to the creative performance of team members holding a learning goal orientation because it undermines the fact that team members' informational needs are the core driver of the unfolding exploration of information thereby depriving learning oriented team members of opportunities to develop their competence. In sum, our

analysis implies that empowering and directive leadership affect employee creativity differentially depending on employees' goal orientations and that these leader behaviors do so via their effect on the process of information exchange.

By integrating theory on empowering leadership (Kirkman & Rosen, 1997; Kirkman & Rosen, 1999; Zhang & Bartol, 2010) and goal orientations (Dweck, 1986; Dweck & Leggett, 1988; VandeWalle, 1997) we set out to examine for which employees empowering leadership is a particularly important driver of creativity. In so doing we contribute to the literature by establishing employees' goal orientations as important boundary conditions of empowering leadership for individual creativity. Moreover, our analysis implies an indirect effect of team empowering leadership on individual level creativity and that this effect varies as a function of team members' goal orientations. We thus make a second contribution to the literature by clarifying that empowering leadership can influence employee creativity both directly and indirectly via triggering the process of team direction of information exchange. While previous research has demonstrated the benefits of empowering leadership for individual and team creativity, respectively, it has thus far treated these levels of analysis as independent (e.g., Harris et al., 2014; Hon & Chan, 2013; Zhang & Bartol, 2010; Zhang & Zhou, 2014; Zhu & Chen, 2016). In the present paper, we relax this assumption and address the question of the nature and boundary conditions of the direct and indirect effects of team empowering and directive leadership on individual creativity. By offering a first cross-level perspective on empowering leadership our research opens the stage for future theoretical and empirical work on the cross-level effects of empowering leadership.

Theory Development and Hypotheses

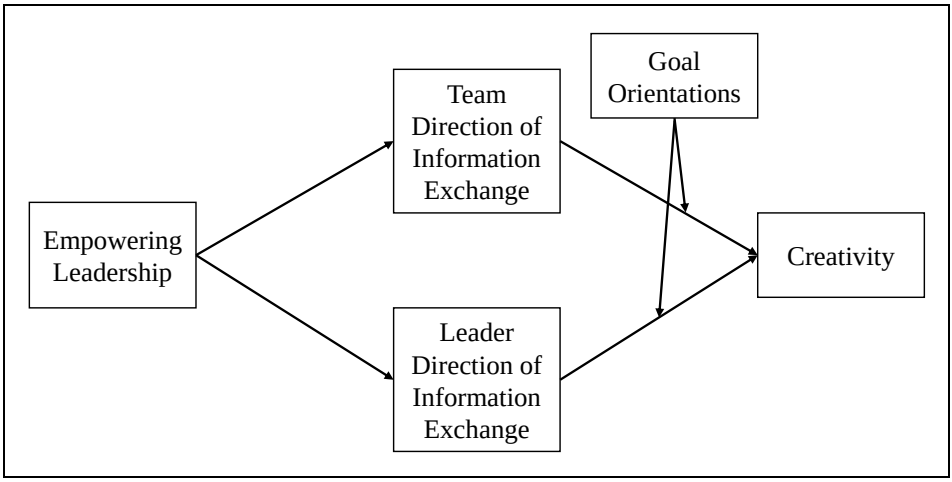
As much work today is organized around teams (Schwartz et al., 2016), research on leadership in teams has focused on leader behaviors that are suited to trigger and maintain team performance and two paradigms in particular have taken center stage – empowering and directive leadership (Kirkman & Rosen, 1999; Lorinkova et al., 2013; Martin et al., 2013; Yun et al., 2005). Empirical evidence suggests that either empowering or directive leadership may be more beneficial for team performance (e.g., Ensley, Hmieleski, & Pearce, 2006; Kahai, Sosik, & Avolio, 2004; Yun et al., 2005). However, given our focus on

individual creativity and in light of previous research that has linked empowering leadership to employee creativity (Harris et al., 2014; Zhang & Bartol, 2010; Zhang & Zhou, 2014) we posit that team empowering leadership is more beneficial for employee creativity than is team directive leadership. Empowering and directive leadership differ on two key dimensions that are relevant for the creativity of individuals in teams: First, empowering leadership more so than directive leadership shifts decision-making autonomy and authority to employees. This implies that teams themselves can take ownership of important processes that are relevant for problem solving – such as information exchange processes – when working on creative tasks. By allowing a team to lead itself, empowering leaders engender a process of *team*-directed information exchange within teams that can evolve as a function of team members' informational needs and goals. Directive leaders on the other hand will want to own and shape the process of information exchange themselves, thereby implying a *leader*-directed information exchange process. Under directive leaders it is therefore much less likely that team members' informational needs play a dominant role in influencing the information exchange which should be detrimental for individual team members' creativity.

A second key dimension on which empowering and directive leadership differ is the way in which they affect the nature and salience of performance expectations and goals. Empowering leaders encourage their employees to set and revise their own goals as needed (Kirkman & Rosen, 1999). This leeway granted by empowering leaders should be particularly beneficial for employees when working on creative tasks as it allows them to set and adjust their goals and behavior based on emerging and changing informational needs along the creative task solving process. The direction and goals directive leaders communicate, however, are unlikely to align perfectly with the goals and informational needs of team members as informed by team members' knowledge of the creative task. Consequently, an empowered team context likely is characterized by external performance expectations as communicated by the leader being relatively *less* salient for team members but instead by team members following their own, self-set goals as determined by the unfolding requirements of the creative problem. A team context characterized by directive leadership, on the other hand, should offer employees quite clear cues about what leaders expect from them in terms of task and goal achievement but these goals and expectations might not necessarily be conducive to enhancing individual creativity.

Consequently, we wanted to investigate both types of leader behaviors as they differentially relate to individual creativity. Building on the core differences between the behavior of empowering and directive leaders we argue in the sections that follow that empowering leadership is more beneficial for individual team members' creativity than is directive leadership but that this effect is moderated by team members' goal orientations. Moreover, we argue that the effect of both leadership styles on creativity unfolds via their effects on the process of information exchange and, ultimately, that this indirect effect varies as a function of team members' goal orientations. In a nutshell, teams in which leaders adopt an empowering leadership style show higher levels of team-directed information exchange and lower levels of leader-directed information exchange. Critically, we maintain that this results in differences in the degree to which the information exchange process (a) mobilizes team members' full range of task-relevant information (i.e., information that meets their informational needs) and (b) highlights the leader's expectations. This in turn has distinct consequences for different members' creativity depending on their goal orientations. Our conceptual model is depicted in Figure 6.

Figure 6. Conceptual Model



Note: Empowering leadership, team direction of information exchange, and leader direction of information exchange are at the team level (i.e., Level 2); goal orientations and creativity are at the individual level (i.e., Level 1)

Empowering and Directive Leadership and Creativity

We refer to creativity as the development of jointly novel and useful ideas for products and services that lack pre-defined procedures or scripts to follow for task completion (Amabile, 1983). A feature of creative work therefore is that it is generally ill-defined and complex in nature (Mumford et al., 2002; Tierney, 2008). For employees this implies that it is both crucial and difficult to gain a clear understanding of what usefulness and novelty embody for a given problem (cf. the notion that usefulness requires an understanding of what is useful to various stakeholders; George, 2007).

Both supervisory style (e.g., Oldham & Cummings, 1996) and management practices (e.g., Amabile, 1996) have been proposed as potential drivers of employee creativity. Empowering leadership in particular holds great promise to fuel employee creativity because it has the potential to equip individuals with the necessary degrees of freedom, informational resources, and motivation to engage in creative behaviors. First, shifting autonomy and decision making authority to employees who are the ones in charge of generating creative solutions will boost creative performance because it enables employees to experiment with and implement novel and useful ideas of their own accord. Instead of having to wait for input from above, empowered employees can go ahead and make decisions based on their own insight into and understanding of organizational workflows and problems. Hence, empowering leadership will lead to more experimentation and learning among employees and enables them to envision creative solutions that might otherwise remain unexplored. Moreover, through behaviors such as sharing information with employees empowering leaders allow employees to address their knowledge gaps and to better understand where creative efforts are needed and what novelty and usefulness mean in the context of the problem at hand. Lastly, empowering leadership triggers motivational mechanisms in employees which will stimulate their engagement in creative problem solving (Zhang & Bartol, 2010).

Directive leadership, on the other hand, will do relatively less of the above but instead result in the leader providing direction by initiating, structuring, and coordinating subordinates' work (House, 1971; Pearce et al., 2003). These behaviors are detrimental to creativity because they likely divert or disrupt members' own goal striving behaviors in ways that may not be conducive to the creative task solving process. Moreover, a leader who

displays such behaviors will likely not attend to the needs of members in the service of enhancing their creativity (e.g., by providing a way to increase domain-relevant or creativity-relevant skills; Amabile, 1983). Directive leaders' emphasis on goal attainment as well as on expectations about goal compliance and adherence to instructions (House, 1971; Pearce et al., 2003) also appear to fit the ill-defined nature of creative tasks poorly. Specifically, it is unlikely that a directive leader's goals and instructions will account perfectly for the complexity or possibly changing requirements of creative tasks. This limits members' creative potential because it ties them to the (a-priori) instructions and expectations that their directive leader stipulates. Overall, thus, directive leadership behaviors appear relatively less conducive to increasing employee creativity.

Moreover, as discussed below, we expect the beneficial effect of empowering as compared to directive leadership to be moderated by employees' goal orientations. Owing to the implications of empowering leadership, we propose that empowering leadership will "bring out the best" in learning oriented team members because of the autonomy and authority it grants them to pursue their learning goals. We also predict that this will result in team members holding a learning goal orientation to be more creative than those holding a performance prove or performance avoid goal orientation when working under an empowering leader.

The Interactive Effect of Leadership Styles and Goal Orientations on Creativity

Individuals can be distinguished in terms of their motivation for engaging in achievement situations. Prior work has established three types of goal orientations for the work domain, which have been labeled learning goal orientation, performance prove goal orientation, and performance avoid goal orientation (VandeWalle, 1997). Importantly, as goal orientations influence individuals' attitudes and beliefs about effort and ability they determine how individuals perceive and react to achievement situations in their workplace (Dweck & Leggett, 1988). First, individuals higher on *learning goal orientation* want to master problems, improve their competence, and develop their skills in an attempt to stimulate their personal growth. As these individuals are mastery oriented, it is not important for them whether they think of themselves as having a low or high current level of ability for a given task. The ultimate goal for people higher on learning goal orientation is to master

challenges and to develop their competence which implies that their reference point for assessing growth is their own previous level of competence. Second, people higher on *performance prove goal orientation* want to demonstrate to others what they are capable of in an attempt to receive positive competence judgments. Like individuals holding a learning goal orientation, they also display a mastery orientation in the sense that they engage in challenges and tend to show high persistence in goal striving behavior. Their ultimate goal, however, is to demonstrate their competence to others (as opposed to develop their competence). Lastly, individuals higher on *performance avoid goal orientation* want to avoid appearing incompetent in front of others as they fear receiving unfavorable competence appraisals as well as a disproval of their own competence. They are characterized by displaying "helpless" behavioral patterns (which means that they tend to avoid challenges and show low persistence when facing obstacles) and conceiving of themselves as possessing a low level of current ability. Moreover, their ultimate goal is to avoid looking incompetent (VandeWalle, 1997).

Employees higher on learning goal orientation are more naturally inclined to engage in behaviors conducive for creativity such as experimentation and learning (Hirst et al., 2009). Empowering leadership offers these employees the freedom and opportunities to pursue such behaviors and, thus, will boost their growth and development. For instance, empowering leadership grants employees with a learning goal orientation more leeway than directive leadership to reach their developmental goals by enabling them to fill their knowledge gaps, to make decisions autonomously, to set and adjust their work-related goals, and to seek information and feedback when needed. We therefore argue that learning oriented employees will thrive in being creative when facing an empowering leader because empowering leadership allows them to build their knowledge and competence related to the novelty and usefulness of creative problems. Employees who hold performance orientations (prove or avoid) on the other hand, are more concerned about displaying their competence (prove) or avoiding to look incompetent (avoid) as opposed to developing their competence. While performance prove oriented employees might also want to take advantage of the autonomy and authority that empowering leaders grant in order to display their competence, it is not obvious that an increase in behaviors targeted at displaying one's competence should also increase creativity-relevant knowledge (i.e., there likely are relatively more straight

forward paths for prove oriented team members to demonstrating their competence than reflecting on what best fits the complex requirements of joint novelty and usefulness). We thus posit that the creativity of performance prove oriented employees will not be affected as a function of whether these individuals work under an empowering or directive leader.

Lastly, we hypothesize that performance avoid oriented employees' creativity will suffer when working under empowering as compared to directive leaders. These individuals are concerned with avoiding to look incompetent vis-à-vis others. Empowering leadership, however, is about putting subordinates "center stage" in that it is about a shift of power to employees. As such, empowering leadership more so than directive leadership increases the amount and scope of opportunities for employees to potentially fail or look incompetent when making use of this increased decision-making power and latitude – in particular when it comes to ill-defined, creative tasks. Empowering leadership in that sense is likely perceived by performance avoid oriented employees as creating a more unpredictable and, thus, less safe environment than directive leadership. As a result, when working on creative tasks performance avoid oriented employees might be more concerned about covering their backs or paying extra attention to not looking incompetent which will reduce their cognitive capacity for focusing on and improving their understanding of creative problems.

> *Hypothesis 1: Leadership behavior and team member goal orientations interact such that team members with a learning goal orientation are more creative than those with a (a) performance prove goal orientation and a (b) performance avoid goal orientation when exposed to empowering as compared to directive leadership.*

As outlined in the following sections, we further propose that this moderation occurs via the effects of empowering and directive leadership on the team process of information exchange. Below we first argue how empowering and directive leadership differentially impact information exchange in teams, such that empowering leadership leads to more team-direction while directive leadership results in more leader-direction of this process. We then elaborate on how these processes relate to individual creativity and how this relationship is moderated by team members' goal orientations.

Empowering versus Directive Leadership and Team versus Leader Direction of Information Exchange

We conceptualize team direction of information exchange as a team coordination activity which is "the process of orchestrating the sequence and timing of interdependent actions" (Marks et al., 2001: 367–368). Such coordination activity generally "involves information exchange and mutual adjustment of action (..) in order to align the pace and sequencing of team member contributions with goal accomplishment" (Marks et al., 2001: 368). Thus, we define team direction of information exchange as the extent to which team members collectively engage in behaviors that both actively *stimulate* and *direct* the exchange of task-relevant information, such as information seeking activity or redirecting the team's dialogue if and when needed (e.g., Brannick, Roach, & Salas, 1993; Srivastava et al., 2006). Empowering leadership is ideally suited to stimulate team direction of information exchange in teams as it comprises behaviors such as transferring authority to the team, promoting self-direction and autonomous decision making within the team, encouraging the team to set its own goals, coaching, and expressing confidence in the team's ability to successfully complete its tasks (cf. Kirkman & Rosen, 1997; Kirkman & Rosen, 1999). For instance, increased authority and decision making latitude will positively affect team direction of information exchange because team members can decide on their own which topics to discuss in depth, what questions to ask, when to ask them, and how persistent to be in terms of fully discussing a given issue. Teams can also decide autonomously whether and when to switch back to previously discussed topics to avoid premature closure of a topic or to items that seem more task-relevant. Likewise, when teams have leeway to determine their own goals they are more likely to flexibly adapt these goals throughout the goal striving process in order to accommodate for specific task requirements, situations, and the information that becomes available. Moreover, an empowering leader's engagement in coaching activities will stimulate team members to jointly work on and solve problems (Arnold, Arad, Rhoades, & Drasgow, 2000) thereby providing instances for information exchange. Lastly, an empowering leader's expression of confidence and trust in the team will act as a motivational driver to ensure that teams continuously engage in team direction of information exchange even when facing obstacles or the discussion comes to a standstill. Empirical evidence supports our prediction that empowering leadership triggers team

direction of information exchange by demonstrating that it positively affects related constructs at the team level, such as knowledge creation and sharing (Menguc, Auh, & Uslu, 2013; Srivastava et al., 2006).

Directive leadership, on the other hand, has been conceptualized as involving behaviors such as actively initiating, structuring, and coordinating subordinates' work, assigning tasks, emphasizing goal attainment, and communicating expectations about compliance with goals and instructions (House, 1971; Pearce et al., 2003). It has been argued that directive leadership can increase employee performance as it helps to improve role clarity and responsibilities for employees and provides performance feedback and external monitoring, all of which may allow teams to make decisions more quickly (House, 1996; Kahai et al., 2004). Directive leadership therefore will lead to a greater extent of *leader* direction of information exchange because these types of leader behaviors ultimately imply that a team leader largely takes ownership of the coordination processes that unfold within a team. We also propose that to the extent that empowering leadership triggers team direction of information exchange it should also decrease leader behaviors that would have the same goal of coordinating information exchange within a team because when the team takes on ownership of the coordination process itself there is less room for the leader to take directive action. We thus predict that empowering leadership causes leader directed information exchange to decrease.

Team and Leader Direction of Information Exchange and Creativity

Building on our conceptualization of creative problems as being ill-defined and complex, employees are reliant on retrieving and accumulating a sufficient amount of information about creative problems in order to gain a comprehensive understanding about what novelty and usefulness entail. This implies that information can be argued to be the key raw ingredient for creative tasks. For instance, if employees fail to understand and attend to information on financial or other constraints (e.g., what solutions to a creative problem have been proposed before) in their problem solving efforts both novelty and usefulness of proposed solutions will suffer as consequently will their creativity. A major challenge for employees is that critical information related to the novelty and usefulness of solutions rarely is readily available to them. Instead, it is often tacit in nature and resides in employees'

minds who therefore are seen as important depositories of knowledge in organizations (Argote, 2013). Because of the complex and ill-structured nature of creative tasks, another challenge is that it is unlikely that any one given team member will know all there is to know in relation to a creative problem. This implies that compiling a comprehensive set of information relies on information bits that in all likelihood are spread out across members of a team. It is for this reason, that teams are often viewed as an effective way for organizations to ensure that employees with potentially diverse sets of knowledge and information come up with creative solutions (e.g., Shin, Kim, Lee, & Bian, 2012) and that information integration is viewed as a fundamental team process driving creativity and innovation (Hoever et al., 2012; van Knippenberg, 2017).

Within a team, knowledge about the usefulness and novelty of gauged solutions can be defined as team members' validated and organized task-relevant information (e.g., Smith, Collins, & Clark, 2005). The process of team direction of information exchange will generally help team members to arrive at a validated and organized set of information that they can then use when working on a creative problem because team direction of information exchange is about an active stimulation and coordination of the exchange of task-relevant information. Hence, as team members collectively engage in behaviors such as question asking activity or redirecting the discussion if and when needed, chances are that the full range of available information that is distributed across team members will be fully discussed. Team direction of information exchange therefore likely leads to all the available information being shared which is beneficial to boosting team members' creativity.

Leader direction of information exchange, on the other hand, presumably does not have a beneficial effect on creativity. When the process of information exchange is predominantly owned by the leader, it is much less likely that all information that is distributed across team members gets uncovered because a single individual may fail to consider all relevant aspects of a problem at hand or may make premature decisions based on only her or his own point of view. Hence, information as a raw ingredient of creativity will remain buried in individuals' heads. Moreover, team members may be precluded to contribute important information actively when they rely exclusively on the leader's orchestrating of the information exchange because leaders likely steer the team process according to their own understanding of the problem which may be partial or wrong.

Likewise, team members are prevented from advancing their own understanding of what novelty and usefulness entails for a given creative problem if the team process is exclusively under the leader's control as it is less likely that they can "chip in" if and when they desire to do so when the leader expects them to follow her or his directions. However, as we discuss in the following section, owing to the implications of individuals' goal orientations team members will differ in the way they react to team and leader direction of information exchange, respectively, and thus also in terms of what they take away from the information exchange process.

The Interactive Effect of Information Exchange and Goal Orientations on Creativity

A team environment characterized by *high* team direction of information exchange offers learning oriented team members an ideal breeding ground for creative ideas because the team is more in control of what is being exchanged than when the leader directs this process. This should result in a more useful type of information exchange because team members jointly guide the exchange in a way that is informed by their own informational needs as they evolve throughout goal striving. People higher on learning goal orientation are likely to use all the information that comes out on the table during this process in order to learn as many new or contradictory facts that were previously unknown to them in order to build their own knowledge base and to fill existing knowledge gaps. This in turn will benefit their creativity as the information they learn will benefit the novelty and usefulness of their solutions. Also, occurrences of redirecting a team's dialogue if and when needed will positively affect the creativity of people higher on learning goal orientation because they get more opportunities to revise their own knowledge stock in light of revisited information and the avoidance of premature closure of a given discussion. Moreover, their persistence in goal striving will help them to "stay tuned" and actively listen to and search for information that they might be missing to fully master a problem. Lastly, in teams with high levels of team-direction of information exchange goals and expectations related to task accomplishment are more likely to be driven by task requirements and team members' combined informational needs than by externally established benchmarks. This allows learning oriented team members to flexibly update their task goals as new information emerges which is beneficial for creative performance as it better aligns with the complex nature of creative tasks. A

context characterized by *low* team direction of information exchange on the other hand will offer members higher on learning goal orientation little opportunity to extract information in order to grow and develop their own competence and knowledge base. In sum, individuals high on learning goal orientation are concerned about a work context's potential to boost their personal growth and competence which is why their creativity will thrive in a team setting that is characterized by high team direction of information exchange.

People higher on performance goal orientation want to appear competent (performance prove) or avoid looking incompetent (performance avoid) in front of others. A team context with *high* team direction of information exchange creates plenty of opportunity for prove oriented individuals to demonstrate their competence (e.g., by engaging in activities that they consider safe ways to do so, such as reconfirming what has previously been stated or by striving to continuously contributing information to the team discussion) and for avoid oriented members to appear incompetent (e.g., by mentioning information whose validity can easily be questioned). It is not obvious, though, how performance oriented individuals would benefit from a team directed context as creativity requires individuals to combine insights such that they result in jointly novel and useful solutions, and the behaviors that are typical for performance oriented individuals do not necessarily lead to such complex combination of information. Given their ultimate goals are not about learning or developing their competence, they likely see little benefit in attending to all the information that comes out on the table or to think about it in terms of the joint novelty and usefulness of proposed solutions. Performance prove oriented people might do so to a greater extent though given that it may offer them a way to demonstrate their competence (e.g., by creating new insights by combining their information with information that has previously been mentioned or discussed). Overall, it is not the primary objective of these individuals though to use the high level of information seeking and exchange steering behaviors within a team to ensure that they increase their knowledge base. Hence, they will likely not benefit decisively in terms of generating knowledge that feeds into the usefulness and novelty of a creative task. Stated differently, in the absence of clear cues of external expectations (by a leader) about desirable directions or solutions in a high team direction environment performance prove oriented are less likely to exploit the informational rich environment to the benefit of their creative potential. Individuals higher on performance

avoid goal orientation may feel intimidated by a context characterized by high team direction of information exchange because it offers relatively many opportunities of being judged incompetent by others given the high levels of engagement of members and the ill-defined nature of creative tasks. Moreover, the absence of clear performance expectations from leaders makes this type of environment ambiguous for performance avoid oriented individuals as a clear guiding frame as to when performance is judged as incompetent is lacking thereby increasing the likelihood of fearing to appear incompetent.

A team environment characterized by *low* team direction of information exchange, on the other hand, offers little opportunity for performance oriented team members to engage in the process that is necessary for creativity in the first place and, thus, inhibits obtaining information related to a creative problem's novelty or feasibility. In sum, both individuals high on performance prove and performance avoid goal orientation are focused on behaviors that are not linked to the mastery of a problem which is why their creativity will not benefit from increased levels of team direction of information exchange.

Hypothesis 2a: Empowering leadership leads to more team direction of information exchange compared to directive leadership.
Hypothesis 2b: Team direction of information exchange interacts with team members' goal orientations such that it is positively related to individual creativity for team members holding a learning goal orientation more so than for those holding performance prove or performance avoid goal orientations.

As for leader direction of information exchange, we argue that learning oriented team members will react differently to it than performance (prove or avoid) oriented team members. Specifically, as levels of leader direction of information exchange increase opportunities for team members to own the exchange of relevant information decrease thereby reducing the potential impact team members have on the nature and sequence of information discussed. A context characterized by *high* levels of leader direction of information exchange likely cannot ensure that members contribute their full range of task-relevant information as members are expected to follow the leader's guidance and expectations thereby preventing team members to pursue their informational needs and share

their informational resources as needed. For example, a leader who directs the team's information exchange may steer the discussion in a direction that is not focused on uncovering information related to the dimensions of usefulness or novelty of a problem. A leader taking ownership of the information exchange process in a directive way also prevents that team members' informational needs guide the process because the process will primarily be driven by what the leader identifies as key issues to discuss. This will be particularly detrimental to team members endorsing a learning goal orientation because they are deprived of opportunities to learn and develop their competence effectively. The high leader direction context does, however, provide a relatively clear vision and understanding of what is expected from members as leader expectations should be very salient in this type of context. For instance, directive leaders tend to enforce external goals and expectations for goal achievement. This, however, is not conducive to learning oriented members' creativity as they are not free to choose and adjust their development and task goals as a function of evolving task requirements. A highly leader directed context should therefore also decrease learning oriented members motivation to engage fully in creative tasks because they will feel that it is impossible for them to pursue and achieve their learning goals. To summarize, the creative performance of learning oriented team members will decrease as leader direction of information exchange increases.

In contrast, we expect leader direction of information exchange to have a relatively weaker impact on performance oriented (prove or avoid) team members' creative potential. For their creativity it matters less to what extent the leader directs the information exchange because they are much more motivated by judgements about competence rather than by improving it. When leader direction of information exchange is high, the team's situation is more likely to be one in which there is a relatively high degree of external direction but a low degree of information exchange as driven by team members' informational needs. In principal this represents a setting in which performance oriented members (prove and avoid) may be motivated to generate solutions they deem fitting with these expectations and directions. However, given that the information exchange does not evolve as a function of team members' informational needs, their solutions are unlikely to be highly creative. In addition, as argued above performance oriented individuals tend to display behaviors that are relatively less focused on developing their competence which is why their creativity will

not depend as strongly on the level of leader direction of information exchange as the creativity of learning oriented team members.

Hypothesis 3a: Empowering leadership leads to less leader direction of information exchange as compared to directive leadership.
Hypothesis 3b: Leader direction of information exchange interacts with team members' goal orientations such that it is negatively related to individual creativity for team members holding a learning goal orientation more so than for those holding performance prove or performance avoid goal orientations.

As is evident from the reasoning above we expect team empowering versus directive leadership to indirectly and differentially affect individual creativity via its effect on team and leader direction of information exchange, respectively. We predict that empowering leadership triggers team direction of information exchange which in turn fuels team members' creativity differentially depending on their goal orientations. Moreover, we propose directive leadership to result in leader direction of information exchange which in turn again impacts team members' creativity differentially depending on their goal orientations.

Hypothesis 4a: Empowering leadership indirectly affects individual creativity via its effect on team direction of information exchange for team members holding a learning goal orientation more so than for those holding performance prove or performance avoid goal orientations.
Hypothesis 4b: Empowering leadership indirectly affects individual creativity via its effect on leader direction of information exchange for team members holding a learning goal orientation more so than for those holding performance prove or performance avoid goal orientations.

Method

We tested our hypotheses using a laboratory experiment involving individuals working in groups. This approach offers two key advantages. First, the experimental nature

of our study enables us to draw inferences about the causality of the observed effects of the manipulated leader behaviors and member goal orientations on creativity through the proposed team processes (Shadish, Cook, & Campbell, 2002). Second, the laboratory context enabled us to videotape all teams so as to allow for behavioral coding of the member and leader behaviors. This is particularly important given that members' retrospective and subjective ratings of these behaviors are subject to a number of biases (Weingart, 1997).

Participants and Design

One hundred and fifty six undergraduate students enrolled in various study programs at a major business school in the Netherlands participated in this study. Their average age was 20.68 years (s.d. = 2.59) and 45% were female. Participants signed up individually for a given time slot and were arrayed in 39 four-person groups that engaged in a one-hour experimental session. Each group consisted of three team members and one team leader. In exchange for their participation, participants received either extra course credit or a cash payment (EUR 10). All participants were additionally eligible to enter a lottery for a cash prize (EUR 50). Our study followed a 2 (leadership style: empowering vs. directive) X 3 (goal orientation: learning vs. performance prove vs. performance avoid) between-subjects design. Upon arrival in the lab, participants were randomly assigned to team roles (leader vs. member) and groups were randomly assigned to one of the two leadership conditions. Moreover, members were randomly assigned to one of the three goal orientation conditions such that each of the three goal orientation conditions was represented in every group.

Task

The creativity task in our study was adapted from previous research (Hoever et al., 2012) and designed to observe teams while they discuss information related to the development of an individual creative strategy for a theater. The original experimental paradigm was inspired by a group exercise unrelated to creativity (i.e., The Windy City Theatre Exercise; Thompson, Pozner, & Bloniarz, 1996). We modified role instructions, as well as background task information to design a creativity task to assess *individual* level creative performance. For this task, three participants enact the roles of members of the management team of the theatre while one participant enacts the role of the General Manager of the theatre and thus as the leader of the team. Following an individual preparation phase

and a team discussion, each of the members had to develop a creative strategy to improve the theater's position and viability in the market. Specifically, members were required to develop a creative strategy that consisted of one integrated plan and not a list of unconnected ideas. The leader did not have to develop a creative strategy, but her or his main task was to steer and lead the team discussion. Participants received role instructions (including the experimental manipulations; see section Manipulations) and background information about the theater (i.e., four different categories of information pertaining to financials, sales and target groups, the calendar of plays, and a location map) that differed across members. To briefly illustrate this for the information category "financials", information on potential revenues per floor and stage would be available to *all* team members while other information, i.e., on the normal rate of ticket sales, discounts offered, and the overview of costs, respectively, would be held by *one* team member only. In line with our theoretical conceptualization of creativity, we provided participants with a definition of creativity that jointly emphasized novelty *and* usefulness as necessary features of creativity. This definition of creativity was presented to participants both during the initial briefing stage by the experimenter and was repeated several times in the written instructions that participants received. There is no one best solution to the task.

Team member roles. The three team members were instructed to work on the task (i.e., developing a creative strategy for a theatre) independently and to enact their role instructions which included one of three goal orientation manipulations (i.e., learning goal orientation, performance prove goal orientation, or performance avoid goal orientation). The team leaders' primary objective in the study was to enact the leadership role in line with the leadership condition (i.e., empowering vs. directive) during the team discussion stage of the session.

Piloting of materials. We pilot-tested task materials on a sample different from the one used in the main study in order to ensure that task instructions were clear and that the video recordings of teams were usable for the behavioral coding of team processes.

Procedure

Participants arrived in the lab for a one-hour session. The leader role was assigned first by the experimenter. Participants were then seated at a table with study instructions

ready for participants, with the leader being assigned the chair at the head of the table by the experimenter. Team members could freely choose one of the remaining three chairs at the table which determined their random assignment to one of the three goal orientation conditions. The goal orientation manipulations were counterbalanced across sessions. Participants' individual task materials differed such that they included different role instructions for leaders and team members according to the various experimental conditions. Next, all individuals were asked to read and sign the consent form, and received a brief standardized introduction on the study by the experimenter.

The study consisted of three stages. First, in Stage 1 team members were given 20 minutes of individual preparation time. They were instructed to prepare for the team discussion and task individually by reading all materials and instructions thoroughly at their own designated tables. These tables were located in the corners of the room and had stickers with team member numbers 1 through 3 attached to them. Participants were instructed not to talk to each other during this stage. They also completed a short pre-study online survey on a handheld tablet device. At the beginning of the first stage, the leader was brought to a separate, private room where she/he received specific instructions and training pertaining to the leadership role. Specifically, the leader was instructed to lead the team discussion session using behaviors consistent with the leadership manipulation (see below). Toward the end of this stage the experimenter entered the main room and distributed forms on which members were asked to report their initial ideas for their creative strategy (this step was part of the goal orientation manipulations as detailed below). During the second stage teams engaged in a 15-minutes discussion that was led by their team leader. Members were instructed that the purpose of the discussion was to discuss the current state of the theater as described in their information booklets. They were also told not to physically exchange or show each other their individual information booklets. At the beginning of this stage the leader was brought back to the team and asked to kick off and lead the discussion for which members were asked to return to sit at the large conference table. We recorded all teams on video during this stage to allow for behavioral coding of the mediating processes. After the time allotted for the team discussion had passed, the experimenter stopped the discussion, asked team members to return to their designated private corner tables, and brought the leader back to his or her separate room. For this final stage of the experiment, participants worked for

ten minutes on their individual creativity task and noted their suggested final solution on a prepared response form. Following this stage, the experimenter collected the participants' response forms and asked members to complete a final survey on a handheld device that assessed the manipulation checks and demographic information. To conclude the research session, participants were thanked for their participation.

Manipulations

Leadership manipulation. In designing our leadership manipulations we built on paradigms from previous experimental research that manipulated leadership successfully in a lab context (DeRue, Barnes, & Morgeson, 2010; Durham, Knight, & Locke, 1997; Lorinkova et al., 2013; Martin et al., 2013). The randomly selected leaders were trained in the lab in private, immediately prior to the team discussion stage. The use of training is an effective means to affect leader actions (e.g., Towler, 2003) and to augment the use of desired leader behaviors (e.g., Barling, Weber, & Kelloway, 1996; Towler, 2003). This holds true even for short interventions of merely 5 minutes (e.g., Manz & Sims, 1986). Our leadership training included five different elements to ensure that our manipulations would be effectively enacted by participants in the leadership role. First, leaders were instructed to read preparatory material that contained a definition of the relevant leadership concept (empowering vs. directive) and descriptions of its behavioral implications for the team discussion. Leaders were also required to reflect about and answer preparatory questions in line with the leadership manipulation intended to prepare them for potentially difficult situations in the discussion stage. Moreover, leaders were given cheat sheets that contained "Leadership Best Practices and Suggested Phrases or Behaviors" for them to use in the discussion that reflected the leadership condition they were assigned to. Team leaders were instructed to paraphrase these statements in writing using their own words. Second, the experimenter briefly role-played the intended leader behaviors with team leaders and encouraged them several times during the preparation stage to enact the described behaviors repeatedly throughout the team discussion. Third, leaders were allowed to keep the cheat sheets and were encouraged to use phrases from them during the team discussion. Fourth, we incentivized the display of leader behaviors financially by linking their effective enactment during the discussion to the chance of winning a cash prize. In so doing, we

stressed that leader behaviors had to be displayed *actively* throughout the discussion and that they had to *resemble* the instructions as closely as possible. Fifth, to kick off the discussion stage, leaders were instructed to read out a standardized opening statement to their team that set the tone for the discussion in line with the intended leadership manipulations.

Leaders in the *empowering* leadership condition were instructed that "research has shown that generally an empowering approach to leadership is most effective when leading teams on a task like the one in this study" and that "therefore, as the leader of the management team during today's discussion, your job is to empower the team during its discussion and decision making stage." Leaders were then provided with a short definition of empowering leadership. In keeping with the conceptualization of empowering leadership (Kirkman & Rosen, 1999) leaders were instructed to actively share many responsibilities with the team and to encourage the team to take control of the discussion. Moreover, leaders were asked to motivate the members to come up with their own goals for the discussion and to stimulate them to figure out the causes and solutions to potential problems during the discussion or in the information about the theatre. Lastly, team leaders were instructed to encourage members to aim for high performance and to express trust in the team. Leaders in the empowering condition were also told to avoid displaying behaviors which might be interpreted as directive (such as telling people what to do) or as "laissez-faire" instead of empowering and that "empowering leadership does not mean remaining passive during the discussion."

Leaders in the *directive* leadership condition were instructed that "research has shown that generally a directive approach to leadership is most effective when leading teams on a task like the one in this study" and that "as the leader of the management team during today's discussion, your job is to direct the team during its discussion and decision making stage." Leaders were then provided with a short definition of directive leadership. In keeping with conceptualizations of directive leadership (Pearce et al., 2003; Yun, Cox, & Sims, 2006), leaders were instructed to explicitly define goals for the discussion and actively communicate them to the team. Moreover, leaders were asked to provide directions about what to discuss and to steer the discussion in the direction they wanted. Leaders were also told that it was their responsibility to make sure that discussion goals were reached and to intervene if the team faced problems. Lastly, leaders were instructed to make sure to check

the quality of members' comments and to monitor the progress of the discussion. Moreover, leaders in the directive condition were instructed to avoid displaying behaviors which might be interpreted as participative instead of directive, and that "directive leadership does not mean doing the work for the team nor being unfriendly."

Leaders in both conditions were also instructed that "it is important that you actively embody this [empowering / directive] leadership approach in your leadership behaviors as much as possible." Moreover, they were instructed to make use of the provided "Leadership Best Practices" sheet to "help you remember to display each of the desired behaviors" and to "display these [empowering / directive] leader behaviors as much as possible throughout the entire discussion."

Goal orientation manipulations. In designing our goal orientation manipulations we followed previous research that manipulated goal orientation successfully in a lab context using task instructions (e.g., Elliot & Harackiewicz, 1994; Elliot & Harackiewicz, 1996; Harackiewicz & Elliot, 1993; Steele-Johnson, Beauregard, Hoover, & Schmidt, 2000; see also Nicholls, 1984, for a more comprehensive treatment of achievement motivation). We devised the three manipulations such as to resemble one another as closely as possible in terms of length, content, wording and formatting, while allowing to stress the unique differences across goal orientation (cf. Elliot & Harackiewicz, 1996). In the *learning goal orientation* condition, the task instructions were designed to create the perception that ability related to the task is changeable, and to focus the participants on learning as much as possible about the theater and on improving their final solutions as compared to their personal initial ones (i.e., the ones participants filled in upon completion of Stage 1). Participants were informed that "Our experience with this task shows that throughout the session people can learn a lot about the theatre and become much better at developing solutions for the theatre", that "it is a clever strategy for you to actively try to learn a lot and improve your solutions", and that they should "try to use what you learn to improve the creativity of your individual solutions". Hence, we emphasized that a) effort in exploring and mastering the task should pay off in terms of improved solutions and b) that the reference point for improvement was their own initial solution (not the solutions of others).

In the *performance prove goal orientation* condition, the instructions were designed to create the perception that ability related to the task is fixed, and to focus the participants

on achievement (i.e., that demonstrating competence was most important) and on outscoring the other members. Participants were instructed that "Our experience with this task shows that throughout the session most people do moderately well on this task and it is very rare that people stand out negatively. Quite regularly, however, some people really stand out very positively by demonstrating that they are much better performers than the others", that "it is a clever strategy for you to actively try to appear competent as such behaviors may offer great opportunities of being judged positively", and that they should "make sure that your individual solutions are more creative than those of other team members". Hence, we emphasized that a) focusing on displaying competence during the task should pay off in terms of gaining positive competence judgments and b) that the reference point for the quality of personal contributions was the other team members' solutions.

In the *performance avoid goal orientation* condition, the task instructions were designed to mirror those for the performance prove condition in that they were intended to create the perception that ability related to the task is fixed, and to focus the participants on the potential risk of gaining negative competence evaluations (i.e., that avoiding to appear incompetent was most important) and that others in this task tend to judge one's competence as low. Participants were instructed that "Our experience with this task shows that throughout the session most people do moderately well on this task and it is very rare that people stand out positively. Quite regularly, however, some people really stand out very negatively by revealing that they lack competence and are much worse performers than the others", that "it is not a clever strategy for you to actively try to appear competent as such behaviors may put you at risk of being judged negatively", and that they should "avoid anything that may put you at risk of developing solutions that are much less creative than those of other team members". Hence, we emphasized that a) focusing on not revealing a lack of competence during the task should pay off in terms of not receiving negative competence judgments and b) that the reference point for the quality of personal contributions was the other team members' solutions[3].

[3] The experimental materials are available upon request.

Measures

Unless otherwise noted, the response scale for all items ranged from 1 ("strongly disagree") to 7 ("strongly agree").

Manipulation check leadership behavior. We assessed the effectiveness of the leadership manipulation by measuring the degree to which members perceived their leader as engaging in empowering or directive leader behaviors. We administered two instruments to participants upon *completion* of the experimental session to avoid biasing their perceptions of their leader during the team discussion stage (Durham et al., 1997). Seven items adapted from Kirkman and Rosen's (1999) scale measured perceived empowering leadership. The items were phrased to reflect the leader's behaviors during the team discussion. Participants were instructed to think about the team discussion stage of the study and to decide how strongly they agreed with each of the statements. The question stem was "During the discussion stage, our team leader generally…" and example items include "encouraged my team to take control of the discussion" and "allowed my team to set its own goals for the discussion." The coefficient alpha for this scale was .80.

We used six items adapted from previous directive leadership inventories (e.g., Pearce et al., 2003; Yun et al., 2006) to measure perceived directive leadership. As for the empowering leadership instrument, the items were phrased so as to reflect the leader's behaviors during the discussion and examples include "coordinated the discussion of the team" and "defined how the team should approach the discussion." The coefficient alpha for this scale was .79.

Manipulation check goal orientation. To ensure the effectiveness of the goal orientation manipulations we measured the degree to which team members agreed to statements about their role instructions. We administered three four-item instruments, one for each goal orientation manipulation. The items used were modelled after previous goal orientation instruments (VandeWalle, 1997). Participants were instructed to think about their role instructions and to decide how strongly they agreed with each of a set of statements. Examples of an item for the learning, performance prove, and performance avoid instruments, respectively, are: "When I enacted my role, my focus was on learning a lot about the theater and on improving my own individual solutions", "When I enacted my role, my focus was on using every opportunity to demonstrate that I am a better performer than

the others", and "When I enacted my role, my focus was on avoiding creating the risk to reveal a lack of competence." Coefficient alphas for the learning, performance prove, and performance avoid goal orientation manipulation check scales were .91, .85, and .89, respectively.

Team direction of information exchange. A rater blind to the experimental conditions coded each team's level of team direction of information exchange during the discussion stage (and the other mediator) from the video recordings. For the development of a coding scheme and to train the raters (Weingart, 1997) we relied on recordings from the pilot study. We operationalized team direction of information exchange at the team level as a composite score that reflected the sum of three behaviors across members that at their core capture the notion of team-directed coordination of information exchange. First, we counted the frequency of members' initiative taking in terms of how often they interrupted one another. These interruptions occurred generally to pro-actively prevent premature closing of a discussion thread or to gather additional information on a previously discussed item. Second, we coded how often members caused a switch of topic or information category as an indicator of how actively the team engaged in self-direction of the discussion and whether it was redirected to an unresolved issue when and if necessary. Third, raters counted the number of questions asked to solicit task-relevant information (i.e., content-related clarification questions and questions that solicited an opinion) across team members. Taken together these behaviors reflect team directed coordination of information exchange in the sense that they assess team members attempts to determine what to discuss, where and when to switch the topic of discussion, and to explore topics in-depth that the team considered important. A second rater coded 33.3% of the videos and interrater reliability was high ($ICC(1) = 1.00$; $ICC(2) = 1.00$; Bliese, 2000; James, Demaree, & Wolf, 1984).

Leader direction of information exchange. A rater coded each team leader's level of leader direction of information exchange during the discussion stage from the videos. Parallel to the process of team direction of information exchange as described in the previous paragraph, we operationalized leader direction of information exchange at the team level as a composite score that reflected the sum of the same three distinct behaviors described above, but originating from the leader. That is, the rater coded the frequency of a leader's direction setting in terms of how often they "interrupted" team members. Moreover, we

coded how often team leaders caused a switch of topic or information category as an indicator of how the discussion was directed by the leader. Lastly, the rater counted the number of task-relevant questions asked (i.e., content-related clarification questions and questions that solicited an opinion) by the team leader. Again, in sum these behaviors reflect a leader's direction of information exchange in the sense that they assess leaders' attempts to determine what to discuss, where and when to switch the topic of discussion, and to explore topics in-depth that the leader considered important. Again, a second rater coded 33.3% of the videos for leader-direction of information exchange and interrater reliability was high ($ICC(1) = .94$; $ICC(2) = .97$).

Creativity. Following extant research on creativity, we defined creativity as the joint originality or novelty and potential usefulness of a strategy for the theater (Amabile, 1983; Zhou & Shalley, 2010). This conceptualization implies that strategies that score high on only one of the two features (i.e., novelty or usefulness) but very low on the other are not considered creative. A rater blind to the experimental conditions coded members' plans on both novelty and usefulness ($r = .55$, $p < .001$). We then multiplied these scores to obtain an overall creativity measure (cf. Zhou & Oldham, 2001). To assess the dimension of novelty, each strategy was rated in its entirety on a 5-point scale ranging from 1 ("not novel at all") to 5 ("very novel"). To assess the usefulness of plans, each plan was rated in terms of its usefulness from a financial point of view on a 7-point scale ranging from 1 ("harmful") to 7 ("very useful"). The coder was instructed to rate usefulness in this way because financial usefulness was aligned well with the overarching goal of the exercise as outlined in participants' task instructions across conditions (which was to increase the long-term creative reputation of the theater and to ensure its financial viability following the global financial crisis of the past decade). Again, strategies were coded in their entirety as different elements of a strategy could jointly impact its usefulness with regard to the goals as postulated in the task instructions. A second rater coded 33.3% of members' creative task solutions and interrater reliability was high (for novelty: $ICC(1) = .48$; $ICC(2) = .65$; for usefulness: $ICC(1) = .90$; $ICC(2) = .95$). Both raters were trained on task solutions from the pilot study.

Control variables. We included several control variables suggested by prior research. First, we controlled for team members' age, education (years post-high school),

current employment status (currently employed: yes/no), compensation type (cash vs. course credit), and perceived task complexity (i.e., "The task I had to work on in this study was simple and uncomplicated." <reverse-scored>) because each of these variables has been demonstrated to be related to creativity (e.g., Baer & Oldham, 2006; Baer, Oldham, & Cummings, 2003; Hennessey & Amabile, 1998; Tierney & Farmer, 2002; Zhang & Bartol, 2010). Moreover, we controlled for team members' perceived "face validity" of their team leader using one item (i.e., "Our team leader is similar to other supervising authorities (parents, teachers, or bosses) I've experienced in the past") and their motivation to participate in the study (i.e., "Overall, I was motivated to participate in this study") as both might impact participants' intrinsic motivation which has also been showed to be related to creative performance (e.g., Amabile, 1985; Hennessey & Amabile, 1998).

Analytic Strategy

The multi-level nature of our model resembles a 2-2-1 design whereby both the predictor (X) and mediator (M) variables are measured at the group level (i.e., Level 2) while the outcome (Y) is a behavior at the individual level (i.e., Level 1; cf. Krull & MacKinnon, 2001). Moreover, the second stage of our model (i.e., the 2-1 path) is moderated by a Level 1 moderator (cf. Example D in Preacher, Zhang, & Zyphur, 2016) therefore resembling a multi-level model. This type of model requires beta coefficients for the first path (from X to M) to be estimated within a single-level model (i.e., group level only) using ordinary least squares (OLS) estimation while coefficients for the second path of the model should be estimated using multi-level modeling (Krull & MacKinnon, 2001; Pituch, Stapleton, & Kang, 2006; see also Preacher, Zyphur, & Zhang, 2010, for a discussion). The indirect effect can be obtained by multiplying the OLS estimates from stage one with the multi-level estimates from stage two (for an application see Takeuchi, Chen, & Lepak, 2009).

Hence, because of the design of our model, Hypothesis 2a and 3a were tested using OLS regression as they involved exclusively team level variables. The remaining hypothesis involved cross-level effects which is why we estimated random coefficient models (RCM; also termed hierarchical linear modeling) in STATA 14.1 to test them (cf. Bliese, 2002). In so doing we relied on standard practices in the field and used restricted maximum likelihood procedures (i.e., REML) because they produce estimates that are less biased (Hox, 2010;

Snijders & Bosker, 2012). To test the conditional indirect effects we used path analyses (cf. Model 3 in Preacher et al., 2007) relying on bias-corrected confidence intervals (Mackinnon et al., 2004) based on 2,000 bootstrap replications. As our IVs were experimental manipulations indicated by dummy variables, we created empowering leadership X goal orientation interaction terms by multiplying the empowering leadership condition dummy with the performance prove and performance avoid condition dummies, respectively. This yielded two interaction terms – one for empowering leadership X performance prove, one for empowering leadership X performance avoid – that serve to estimate the effect of the comparison of each interaction with a baseline empowering leadership X learning goal condition. In addition, we always controlled for the second mediator. That is, in the second stage models (for creativity) we entered both team direction of information exchange and leader direction of information exchange simultaneously.

Results

Manipulation Checks

To account for the nested nature of our data and in line with recommended practices, we relied on random coefficient models (cf. Bliese, 2002) using restricted maximum likelihood procedures (i.e., REML; cf. Hox, 2010; Snijders & Bosker, 2012) to test the effectiveness of our manipulations. Specifically, we regressed the empowering leadership manipulation check measure on the leadership condition dummy in a multi-level model. Results for the empowering vs. directive leadership conditions indicated that participants in the empowering condition perceived their leaders to be significantly more empowering (M = 5.00, SD = .97) than did participants in the directive condition (M = 4.50, SD = 1.10; b = .51, p < .05). In addition, these results remain unchanged when additionally controlling for the goal orientation condition dummies and there were no significant effects of a goal orientation condition dummy on the leadership manipulation check measure (all ps > .1). This implies that our goal orientation manipulations did not affect our leadership manipulations. Similarly, teams in the directive leadership condition viewed their leaders as more directive (M = 5.07, SD = 1.00) than teams in the empowering condition (M = 4.74,

SD = 1.07; *b* = -.33, *p* > .1)[4]. The above results remain unchanged when additionally controlling for the goal orientation condition dummies. In addition, there were no significant effects of a goal orientation condition dummy on either of the two leadership manipulation check measures (all *p*s > .1) implying that our goal orientation manipulations did not affect our leadership manipulations. Moreover, additional regression analyses confirmed that the leadership and goal orientation manipulations did not interact to affect the two leadership manipulation check measures (all *p*s > .1).

To test the effectiveness of our goal orientation manipulations we again relied on random coefficient models to account for the nesting of participants within teams (see previous paragraph). Results of these analyses for the three goal orientation conditions indicated that the participants in the learning goal orientation condition scored significantly higher on the learning goal orientation manipulation check measure (*M* = 6.13, *SD* = .72) than those in the performance prove condition (*M* = 4.67, *SD* = 1.60; *b* = -1.47, *p* < .001) or the performance avoid condition (*M* = 3.61, *SD* = 1.83; *b* = -2.53, *p* < .001). The difference on the learning goal orientation check measure across the performance prove and performance avoid conditions was also significant (*b* = -1.06, *p* = .001). Moreover, participants in the performance prove goal orientation condition scored significantly higher on the performance prove goal orientation manipulation check measure (*M* = 5.73, *SD* = 1.05) than those in the learning goal condition (*M* = 3.54, *SD* = 1.15; *b* = -2.19, *p* < .001) or the performance avoid condition (*M* = 3.33, *SD* = 1.43; *b* = -2.40, *p* < .001). The difference on the performance prove goal orientation check measure across the learning and performance avoid conditions was not significant (*b* = -.21, *p* > .1). Lastly, participants in the performance avoid goal orientation condition scored significantly higher on the performance avoid goal orientation manipulation check measure (*M* = 5.71, *SD* = 1.02) than those in the learning goal condition (*M* = 2.94, *SD* = 1.52; *b* = -2.77, *p* < .001) or the performance prove condition (*M* = 3.26, *SD* = 1.39; *b* = -2.45, *p* < .001). The difference on the performance avoid goal orientation check measure across the learning and performance prove conditions was not significant (*b* = .32, *p* > .1). In addition, when controlling for the

[4] Even though the difference failed to reach significance in this analysis it is significant when using a directed, i.e. one-tailed, test.

leadership condition dummy the above results remain unchanged and there were no significant differences for either of the three goal orientation manipulation check measures across the leadership conditions (all *p*s > .1). This implies that our leadership manipulations did not affect our goal orientation manipulations. Lastly, the leadership and goal orientation manipulations did not interact to affect the goal orientation manipulation check measures (all *p*s > .1). Taken together, these results provide support for the effectiveness of the leadership and goal orientation manipulations.

Tests of Hypotheses

Table 9 presents the means, standard deviations, and correlations of the study variables. Hypothesis 1 stated that leadership behavior and team member goal orientations interact such that team members with a learning goal orientation condition are more creative than those with (a) performance prove goal orientation and a (b) performance avoid goal orientation when exposed to empowering as compared to directive leadership. To test this hypothesis, we regressed team members' creativity scores on the interaction terms of empowering leadership and two dummy variables for the goal orientation conditions, their main effects, and the controls, in a random coefficients model. Empowering leadership did not interact with the performance prove goal orientation condition dummy, i.e., there was no significant difference (b = -2.19, SE = 2.34, p > .1; see Table 10, Model 3) between how empowering leadership affected learning oriented team members versus performance prove oriented team members. These results lead us to reject Hypothesis 1a.

However, empowering leadership interacted with the performance avoid goal orientation condition dummy such that there was a significant difference (b = -4.81, SE = 2.40, p < .05; see Table 10, Model 3) between how it affected learning oriented team members versus performance avoid oriented team members. Follow-up analyses revealed that in the empowering leadership condition team members in the learning goal orientation condition were more creative than those in the performance prove goal orientation (M = 14.55 vs. M = 10.47, χ^2 [1] = 5.87, p < .05) and the performance avoid goal conditions (M = 14.55 vs. M = 9.00, χ^2 [1] = 10.75, p < .01). In contrast, in the directive leadership condition team members in the learning goal orientation condition (M = 12.74) were not more creative

Table 9. Means, Standard Deviations, and Correlations

Variable	*M*	*SD*	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(1) Age	20.67	2.56										
(2) Education	2.10	1.85	.84***									
(3) Currently employed	.37	.48	-.11	-.08								
(4) Payment type	.44	.50	.34***	.32***	.01							
(5) Face validity	3.33	1.44	.07	.05	-.15	-.06						
(6) Motivation	5.76	.91	.01	.01	.06	.02	.07					
(7) Task complexity	4.26	1.43	.06	.13	-.07	-.01	-.04	.08				
(8) Empow. leadership	.51	.50	.32***	.25**	-.07	-.04	-.06	-.05	-.01			
(9) TDIR	8.77	6.69	-.12	-.10	.04	.10	-.24**	-.07	-.08	.32***		
(10) LDIR	11.92	7.58	.06	.01	-.04	-.10	.04	.03	.02	-.34***	-.55***	
(11) Creativity	11.60	5.31	.06	-.03	-.05	.02	.10	.03	.05	-.03	.05	-.03

Note: $N = 117$; Education in years (post-high school); Currently employed (0 = no, 1 = yes); Payment type (0 = course credit, 1 = cash payment); Variables 5-7 rated on 7-point scales; Empowering leadership is a dummy coded variable (0 = directive leadership condition, 1 = empowering leadership condition); TDIR = Team direction of information exchange; LDIR = Leader direction of information exchange.
$^{*}p < .05$, $^{**}p < .01$, $^{***}p < .001$

Table 10. Results from Multi-Level Modeling

	Creativity		
Predictors	**Model 1**	**Model 2**	**Model 3**
Controls			
Age	.78 (.39)*	.77 (.38)*	.67 (.38)
Education	-.95 (.50)	-.83 (.49)	-.93 (.51)
Currently employed	-1.27 (1.05)	-1.28 (1.02)	-1.42 (1.08)
Payment type	-.51 (1.11)	-.80 (1.10)	-.23 (1.08)
Face validity	.46 (.36)	.49 (.35)	.40 (.35)
Motivation	.22 (.54)	.14 (.53)	.27 (.55)
Task complexity	.39 (.35)	.51 (.35)	.37 (.35)
Predictors			
PPGO	-1.43 (1.91)	-8.37 (2.13)***	-1.89 (1.66)
PAGO	.19 (1.93)	-7.19 (2.12)**	-.74 (1.68)
EL	-1.25 (1.24)	-1.40 (1.25)	1.81 (1.75)
Mediators			
TDIR	.29 (.14)*	.12 (.10)	
LDIR	-.03 (.09)	-.28 (.12)*	
Interaction terms			
EL x PPGO			-2.19 (2.34)
EL x PAGO			-4.81 (2.40)*
TDIR x PPGO	-.19 (.17)		
TDIR x PAGO	-.39 (.18)*		
LDIR x PPGO		.43 (.15)**	
LDIR x PAGO		.33 (.15)*	

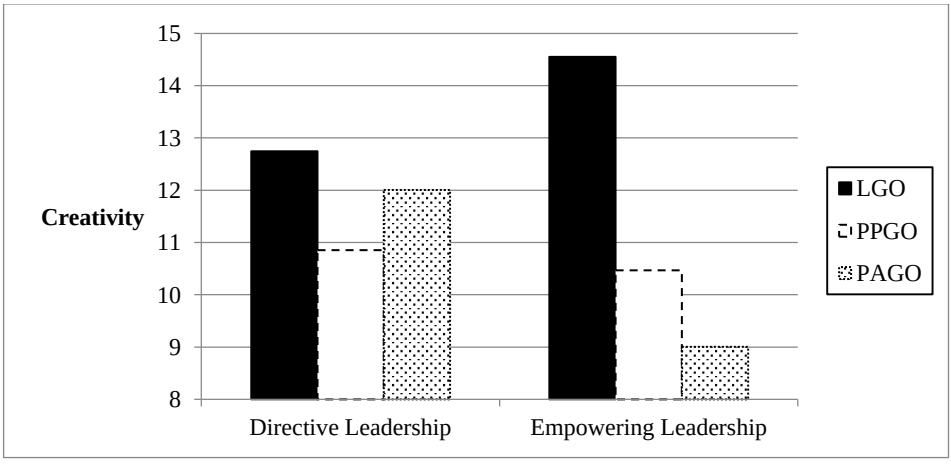
Note: N = 117 team members in 39 teams; Reported coefficients are unstandardized with standard errors in parentheses; PPGO = Dummy for performance prove goal orientation condition; PAGO = Dummy for performance avoid goal orientation condition; EL = Dummy for empowering leadership condition; TDIR = Team direction of information exchange; LDIR = Leader direction of information exchange.
*p < .05, **p < .01, ***p < .001.

than those in the performance prove goal orientation (M = 10.86) or the performance avoid goal orientation conditions (M = 12.01; all ps > .1). Results of these analyses are depicted in Figure 7. The overall pattern of these results fails to reject Hypothesis 1b.

To test Hypothesis 2a, which stated that empowering leadership leads to more team direction of information exchange than directive leadership, we regressed team direction of information exchange on the dummy variable for the leadership manipulation in a single-level model because both the predictor and the outcome are on the same level (i.e., the team level). Empowering leadership positively predicted team direction of information exchange (b = 4.27, SE = 2.07, p < .05; F[1, 37] = 4.24, R^2 = .10, p < .05) failing to reject Hypothesis 2a.

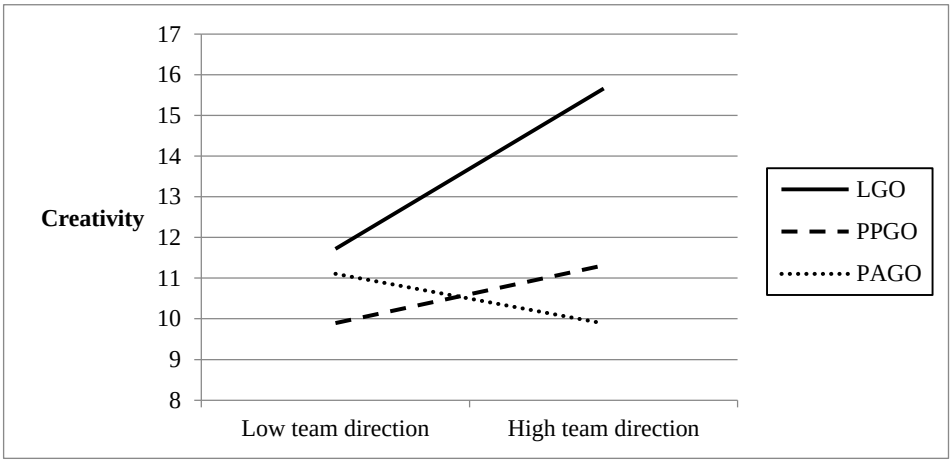
Hypothesis 2b predicted that team direction of information exchange interacts with team members' goal orientations such that it is more positively related to individual creativity for learning oriented than for performance prove or performance avoid oriented team members. To test this hypothesis, we regressed creativity on the interaction term of team direction of information exchange and two dummy variables for the goal orientation conditions, their main effects, the leadership condition dummy, the leader direction of information exchange variable, and the controls, in a random coefficient model (see section

Figure 7. Moderating Effect of Goal Orientations on the Relationship between Leadership Styles and Creativity



Note: LGO = Learning goal orientation condition; PPGO = Performance prove goal orientation condition; PAGO = Performance avoid goal orientation condition

Figure 8. Moderating Effect of Goal Orientations on the Relationship between Team Direction of Information Exchange and Creativity

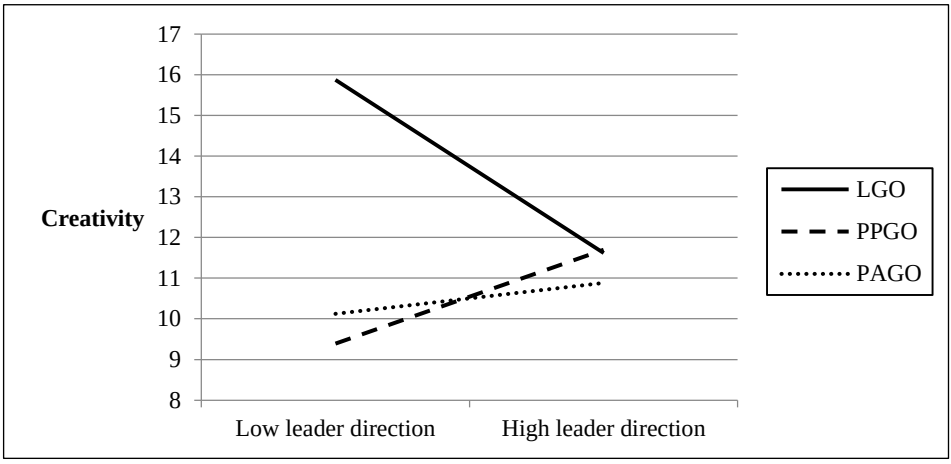


Note: LGO = Learning goal orientation condition; PPGO = Performance prove goal orientation condition; PAGO = Performance avoid goal orientation condition

Analytic Strategy above). Team direction of information exchange interacted with the goal orientation manipulations such that there was a significant difference (b = -.39, SE = .18, p < .05; see Table 10, Model 1) between how it affected learning oriented team members versus performance avoid oriented team members. Simple slopes analyses revealed that team direction of information exchange positively affected the creativity of team members holding a learning goal orientation (b = .29, SE = .14, p < .05) but not of members holding a performance prove goal orientation (b = .11, SE = .14, p > .1) or a performance avoid goal orientation (b = -.09, SE = .14, p > .1). Results of these analyses are depicted in Figure 8. This pattern of results fails to reject Hypothesis 2b.

To test Hypothesis 3a, which stated that empowering leadership leads to less leader direction of information exchange than directive leadership, we regressed leader direction of information exchange on the dummy variable for the leadership manipulation again using a single-level model because both the predictor and the outcome are on the same level (i.e., team). Empowering leadership negatively predicted leader direction of information exchange (b = -5.18, SE = 2.33, p < .05; $F(1, 37)$ = 4.93, R^2 = .12, p < .05) failing to reject Hypothesis 3a.

Figure 9. Moderating Effect of Goal Orientations on the Relationship between Leader Direction of Information Exchange and Creativity



Note: LGO = Learning goal orientation condition; PPGO = Performance prove goal orientation condition; PAGO = Performance avoid goal orientation condition

Hypothesis 3b stated that leader direction of information exchange interacts with team members' goal orientations such that it is more negatively related to individual creativity for members holding a learning goal orientation than for those holding performance prove or performance avoid goal orientations. To test this prediction, we regressed creativity on the interaction term of leader direction of information exchange and two dummy variables for the goal orientation conditions, their main effects, the leadership condition dummy, the team direction of information exchange variable, and the controls. Leader direction of information exchange interacted with the goal orientation manipulations such that there was a significant difference (b = .33, SE = .15, p < .05; see Table 10, Model 2) between how it affected learning oriented team members versus performance avoid oriented team members and between how it affected learning oriented team members versus performance prove oriented team members (b = .43, SE = .15, p < .01). Simple slopes analyses revealed that leader direction affected team members' creativity negatively for team members holding a learning goal orientation (b = -.28, SE = .12, p < .05) and that leader direction did not affect team members' creativity significantly for team members holding a performance prove goal orientation (b = .15, SE = .12, p > .1) or a performance avoid goal

orientation (b = .05, SE = .12, p > .1). Results of these analyses are depicted in Figure 9. This pattern of results fails to reject Hypothesis 3b.

Hypothesis 4 posited that empowering leadership indirectly affects individual creativity via its effect on (a) team direction and (b) leader direction of information exchange more so for team members holding a learning goal orientation than for those holding performance prove or avoid goal orientations. To test this hypothesis, we calculated the indirect effects of empowering leadership on creativity via team direction of information exchange or leader direction of information exchange, respectively, for each of the three goal orientation conditions. To assess the magnitude of the indirect effects we relied on bias-corrected confidence intervals (Mackinnon et al., 2004) based on 2,000 bootstrap samples in order to avoid shortcomings of the classical causal steps approach and the parametrical Sobel test (Baron & Kenny, 1986; Edwards & Lambert, 2007; Hayes, 2009) and considered the indirect effect significant if the bias-corrected 95% confidence interval (BCCI) did not include zero. In regard to the team process team direction of information exchange, for learning goal oriented team members the indirect effect of empowering leadership on creativity via team direction of information exchange was significant (b = 1.26, 95% BCCI [.01; 3.89]). This coefficient for the indirect effect consists of the product of the path coefficients from empowering leadership to team direction of information exchange, and of the simple slope of team direction of information exchange on creativity for learning oriented team members. For team members in the performance prove goal orientation condition, no indirect effect of empowering leadership on creativity via team direction of information exchange was evident (b = .45, 95% BCCI [-.62; 2.22]). Finally, for team members in the performance avoid goal orientation condition no indirect effect of empowering leadership on creativity through team direction of information exchange was evident (b = -.39, 95% CI [-2.41; .50]). This pattern of results fails to reject Hypothesis 4a.

With regard to Hypothesis 4b, the results for leader direction of information exchange as a mediator paint a similar picture. For learning goal oriented team members the indirect effect of empowering leadership on creativity through leader direction was significant (b = 1.45, 95% BCCI [.05; 3.99]). This coefficient for the indirect effect consists of the product of the path coefficients from empowering leadership to leader direction of information exchange, and of the simple slope of leader direction of information exchange

on creativity for learning oriented team members (as both paths were negative this resulted in an overall positive indirect effect). For team members holding a performance prove goal orientation, no indirect effect of empowering leadership on creativity via leader direction was evident (b = -.79, 95% BCCI [-3.08; .13]). Finally, no indirect effect of empowering leadership on creativity through leader direction was evident (b = -.26, 95% BCCI [-2.24; .87]) for team members holding a performance avoid goal orientation. This pattern of results fails to reject Hypothesis 4b.

Discussion

We investigate how the effect of empowering leadership on individual creativity varies as a function of team members' goal orientations. Goal orientations emerged as an important boundary condition to help explain which employees benefit most from empowering leadership in terms of enhanced creativity. Moreover, our analysis shows how empowering leadership can help employees to become more creative by triggering the process of team direction of information exchange. The focus on empowering leadership as a lever to unleash team direction of information exchange revealed a powerful factor to explain how leader behavior also indirectly affects team members' creativity. Importantly, our results support our predictions that team members' goal orientations moderate both the direct and indirect effect of empowering leadership on individual creativity thereby establishing an important boundary condition also for the cross-level influence of empowering leadership.

Theoretical Implications

By integrating tenets from empowering leadership and goal orientation theory (Dweck, 1986; Dweck & Leggett, 1988; VandeWalle, 1997) we establish a fundamental motivational driver (i.e., goal orientations) as a boundary condition of empowering leadership thereby moving beyond previous work that focused mostly on moderating variables that are closely aligned with the empowerment construct (e.g., Ahearne et al., 2005; Zhang & Bartol, 2010). This implies that employees' elementary achievement motivations appear to be impactful determinants of how empowering leadership affects employee creativity. It turns out that a motivation to learn and develop one's competence is particularly beneficial for boosting one's creative performance when working in an empowered team

context. One reading of this finding is that empowering leadership is effective especially when there is a fit between the opportunities it creates and team members' underlying motivational goals as only then will team members make full use of the potentials that an empowered environment offers. For creativity research more broadly this finding reaffirms previous claims that supervisory behavior or management practices (e.g., Amabile, 1996; Oldham & Cummings, 1996) can be a source of employee creativity, but it also implies that considering combinations of – or a fit between – leadership behavior and employees' achievement motivations seems to offer even more promising routes to studying creativity in the workplace.

Moreover, we outline a first cross-level perspective on empowering leadership. Our research therefore moves beyond previous work by offering a model that clarifies how empowering and directive leadership influence employee creativity both directly – and indirectly across levels. While research thus far has predominantly focused on investigating relationships of empowering leadership with individual or team creativity via mechanisms at the same level (e.g., Harris et al., 2014; Hon & Chan, 2013; Zhang & Bartol, 2010; Zhang & Zhou, 2014; Zhu & Chen, 2016), the present analysis suggests that the effect of empowering leadership does not unfold in an as straightforward way as previously proposed. Instead, our model suggests that empowering leadership at the team level affects individual creativity both directly and via stimulating team direction of information exchange. While this finding in and of itself seems straightforward, the more interesting proposition we put forward is that individuals react differently to the same process depending on who owns it. Specifically, we argue that the creative potential of learning oriented team members will benefit when the team directs the information exchange process while it will suffer when the leader is in charge of this process. Our theory and findings therefore allow to shed more light on the cross-level effects of empowering versus directive leadership because we outline how different people (i.e., team members that differ in terms of their goal orientations) are affected differentially by the same team process, and how similar people (i.e., learning oriented team members) are differentially affected depending on whether this process is owned by the team or the leader. A key implication of our work therefore is that it is much more important *who* fuels and owns the process of information exchange in teams than that it is simply in place.

Another implication of our model is that the proposed cross-level effect of empowering leadership likely exists for other team processes alike and that there may be other individual difference or team level moderators that qualify this indirect effect. As for team processes, coordinated information exchange was the most obvious process to zoom in on given our focus on a knowledge intensive, creative task. However, other tasks may benefit more from different processes which is why the implications of our model may be extended to include other team processes that are more relevant for other types of tasks. Regarding potential additional moderators, psychological safety (Edmondson, 1999) at the team level might be an additional moderator of the cross-level relationship proposed in the present analysis. A team environment characterized by high psychological safety might further increase empowering leadership's beneficial effect on learning oriented team members. Moreover, it might also result in performance avoid oriented team members' creativity being more positively affected by empowering leadership as feelings of increased psychological safety should compensate for some of the fear of receiving negative competence judgments. Hence, our work implies that future theoretical and empirical work on the cross-level effects of empowering leadership should investigate how additional moderators at both the team and individual level could extend our model.

Practical Implications

Creative employees have become a crucial resource for organizations to outlive competitors and innovate their products and services. Moreover, organizations rely increasingly on organizing work in flat and team based structures (Schwartz et al., 2016). Leaders of such teams play a key role in boosting their members' creative potential (Zhang & Bartol, 2010). As our work shows, first of all, managers are well advised to engage in empowering rather than directive leadership behavior because empowering leadership appears to provide an effective means for managers to foster within teams a process of team direction of information exchange. This process enables teams of employees to steer the exchange of task-relevant information based on the informational needs of all members in the team and to redirect the team's information exchange if and when needed. It thus puts the team in command and makes it more likely that the information exchange evolves as a function of what team members need to know or deem relevant for their problem solving

efforts. This process in turn is differentially conducive for employees' creative performance depending on their individual goal orientations (i.e., whether team members are motivated by developing their competence, by demonstrating their competence, or by being afraid to look incompetent). Our findings show that creativity will be spawned in particular for team members who hold a learning goal orientation, that is who are motivated by developing their competence.

Therefore, another key implication of our findings is that managers need to be sensitive to their team members' motivation for engaging in achievement situations (i.e., their goal orientations; cf. Dweck, 1986; Dweck & Leggett, 1988; VandeWalle, 1997). While some individuals are generally motivated to engage in achievement situations because they can develop their competence and master new challenges (learning orientation), others are motivated by such situations because they might allow them to demonstrate their competence to others (performance prove orientation) or they might put them at risk of looking incompetent (performance avoid orientation). Our findings suggest that while the creativity of team members with a learning goal orientation will benefit from the process empowering leadership engenders within a team (i.e., team direction of information exchange), the creativity of team members holding a performance avoid goal orientation will suffer when exposed to an empowering as compared to a directive leader. The creativity of individuals with a performance prove goal orientation, however, does not seem to be affected as a function of whether they face empowering or directive leaders. This implies that managers can be confident that the effect of their empowering behavior will positively impact individual creativity of team members with a learning goal orientation but they need to be aware that performance avoid oriented team members' creativity might actually suffer from an exposure to empowering leadership (as compared to directive leadership). To ensure that all employees benefit from empowering leadership, leaders can engage in behaviors *beyond* empowering leadership in an attempt to shift their team members' goal orientations to a learning orientation. Specifically, leaders could use various techniques to boost employees' state-like learning goal orientation. For instance, a manager can use verbal appeals that convey a focus on learning, signal that developing rather than proving one's competence is paramount at work, or explain that making mistakes is not something to worry about but a normal part of mastering challenges. Additionally, managers can adjust existing

performance appraisal schemes such that they more strongly reward performance improvements in terms of personal development and growth (as compared to employees' own previous achievements) instead of pointing to others' achievements or absolute (external) performance indicators. The result of these and similar measures should be a shift in individuals' minds toward a learning goal orientation (cf. Farr et al., 1993) and therefore help employees to benefit from the team process that empowering leadership instills in teams.

Limitations and Future Research

As is true for all research endeavors, ours is not without limitations. A primary goal of the present investigation was to infer causal claims about the cross-level effect of empowering leadership on individual creativity. Thus, we chose to employ an experimental design to test our predictions. While a strength of the experimental method is that it allows researchers to rule out alternative explanations for observed relationships and to make clear causal claims (Shadish et al., 2002), a shortcoming of this method is that it suffers from external validity meaning that findings from experiments are sometimes criticized for potentially not being generalizable to the field. Even though maximizing the external validity of our findings was not the primary objective of our research (Brown & Lord, 1999; Mook, 1983), there is reason to believe that the findings form the current investigation hold across a variety of settings and operationalizations. First, meta-analytic evidence on findings for different psychological constructs (including leadership styles) demonstrates that effect sizes from field and lab studies correlate considerably (Anderson, Lindsay, & Bushman, 1999; Dipboye, 1990). Second, our experimental manipulations were modeled after measures derived from and frequently used in field research. To the extent that these measures accurately reflect the intended constructs our manipulations are accurate reflections of these constructs in the lab. Thus, the findings based on our manipulations should also generalize "back" to field settings. We hasten to add, though, that future replications and extensions of our model to the field would prove valuable.

A second limitation pertains to the setting and nature of the task we chose to focus on in our study. Specifically, building on previous work (Hoever et al., 2012) we adopted an experimental paradigm that involved an individual level creative task in which team

members possessed both shared and unshared task-relevant information. While the finding that empowering leaders can boost individual creativity likely generalizes to other contexts and tasks, the process of team direction of information exchange that is core in the present investigation might be particularly relevant for tasks that benefit from an increased exchange and integration of information such as knowledge-intensive, creative tasks. When tasks require fast decision-making (e.g., when individuals in teams operate under time pressure) this process might be less conducive to performance (Lorinkova et al., 2013). Likewise, holding a learning goal orientation might not be most effective when the task at hand does not require employees to be creative but instead, for instance, to make decisions fast. Future work is needed to expand our model in a way that deepens our understanding of how task requirements and other goal orientations impact the way empowering leadership relates indirectly to individual performance.

Conclusion

The importance of leadership as a driver of individual creativity is widely recognized (e.g., Amabile, 1996; Oldham & Cummings, 1996). Yet, our knowledge of how leadership impacts individuals working in teams differentially depending on their achievement motivations and via the team process it engenders is limited. Our results offer important insights to further our understanding of this phenomenon. First, we highlight the role of team members' goal orientations as boundary conditions of the effect of empowering leadership on individual creativity. Second, we establish that empowering leadership helps teams to engage in team-directed information exchange and how this process in turn feeds individuals' creativity differentially depending on their goal orientations. In sum, our study provides a point of departure for future research and implications for managers who wish to boost their team members' creativity.

CHAPTER 5 – GENERAL DISCUSSION

The idea that empowering employees may help organizations to overcome challenges they face is not a new one. Yet, engaging in empowering leadership behaviors per se is not sufficient for harvesting the desired outcomes. A major implication of empowering leadership is that it drastically transforms the achievement context that employees face and, thus, how empowering leadership affects employee performance requires to be considered in light of employees' achievement motivations. Moreover, a better understanding of how empowering leadership unfolds to impact individual performance may help managers to master the challenge of implementing empowering leadership behaviors more advantageously.

Notwithstanding the fact that the studies contained in this dissertation each have specific foci, methodological approaches, and draw from various theoretical paradigms, they all were motivated by a common research question: How does the effect of empowering leadership vary as a function of individuals' achievement motivations (i.e., generalized work-role self-efficacy beliefs and goal orientations) and what are the underlying mechanisms via which empowering leadership affects individual performance? The common theme that spans all of the presented studies thus is the moderating role of employees' achievement motivations of empowering leadership effects.

While it may be argued that work-role self-efficacy beliefs and goal orientations share similarities, it is important to highlight some key differences. Efficacy beliefs are about the extent to which a person feels confident about being able to achieve work outcomes or goals successfully (Chen et al., 2001). Stated differently, they describe an "individual's integrated cognitive-affective judgment of confidence regarding the likelihood of goal attainment" (Kanfer, 2012: 464). Goal orientations on the other hand capture underlying goals or motivations for *why* people engage in certain tasks and not others. For instance, individuals with a learning goal orientation are motivated by their desire to grow personally and develop their competence which leads them to engage in tasks and challenges that are new because these offer potentially vast opportunities for learning (Dweck, 1986; Dweck & Leggett, 1988; VandeWalle, 1997). Learning oriented individuals might thus decide to engage in challenging tasks even when *not* overly confident about being able to master them successfully – in their mind the risk of failure also represents a potential for learning.

Summary of the Main Findings and Contributions

Chapter 2 introduced the notion of a curvilinear relationship (i.e., an inverse U-shape) of empowering leadership with employee performance and its moderation by employees' work-role self-efficacy. The findings reported in this chapter establish first evidence for two key insights: First, empowering leadership was beneficial for employee creativity and in-role performance only up to a point, beyond which there was no further gain in additionally engaging in empowering leadership. The reasoning behind this is that there is an optimum level of activation that is triggered by empowering leadership beyond which there are no further gains – or even losses – associated with empowering leadership. Second, we found that employees' generalized work-role self-efficacy beliefs can act as a substitute for – and thus "shield" employees from – the positive motivational impact of empowering leadership. Empowering leadership had a positive, decreasing effect on employees' creativity and in-role performance for employees low on work-role self-efficacy, whereas empowering leadership had *no* effect for employees high on work-role self-efficacy. The main contribution of this chapter comprises in the advancement of empowering leadership theory by introducing a too-much-of-a-good-thing perspective on empowering leadership. This notion explicitly acknowledges that empowering leadership is most effective only before reaching a certain optimum level in excess of which it becomes ineffective in stimulating employee performance. Moreover, this chapter contributes to the literature by pinpointing a condition under which empowering leadership proves ineffective altogether by identifying generalized work-role self-efficacy beliefs as a substitute for empowering leadership.

In Chapter 3, we considered goal orientations as another type of achievement motivation to demonstrate how empowering leadership differentially affects creativity and in-role performance via psychological empowerment. Given our main hypotheses were rejected, we conducted exploratory analyses and found that for employees who are driven by a desire to learn and develop their competence (i.e., who are high on learning goal orientation) empowering leadership positively affected job meaningfulness and, in turn, creativity. This indirect effect of empowering leadership on creativity via meaning was significant when learning goal orientation was high but not when it was low. Moreover, for employees who are motivated by either demonstrating their competence (performance

prove) or by being afraid to look incompetent (performance avoid) we tested whether empowering leadership triggers in-role performance via the psychological state of competence. We found that only individuals characterized by a strong motivation to *avoid* looking incompetent (performance avoid goal orientation) benefited relatively more from empowering leadership in terms of their perceived job competence than did individuals with a weaker performance avoid goal orientation. In addition, individuals high on performance avoid goal orientation showed heightened levels of in-role performance and the indirect effect of empowering leadership on in-role performance through competence was significant when performance avoid goal orientation was high but not when it was low. This chapter's main contribution is to inform our understanding of how empowering leadership relates differently to distinct performance outcomes via unique underlying mechanisms depending on individuals' goal orientations. Moreover, by providing further evidence for the benefit of considering individuals' achievement motivations in the study of empowering leadership, this chapter builds on and expands the previous chapter's contribution to empowering leadership research. Importantly, the data collected for this study also allowed us to conduct a constructive replication of the findings from Chapter 2 (see the Appendix of Chapter 3). Specifically, we found a similar curvilinear relationship between empowering leadership and creativity when considering competence (which is similar to the efficacy beliefs studied in Chapter 2) as a moderator which reaffirms our confidence in the robustness of Chapter 2 findings.

In Chapter 4 we move beyond a single-level paradigm of empowering leadership effects and instead embrace a cross-level perspective. We predicted that *team* empowering leadership spawns a team-owned coordination process for knowledge intensive creative tasks that we labeled team direction of information exchange. Building on the goal orientation framework, we also argued that the impact of this team process on individual team members' creativity varies as a function of team members' goal orientations. Team members holding a learning goal orientation were predicted to benefit from team direction of information exchange to a greater extent in terms of their individual creativity than team members holding performance goal orientations. We found support for our predictions in a laboratory experiment in which we manipulated both leadership behavior (i.e., empowering versus directive) and team members' goal orientations (i.e., learning, prove, and avoid). In

teams with an empowering leader, individuals with a learning goal orientation came up with more creative solutions to a task than individuals who held one of the performance goal orientations. Moreover, learning oriented team members' creativity suffered most when teams were headed by a directive leader who (instead of the team) directed the coordination process of information exchange. Lastly, we found that the effect of empowering and directive leadership on individual creativity occurred indirectly and across levels. This chapter's major contribution to the literature lies in the demonstration that empowering leadership can affect individual creativity indirectly via a key team process it engenders and that it does so differently depending on individuals' goal orientations. Moreover, Chapter 4 can be viewed as a constructive replication of Chapter 3 findings in that learning goal orientation again emerged as an important qualifier of the effect of empowering leadership on individual creativity. The common finding across both chapters (and, thus, across field and laboratory experimental data) is that in particular learning oriented individuals' creativity appears to benefit from empowering leadership.

Implications for Future Research

The studies reported in this dissertation contribute to the literatures on empowering leadership and achievement motivation in various ways. Each chapter discusses the theoretical and practical implications of the study reported therein. In this section, I derive and briefly outline some broader implications for future research that emerge when considering the reported studies in their entirety.

One major finding that emerged from Chapters 3 and 4 is that individuals holding a learning goal orientation seem to profit from empowering leadership in terms of displaying elevated levels of creativity. This finding is striking, in particular as it was showed in field data (Chapter 3) and we were able to replicate it in an experimental laboratory study (Chapter 4). It thus appears that empowering leadership does allow employees with a learning goal orientation to be more creative. An implication of this finding is that managers might want to try to shift their employees' goal orientations toward a learning goal orientation if their objective is to increase employee creativity. As discussed in these chapters this might be achieved by displaying or engaging in behaviors *beyond* empowering leadership that are aimed to trigger an orientation and mindset focused on learning. In fact, the literature on

goal orientations suggests that it is possible to induce specific goal orientations by means of various organizational practices (cf. Farr et al., 1993). For instance, managers could use verbal appeals to stress a focus on learning, or adapt performance appraisal and incentive schemes to emphasize and reward improvement in terms of own previous achievements rather than absolute performance indicators. Future research is needed, however, to more specifically investigate how combining empowering leadership with such additional management practices would affect employee performance. Moreover, while we have found that individuals with a learning goal orientation benefit from empowering leadership in terms of increased creative potential, it is not crystal clear whether holding a learning goal orientation is also beneficial for other types of performance outcomes.

A second major insight gained from the research presented in this dissertation is that the two performance goal orientations differ in importance when it comes to moderating the effect of empowering leadership. We found in Chapters 3 and 4 that performance *avoid* goal orientation had relatively more impact in moderating empowering leadership than did performance prove goal orientation. Interestingly, the nature of the moderating effect of performance avoid goal orientation differed across the studies reported in Chapters 3 and 4: In Chapter 3 we found that performance avoid oriented individuals benefited from empowering leadership by experiencing increased levels of competence which in turn boosted their in-role performance. In Chapter 4, on the other hand, we found that the creative potential of performance avoid oriented individuals suffered when being exposed to a team context characterized by empowering as compared to directive leadership. An explanation for this difference in findings may be attributable to at least three reasons. First, we studied different performance outcomes across these two studies. While it might be that performance avoid oriented individuals get a performance boost from empowering leadership when it comes to in-role tasks and requirements (Chapter 3), this might not be the case when it comes to more non-routine and ill-structured tasks such as creative problems (Chapter 4). Second, in Chapter 4 we studied the impact of empowering leadership and goal orientations in a laboratory setting involving an observed teamwork situation which implies a much stronger focus on social interactions and the social setting. This research setting might cause performance avoid oriented individuals in particular to experience relatively more fear of looking incompetent compared to others than might other settings (e.g., a setting where one

works on a task in private in their office). Third, in Chapter 4 we contrasted empowering with directive leadership. Possibly, directive leadership is something that appeals to performance avoid oriented individuals more when working on an ill-defined task because it gives clear guidance and structure which may be perceived as a safeguard against risking to look incompetent. Naturally, this comparison was not part of our study design in Chapter 3. These three possible explanations also offer interesting points of departure for future research on the role of performance avoid goal orientation as a moderator of empowering leadership. Overall, what is clear from the presented evidence is that more scholarly attention is needed to further our understanding of the role performance avoid goal orientation plays in moderating the effect of empowering leadership. Relatedly, it is possible that there is an additional boundary condition that accounts for whether or not a performance prove goal orientation will qualify the effect of empowering leadership. Stated differently, performance prove oriented employees might need another factor to be in place before their performance is affected by empowering leadership. For instance, it is possible that for performance prove oriented individuals empowering leadership increases in-role or creative performance only under conditions where the outcome of tasks is highly visible within a group or firm, or when they can be sure that they (rather than the team or others) will receive full credit and acknowledgment for higher performance.

A third key insight to take away from this dissertation is that research on empowering leadership might be well served by shifting its focus away from a somewhat prevailing preoccupation with narrowly conceptualized moderators of empowering leadership effects. Prior research on such moderators (e.g., empowerment role identity, cf. Zhang & Bartol, 2010, or employee empowerment readiness, cf. Ahearne et al., 2005) offers important evidence to establish a person-in-situation theory of empowering leadership. Yet, even more interesting insights might be gained by asking how more broadly defined individual traits – i.e., traits that reach beyond the scope of the empowerment process – cause the effect of empowering leadership to vary. As a case in point, the evidence presented in Chapters 2 through 4 supports the idea that broad traits such as people's achievement motivations play a critical role in determining the effectiveness of empowering leadership. We found both individuals' generalized work-role self-efficacy beliefs (Chapter 2) and goal orientations (Chapters 3 and 4) to act as moderators of empowering leadership. As discussed

in Chapter 3, we hope that future research will also consider additional theories of achievement motivation (e.g., goal setting theory, self-determination theory, social cognitive theory; cf. Bandura, 1971; Deci & Ryan, 1985; Locke, 1968) to broaden the models presented in this dissertation. For instance, one potentially promising extension of our models is to consider the possibility that empowering leadership, employees' goal orientations, and employees' self-efficacy beliefs (cf. Bandura, 1977; Chen et al., 2001) interact to affect performance. Moreover, it might be worthwhile to consider an extension of our models such as to add even more fundamental individual differences. For instance, in line with the ability-motivation-opportunity framework outlined in other work it would be interesting to investigate how ability (e.g., cognitive ability) factors into our models to affect job performance above and beyond empowering leadership (which may provide an opportunity to excel) and goal orientations or efficacy beliefs (which are motivational sources that make people want to thrive). Another avenue for future research is to more fully study the nature of the curvilinear relationship between empowering leadership and various types of performance outcomes and to uncover underlying mechanisms of this relationship. While we were able to replicate the findings from Chapter 2 with data from Chapter 3 for creativity as an outcome, the findings for in-role performance did not converge across chapters. We hasten to add, though, that this might be due to different operationalizations of work-role self-efficacy across studies.

Conclusion

Empowering leadership – behaviors, such as transferring authority to employees, promoting their self-direction and autonomous decision making, encouraging them to set their own goals, coaching, and expressing confidence in their ability to successfully complete tasks – is a promising tool for managers to bring out the best in their employees. Employees' achievement motivations as important qualifiers of empowering leadership effects are a crucial component in this process. Hence, the objective of this dissertation was to investigate in more depth how differences across individuals in such achievement motivations play out to alter the effect of empowering leadership. In the three empirical studies reported above we have learned that a) generalized work-role self-efficacy can substitute for the effect of empowering leadership thereby rendering it ineffective, b)

learning oriented individuals experience higher levels of job meaningfulness which fuels their creative potential, c) performance avoid oriented individuals experience increased competence which triggers in-role performance, and d) empowering leaders spawn a team-directed coordination process of information exchange which in turn learning oriented team members' creativity benefits from most (as compared to the creativity of team members holding performance orientations). While each of the empirical chapters answers important questions, they also serve as points of departure for asking new questions. Therefore, I hope that future research will build on the models presented and knowledge retained from this dissertation to develop further our understanding about the role of achievement motivation in the empowering leadership process.

REFERENCES

Ahearne, M., Mathieu, J. E., & Rapp, A. 2005. To Empower or Not to Empower Your Sales Force? An Empirical Examination of the Influence of Leadership Empowerment Behavior on Customer Satisfaction and Performance. ***Journal of Applied Psychology***, 90(5): 945–955.

Aiken, L. S., & West, S. G. 1991. ***Multiple regression***: ***Testing and interpreting interactions***. Thousand Oaks, London: Sage.

Amabile, T. M. 1983. The social psychology of creativity: A componential conceptualization. ***Journal of Personality and Social Psychology***, 45(2): 357–376.

Amabile, T. M. 1985. Motivation and creativity: Effects of motivational orientation on creative writers. ***Journal of Personality and Social Psychology***, 48(2): 393–399.

Amabile, T. M. 1996. ***Creativity and innovation in organizations*** (9th ed.). Boston: Harvard Business School.

Ames, D. R., & Flynn, F. J. 2007. What breaks a leader: The curvilinear relation between assertiveness and leadership. ***Journal of Personality and Social Psychology***, 92(2): 307–324.

Anderson, C. A., Lindsay, J. J., & Bushman, B. J. 1999. Research in the Psychological Laboratory: Truth or Triviality? ***Current Directions in Psychological Science***, 8(1): 3–9.

Argote, L. 2013. ***Organizational learning***: ***Creating, retaining and transferring knowledge*** (2nd ed.). New York: Springer.

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(3): 249–269.

Baer, M., & Oldham, G. R. 2006. The curvilinear relation between experienced creative time pressure and creativity: moderating effects of openness to experience and support for creativity. ***Journal of Applied Psychology***, 91(4): 963–970.

Baer, M., Oldham, G. R., & Cummings, A. 2003. Rewarding creativity: When does it really matter? ***The Leadership Quarterly***, 14(4-5): 569–586.

Bandura, A. 1971. ***Social learning theory***. New York: General Learning Press.

Bandura, A. 1977. Self-efficacy: Toward a unifying theory of behavioral change. ***Psychological Review***, 84(2): 191–215.

Bandura, A. 1989. Regulation of cognitive processes through perceived self-efficacy. ***Developmental Psychology***, 25(5): 729–735.

Bandura, A. 1997. ***Self-efficacy***: ***The exercise of control***. New York: W.H. Freeman.

Barling, J., Weber, T., & Kelloway, E. K. 1996. Effects of transformational leadership training on attitudinal and financial outcomes: A field experiment. ***Journal of Applied Psychology***, 81(6): 827–832.

Baron, R. M., & Kenny, D. A. 1986. The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. ***Journal of Personality and Social Psychology***, 51(6): 1173–1182.

Baschera, P., & Grandjean, E. 1979. Effects of Repetitive Tasks with Different Degrees of Difficulty on Critical Fusion Frequency (CFF) and Subjective State. ***Ergonomics***, 22(4): 377–385.

Benjamin, L., & Flynn, F. J. 2006. Leadership style and regulatory mode: Value from fit? ***Organizational Behavior and Human Decision Processes***, 100(2): 216–230.

Bennis, W. G., & Townsend, R. 1997. ***Reinventing leadership***: ***Strategies to empower the organisation***. London: Piatkus.

Bliese, P. D. 2000. Within-group agreement, non-independence, and reliability: Implications for data aggregation and analysis. In K. J. Klein & S. W. J. Kozlowski (Eds.), ***Multilevel theory, research, and methods in organizations: Foundations, extensions, and new directions***: 349–381. San Francisco, CA, US: Jossey-Bass.

Bliese, P. D. 2002. Multilevel random coefficient modeling in organizational research: Examples using SAS and S-PLUS. In F. Drasgow & N. Schmitt (Eds.), ***Measuring***

and analyzing behavior in organizations. Advances in measurement and data analysis: 401–445. San Francisco, CA: Jossey-Bass.

Brannick, M. T., Roach, R. M., & Salas, E. 1993. Understanding Team Performance: A Multimethod Study. ***Human Performance***, 6(4): 287–308.

Brislin, R. W. 1980. Translation and content analysis of oral and written material. ***Handbook of cross-cultural psychology***, 2(2): 349–444.

Brockner, J. 1988. ***Self-esteem at work***: ***Research, theory, and practice***. Lexington, MA, England: Lexington Books/D. C. Heath and Com.

Brown, D. J., & Lord, R. G. 1999. The utility of experimental research in the study of transformational/charismatic leadership. ***The Leadership Quarterly***, 10(4): 531–539.

Burke, C. S., Stagl, K. C., Klein, C., Goodwin, G. F., Salas, E., & Halpin, S. M. 2006. What type of leadership behaviors are functional in teams? A meta-analysis. ***The Leadership Quarterly***, 17(3): 288–307.

Cesario, J., Grant, H., & Higgins, E. T. 2004. Regulatory fit and persuasion: transfer from "Feeling Right". ***Journal of Personality and Social Psychology***, 86(3): 388–404.

Champoux, J. E. 1978. A Preliminary Examination of Some Complex Job Scope-Growth Need Strength Interactions. ***Academy of Management Proceedings***, 1978(1): 59–63.

Champoux, J. E. 1980. A Three Sample Test of Some Extensions to the Job Characteristics Model of Work Motivation. ***Academy of Management Journal***, 23(3): 466–478.

Champoux, J. E. 1992. A Multivariate Analysis of Curvilinear Relationships Among Job Scope, Work Context Satisfactions, and Affective Outcomes. ***Human Relations***, 45(1): 87–111.

Chen, G., Gully, S. M., & Eden, D. 2001. Validation of a New General Self-Efficacy Scale. ***Organizational Research Methods***, 4(1): 62–83.

Chen, G., Sharma, P. N., Edinger, S. K., Shapiro, D. L., & Farh, J.-L. 2011. Motivating and demotivating forces in teams: Cross-level influences of empowering leadership and relationship conflict. ***Journal of Applied Psychology***, 96(3): 541–557.

Cheong, M., Spain, S. M., Yammarino, F. J., & Yun, S. 2016. Two faces of empowering leadership: Enabling and burdening. ***The Leadership Quarterly***, 27(4): 602–616.

Damen, F., van Knippenberg, B., & van Knippenberg, D. 2008. Affective match in leadership: Leader emotional displays, follower positive affect, and follower performance. ***Journal of Applied Social Psychology***, 38(4): 868–902.

Deci, E. L., Connell, J. P., & Ryan, R. M. 1989. Self-determination in a work organization. ***Journal of Applied Psychology***, 74(4): 580–590.

Deci, E. L., & Ryan, R. M. 1985. The general causality orientations scale: Self-determination in personality. ***Journal of Research in Personality***, 19(2): 109–134.

Deci, E. L., & Ryan, R. M. 2000. The "What" and "Why" of Goal Pursuits: Human Needs and the Self-Determination of Behavior. ***Psychological Inquiry***, 11(4): 227–268.

DeRue, D. S., Barnes, C. M., & Morgeson, F. P. 2010. Understanding the Motivational Contingencies of Team Leadership. ***Small Group Research***, 41(5): 621–651.

Dipboye, R. L. 1990. Laboratory vs. field research in industrial and organizational psychology. ***International Review of Industrial and Organizational Psychology***, 5: 1–34.

Durham, C. C., Knight, D., & Locke, E. A. 1997. Effects of Leader Role, Team-Set Goal Difficulty, Efficacy, and Tactics on Team Effectiveness. ***Organizational Behavior and Human Decision Processes***, 72(2): 203–231.

Dweck, C. S. 1986. Motivational processes affecting learning. ***American Psychologist***, 41(10): 1040–1048.

Dweck, C. S., & Leggett, E. L. 1988. A social-cognitive approach to motivation and personality. ***Psychological Review***, 95(2): 256–273.

Eden, D. 2001. Means efficacy: External sources of general and specific subjective efficacy. In M. Erez, U. Kleinbeck & H. Thierry (Eds.), ***Work motivation in the context of a globalizing economy***: 73–85. Mahwah, NJ, US: Lawrence Erlbaum Associates Publishers.

Eden, D., & Aviram, A. 1993. Self-efficacy training to speed reemployment: Helping people to help themselves. ***Journal of Applied Psychology***, 78(3): 352–360.

Eden, D., & Kinnar, J. 1991. Modeling Galatea: Boosting self-efficacy to increase volunteering. ***Journal of Applied Psychology***, 76(6): 770–780.

Eden, D., & Zuk, Y. 1995. Seasickness as a self-fulfilling prophecy: Raising self-efficacy to boost performance at sea. ***Journal of Applied Psychology***, 80(5): 628–635.

Edmondson, A. 1999. Psychological Safety and Learning Behavior in Work Teams. ***Administrative Science Quarterly***, 44(2): 350.

Edwards, J. R., & Lambert, L. S. 2007. Methods for integrating moderation and mediation: A general analytical framework using moderated path analysis. ***Psychological Methods***, 12(1): 1–22.

Elliot, A. J., & Harackiewicz, J. M. 1994. Goal setting, achievement orientation, and intrinsic motivation: A mediational analysis. ***Journal of Personality and Social Psychology***, 66(5): 968–980.

Elliot, A. J., & Harackiewicz, J. M. 1996. Approach and avoidance achievement goals and intrinsic motivation: A mediational analysis. ***Journal of Personality and Social Psychology***, 70(3): 461–475.

Ensley, M. D., Hmieleski, K. M., & Pearce, C. L. 2006. The importance of vertical and shared leadership within new venture top management teams: Implications for the performance of startups. ***The Leadership Quarterly***, 17(3): 217–231.

Ergeneli, A., Arı, G. S., & Metin, S. 2007. Psychological empowerment and its relationship to trust in immediate managers. ***Journal of Business Research***, 60(1): 41–49.

Farr, J. L., Hofmann, D. A., & Ringenbach, K. L. 1993. Goal orientation and action control theory: Implications for industrial and organizational psychology. ***International review of industrial and organizational psychology***, 8: 193–232.

Festinger, L. 1957. ***A theory of cognitive dissonance***. Stanford, CA: Stanford University Press.

Gardner, D. G. 1986. Activation theory and task design: An empirical test of several new predictions. ***Journal of Applied Psychology***, 71(3): 411–418.

Gardner, D. G., & Cummings, L. L. 1988. Activation theory and job design: Review and reconceptualization. In B. M. Staw & L. L. Cummings (Eds.), ***Research in organizational behavior***, vol. 10: 81–122. Greenwich, CT: JAI Press.

George, J. M. 2007. Creativity in Organizations. ***The Academy of Management Annals***, 1(1): 439–477.

Gong, Y., Kim, T.-Y., Lee, D.-R., & Zhu, J. 2013. A multilevel model of team goal orientation, information exchange, and creativity. ***Academy of Management Journal***, 56(3): 827–851.

Groth, M., Hennig-Thurau, T., & Walsh, G. 2009. Customer Reactions to Emotional Labor: The Roles of Employee Acting Strategies and Customer Detection Accuracy. ***Academy of Management Journal***, 52(5): 958–974.

Hackman, J. R., & Oldham, G. R. 1974. The Job Diagnostic Survey: An instrument for the diagnosis of jobs and the evaluation of job redesign projects. ***Catalog of Selected Documents in Psychology***, 4: 148–149.

Hackman, J. R., & Oldham, G. R. 1980. ***Work redesign***. Reading, Mass.: Addison-Wesley.

Harackiewicz, J. M., & Elliot, A. J. 1993. Achievement goals and intrinsic motivation. ***Journal of Personality and Social Psychology***, 65(5): 904–915.

Harris, K. J., & Kacmar, K. M. 2006. Too much of a good thing: the curvilinear effect of leader-member exchange on stress. ***The Journal of Social Psychology***, 146(1): 65–84.

Harris, T. B., Li, N., Boswell, W. R., Zhang, X.-a., & Xie, Z. 2014. Getting What's New from Newcomers: Empowering Leadership, Creativity, and Adjustment in the Socialization Context. ***Personnel Psychology***, 67: 567–604.

Hayes, A. F. 2009. Beyond Baron and Kenny: Statistical Mediation Analysis in the New Millennium. ***Communication Monographs***, 76(4): 408–420.

Hayes, A. F. 2013. ***Introduction to mediation, moderation, and conditional process analysis***: ***A regression-based approach***. New York: Guilford Press.

Hennessey, B. A., & Amabile, T. M. 1998. Reward, intrinsic motivation, and creativity. ***American Psychologist***, 53(6): 674–675.

Higgins, E. T. 2000. Making a good decision: Value from fit. ***American Psychologist***, 55(11): 1217–1230.

Higgins, E. T. 2002. How Self-Regulation Creates Distinct Values: The Case of Promotion and Prevention Decision Making. ***Journal of Consumer Psychology***, 12(3): 177–191.

Hirst, G., van Knippenberg, D., & Zhou, J. 2009. A Cross-Level Perspective on Employee Creativity: Goal Orientation, Team Learning Behavior, and Individual Creativity. ***Academy of Management Journal***, 52(2): 280–293.

Hoever, I. J., van Knippenberg, D., van Ginkel, W. P., & Barkema, H. G. 2012. Fostering team creativity: perspective taking as key to unlocking diversity's potential. ***Journal of Applied Psychology***, 97(5): 982–996.

Hon, A. H. Y., & Chan, W. W. H. 2013. Team Creative Performance: The Roles of Empowering Leadership, Creative-Related Motivation, and Task Interdependence. ***Cornell Hospitality Quarterly***, 54(2): 199–210.

House, R. J. 1971. A Path Goal Theory of Leader Effectiveness. ***Administrative Science Quarterly***, 16(3): 321–339.

House, R. J. 1996. Path-goal theory of leadership: Lessons, legacy, and a reformulated theory. ***The Leadership Quarterly***, 7(3): 323–352.

Hox, J. J. 2010. ***Multilevel analysis***: ***Techniques and applications*** (2nd ed.). London: Routledge.

Humborstad, S. I. W., & Kuvaas, B. 2013. Mutuality in leader–subordinate empowerment expectation: Its impact on role ambiguity and intrinsic motivation. ***The Leadership Quarterly***, 24(2): 363–377.

Humborstad, S. I. W., Nerstad, C. G. L., & Dysvik, A. 2014. Empowering leadership, employee goal orientations and work performance. ***Personnel Review***, 43(2): 246–271.

James, L. R., Demaree, R. G., & Wolf, G. 1984. Estimating within-group interrater reliability with and without response bias. ***Journal of Applied Psychology***, 69(1): 85–98.

Judge, T. A., & Bono, J. E. 2001. Relationship of core self-evaluations traits--self-esteem, generalized self-efficacy, locus of control, and emotional stability--with job satisfaction and job performance: A meta-analysis. ***Journal of Applied Psychology***, 86(1): 80–92.

Judge, T. A., Locke, E. A., & Durham, C. C. 1997. The dispositional causes of job satisfaction: A core evaluations approach. ***Research in Organizational Behavior***, 19: 151–188.

Kahai, S. S., Sosik, J. J., & Avolio, B. J. 2004. Effects of Participative and Directive Leadership in Electronic Groups. ***Group & Organization Management***, 29(1): 67–105.

Kahn, R. L., & Byosiere, P. 1992. Stress in organizations. In M. D. Dunnette & L. M. Hough (Eds.), ***Handbook of Industrial and Organizational Psychology***: 571–650 (2nd ed.). Palo Alto, CA: Consulting Psychologists Press.

Kaiser, R. B., Hogan, R., & Craig, S. B. 2008. Leadership and the fate of organizations. ***The American psychologist***, 63(2): 96–110.

Kanfer, R. 2012. Work Motivation: Theory, Practice, and Future Directions. In S. W. J. Kozlowski (Ed.), ***The Oxford Handbook of Organizational Psychology***: 455–495: Oxford University Press.

Kennedy, P. 2008. ***A guide to econometrics*** (6th ed.). Malden, MA: Blackwell Pub.

Kirkman, B. L., & Rosen, B. 1997. A model of work team empowerment. ***Research in Organizational Change and Development***, 10: 131–167.

Kirkman, B. L., & Rosen, B. 1999. Beyond Self-Management: Antecedents and Consequences of Team Empowerment. ***Academy of Management Journal***, 42(1): 58–74.

Konczak, L. J., Stelly, D. J., & Trusty, M. L. 2000. Defining and Measuring Empowering Leader Behaviors: Development of an Upward Feedback Instrument. ***Educational and Psychological Measurement***, 60(2): 301–313.

Koopman, J., Matta, F. K., Scott, B. A., & Conlon, D. E. 2015. Ingratiation and popularity as antecedents of justice: A social exchange and social capital perspective. ***Organizational Behavior and Human Decision Processes***, 131: 132–148.

Korman, A. K. 1970. Toward an hypothesis of work behavior. ***Journal of Applied Psychology***, 54(1): 31–41.

Kraimer, M. L., Seibert, S. E., & Liden, R. C. 1999. Psychological Empowerment as a Multidimensional Construct: A Test of Construct Validity. ***Educational and Psychological Measurement***, 59(1): 127–142.

Krull, J. L., & MacKinnon, D. P. 2001. Multilevel Modeling of Individual and Group Level Mediated Effects. ***Multivariate Behavioral Research***, 36(2): 249–277.

Lam, C. K., Huang, X., & Chan, S. C. H. 2015. The Threshold Effect of Participative Leadership and the Role of Leader Information Sharing. ***Academy of Management Journal***, 58(3): 836–855.

Lambert, L. S., Tepper, B. J., Carr, J. C., Holt, D. T., & Barelka, A. J. 2012. Forgotten but not gone: an examination of fit between leader consideration and initiating structure needed and received. ***Journal of Applied Psychology***, 97(5): 913–930.

Locke, E. A. 1968. Toward a theory of task motivation and incentives. ***Organizational Behavior and Human Performance***, 3(2): 157–189.

Lorinkova, N. M., Pearsall, M. J., & Sims, H. P. 2013. Examining the Differential Longitudinal Performance of Directive versus Empowering Leadership in Teams. ***Academy of Management Journal***, 56(2): 573–596.

Lykken, D. T. 1968. Statistical Significance In Psychological Research. ***Psychological Bulletin***, 70(3): 151–159.

Mackinnon, D. P., Lockwood, C. M., & Williams, J. 2004. Confidence Limits for the Indirect Effect: Distribution of the Product and Resampling Methods. ***Multivariate Behavioral Research***, 39(1): 99.

Manz, C. C., & Sims, H. P. 1986. Beyond imitation: Complex behavioral and affective linkages resulting from exposure to leadership training models. ***Journal of Applied Psychology***, 71(4): 571–578.

Marks, M. A., Mathieu, J. E., & Zaccaro, S. J. 2001. A Temporally Based Framework and Taxonomy of Team Processes. ***Academy of Management Review***, 26(3): 356–376.

Martin, S. L., Liao, H., & Campbell, E. M. 2013. Directive versus Empowering Leadership: A Field Experiment Comparing Impacts on Task Proficiency and Proactivity. ***Academy of Management Journal***, 56(5): 1372–1395.

Maurer, T. J. 2001. Career-relevant learning and development, worker age, and beliefs about self-efficacy for development. ***Journal of Management***, 27(2): 123–140.

Maynard, M. T., Gilson, L. L., & Mathieu, J. E. 2012. Empowerment--Fad or Fab? A Multilevel Review of the Past Two Decades of Research. ***Journal of Management***, 38(4): 1231–1281.

Menguc, B., Auh, S., & Uslu, A. 2013. Customer knowledge creation capability and performance in sales teams. ***Journal of the Academy of Marketing Science***, 41(1): 19–39.

Mook, D. G. 1983. In defense of external invalidity. ***American Psychologist***, 38(4): 379–387.

Morgeson, F. P., DeRue, D. S., & Karam, E. P. 2010. Leadership in Teams: A Functional Approach to Understanding Leadership Structures and Processes. ***Journal of Management***, 36(1): 5–39.

Morgeson, F. P., & Humphrey, S. E. 2006. The Work Design Questionnaire (WDQ): developing and validating a comprehensive measure for assessing job design and the nature of work. ***Journal of Applied Psychology***, 91(6): 1321–1339.

Moye, M. J., Henkin, A. B., & Egley, R. J. 2005. Teacher-principal relationships: Exploring linkages between empowerment and interpersonal trust. ***Journal of Educational Administration***, 43(3): 260–277.

Mumford, M. D., Scott, G. M., Gaddis, B., & Strange, J. M. 2002. Leading creative people: Orchestrating expertise and relationships. ***The Leadership Quarterly***, 13(6): 705–750.

Nicholls, J. G. 1984. Achievement motivation: Conceptions of ability, subjective experience, task choice, and performance. ***Psychological Review***, 91(3): 328–346.

Oldham, G. R., & Cummings, A. 1996. Employee Creativity: Personal and Contextual Factors at Work. ***Academy of Management Journal***, 39(3): 607–634.

Parker, S. K. 1998. Enhancing role breadth self-efficacy: The roles of job enrichment and other organizational interventions. ***Journal of Applied Psychology***, 83(6): 835–852.

Parker, S. K., Bindl, U. K., & Strauss, K. 2010. Making Things Happen: A Model of Proactive Motivation. ***Journal of Management***, 36(4): 827–856.

Pearce, C. L., Sims, H. P., Cox, J. F., Ball, G., Schnell, E., Smith, K. A., & Trevino, L. 2003. Transactors, transformers and beyond. ***Journal of Management Development***, 22(4): 273–307.

Peterson, R. S. 1999. Can You have too Much of a Good Thing? The Limits of Voice for Improving Satisfaction with Leaders. ***Personality and Social Psychology Bulletin***, 25(3): 313–324.

Pierce, J. L., Gardner, D. G., Dunham, R. B., & Cummings, L. L. 1993. Moderation By Organization-Based Self-Esteem of Role Condition-Employee Response Relationships. ***Academy of Management Journal***, 36(2): 271–288.

Pierce, J. R., & Aguinis, H. 2013. The Too-Much-of-a-Good-Thing Effect in Management. ***Journal of Management***, 39(2): 313–338.

Pituch, K. A., Stapleton, L. M., & Kang, J. Y. 2006. A Comparison of Single Sample and Bootstrap Methods to Assess Mediation in Cluster Randomized Trials. ***Multivariate Behavioral Research***, 41(3): 367–400.

Preacher, K. J., Rucker, D. D., & Hayes, A. F. 2007. Addressing Moderated Mediation Hypotheses: Theory, Methods, and Prescriptions. ***Multivariate Behavioral Research***, 42(1): 185–227.

Preacher, K. J., Zhang, Z., & Zyphur, M. J. 2016. Multilevel structural equation models for assessing moderation within and across levels of analysis. ***Psychological Methods***, 21(2): 189–205.

Preacher, K. J., Zyphur, M. J., & Zhang, Z. 2010. A general multilevel SEM framework for assessing multilevel mediation. ***Psychological Methods***, 15(3): 209–233.

Schwartz, J., Bohdal-Spiegelhoff, U., Gretczko, M., & Sloan, N. Global Human Capital Trends 2016: The new organization - Different by design; http://www2.deloitte.com/content/dam/Deloitte/global/Documents/HumanCapital/gx-dup-global-human-capital-trends-2016.pdf, 15 Sep 2016.

Scott, W. E. 1966. Activation theory and task design. ***Organizational Behavior and Human Performance***, 1(1): 3–30.

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

Shadish, W. R., Cook, T. D., & Campbell, D. T. 2002. ***Experimental and quasi-experimental designs for generalized causal inference***. Boston: Houghton Mifflin.

Sharma, P. N., & Kirkman, B. L. 2015. Leveraging Leaders: A Literature Review and Future Lines of Inquiry for Empowering Leadership Research. ***Group & Organization Management***, 40(2): 193–237.

Shin, S. J., Kim, T.-Y., Lee, J.-Y., & Bian, L. 2012. Cognitive Team Diversity and Individual Team Member Creativity: A Cross-Level Interaction. ***Academy of Management Journal***, 55(1): 197–212.

Smith, K. G., Collins, C. J., & Clark, K. D. 2005. Existing Knowledge, Knowledge Creation Capability, and the Rate of New Product Introduction in High-Technology Firms. ***Academy of Management Journal***, 48(2): 346–357.

Snijders, T. A. B., & Bosker, R. J. 2012. ***Multilevel analysis***: ***An introduction to basic and advanced multilevel modeling*** (2nd ed.). Los Angeles, London: Sage.

Spreitzer, G. M. 1995. Psychological Empowerment in the Workplace: Dimensions, Measurement, and Validation. ***Academy of Management Journal***, 38(5): 1442–1465.

Spreitzer, G. M. 2008. Taking stock: A review of more than twenty years of research on empowerment at work. In J. Barling & C. L. Cooper (Eds.), ***The Sage Handbook of Organizational Behavior***, vol. 1: 54–72.

Spreitzer, G. M., Kizilos, M. A., & Nason, S. W. 1997. A Dimensional Analysis of the Relationship between Psychological Empowerment and Effectiveness Satisfaction, and Strain. ***Journal of Management***, 23(5): 679–704.

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(6): 1239–1251.

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

Stam, D. A., van Knippenberg, D., & Wisse, B. 2010. The role of regulatory fit in visionary leadership. ***Journal of Organizational Behavior***, 31(4): 499–518.

Steele-Johnson, D., Beauregard, R. S., Hoover, P. B., & Schmidt, A. M. 2000. Goal orientation and task demand effects on motivation, affect, and performance. ***Journal of Applied Psychology***, 85(5): 724–738.

Stock, J. H., & Watson, M. W. 2012. ***Introduction to econometrics*** (3rd ed.). Boston, Mass., London: Pearson.

Tabachnick, B. G., & Fidell, L. S. 2007. ***Using multivariate statistics*** (5th ed.). Boston, Mass., London: Pearson/Allyn & Bacon.

Takeuchi, R., Chen, G., & Lepak, D. P. 2009. Through the looking glass of a social system: Cross-level effects of high-performance work systems on employees' attitudes. ***Personnel Psychology***, 62(1): 1–29.

Thompson, L., Pozner, J.-E., & Bloniarz, J. 1996. Windy City Theater; https://www.negotiationexercises.com/Details.aspx?ItemID=59, 25 Apr 2016.

Tierney, P. 2008. Leadership and Employee Creativity. In J. Zhou & C. E. Shalley (Eds.), ***Handbook of Organizational Creativity***: 95–123. New York: Lawrence Erlbaum Associates.

Tierney, P., & Farmer, S. M. 2002. Creative Self-Efficacy: Its Potential Antecedents and Relationship to Creative Performance. ***Academy of Management Journal***, 45(6): 1137–1148.

Tierney, P., Farmer, S. M., & Graen, G. B. 1999. An examination of leadership and employee creativity: The relevance of traits and relationships. ***Personnel Psychology***, 52(3): 591–620.

Towler, A. J. 2003. Effects of charismatic influence training on attitudes, behavior, and performance. ***Personnel Psychology***, 56(2): 363–381.

van Knippenberg, D. 2017. Team Innovation. ***Annual Review of Organizational Psychology and Organizational Behavior***, 4: 12.1–12.23.

van Knippenberg, D., & Sitkin, S. B. 2013. A Critical Assessment of Charismatic—Transformational Leadership Research: Back to the Drawing Board? ***The Academy of Management Annals***, 7(1): 1–60.

VandeWalle, D. 1997. Development and Validation of a Work Domain Goal Orientation Instrument. ***Educational and Psychological Measurement***, 57(6): 995–1015.

Weber, A., Fussler, C., O'Hanlon, J. F., Gierer, R., & Grandjean, E. 1980. Psychophysiological effects of repetitive tasks. ***Ergonomics***, 23(11): 1033–1046.

Weingart, L. R. 1997. How did they do that? The ways and means of studying group process. ***Research in Organizational Behavior***, 19: 189–239.

Williams, L. J., & Anderson, S. E. 1991. Job Satisfaction and Organizational Commitment as Predictors of Organizational Citizenship and In-Role Behaviors. ***Journal of Management***, 17(3): 601–617.

Wo, D. X. H., Ambrose, M. L., & Schminke, M. 2015. What Drives Trickle-Down Effects?: A Test of Multiple Mediation Processes. ***Academy of Management Journal***, 58(6): 1848–1868.

Wong, S. I., & Giessner, S. R. 2015. The Thin Line Between Empowering and Laissez-Faire Leadership: An Expectancy-Match Perspective. ***Journal of Management***.

Yun, S., Cox, J., & Sims, H. P. 2006. The forgotten follower: a contingency model of leadership and follower self-leadership. ***Journal of Managerial Psychology***, 21(4): 374–388.

Yun, S., Faraj, S., & Sims, H. P. 2005. Contingent leadership and effectiveness of trauma resuscitation teams. ***Journal of Applied Psychology***, 90(6): 1288–1296.

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(1): 107–128.

Zhang, X., & Zhou, J. 2014. Empowering leadership, uncertainty avoidance, trust, and employee creativity: Interaction effects and a mediating mechanism. ***Organizational Behavior and Human Decision Processes***, 124(2): 150–164.

Zhou, J., & Oldham, G. R. 2001. Enhancing Creative Performance: Effects of Expected Developmental Assessment Strategies and Creative Personality. ***The Journal of Creative Behavior***, 35(3): 151–167.

Zhou, J., & Shalley, C. E. 2010. Deepening Our Understanding of Creativity in the Workplace: A Review of Different Approaches to Creativity Research. In S. Zedeck (Ed.), ***Handbook of Industrial and Organizational Psychology***: 275–302. Washington: American Psychological Association.

Zhu, Y.-Q., & Chen, H.-G. 2016. Empowering leadership in R&D teams: A closer look at its components, process, and outcomes. ***R&D Management***, 46(4): 726–735.

SUMMARY

Empowering leadership, the process of engaging in behaviors that enable sharing power with an employee, is both "en vogue" and a promising lever for organizations to bring out the best in employees. Yet, being an effective empowering leader is as challenging as it is important. This dissertation aims to advance our knowledge of when and why empowering leadership is most effective. Specifically, in three studies this dissertation examines the role of employees' achievement motivations (i.e., self-efficacy and goal orientations) as boundary conditions of empowering leadership and identifies key processes that link empowering leadership to individual performance.

The first study examines the question whether empowering leadership would have a decreasing marginal effect on employee performance and might be overburdening for employees at too high levels. Moreover, we argue that employees' generalized work-role self-efficacy beliefs would qualify this relationship. Our findings from a multi-source field study in the U.S.A. support this view. It shows that empowering leadership has a positive, decreasing effect on employees' creativity and in-role performance for employees low on work-role self-efficacy, but no effect for employees high on work-role self-efficacy.

The second study focusses on employees' goal orientations as determinants of employees' sensitivity for empowering leadership's implications for the psychological states of meaning and competence, and on how these states relate to creativity and in-role performance, respectively. We posit that empowering leadership positively effects job meaningfulness and, subsequently, creativity for employees high on learning goal orientation. For employees high on performance orientation, we predict that empowering leadership impacts in-role performance via the psychological state of competence. Results from a multi-source field study in the Netherlands confirm our predictions for both the learning and performance avoid goal orientations.

The third study investigates a cross-level effect of team empowering versus directive leadership on individual creativity. We propose that empowering leadership triggers a team coordination process and predict that – depending on their goal orientations – team members would vary in the extent to which their individual creativity benefit from this process. In a laboratory group experiment we find that team members with a learning goal orientation benefit more from empowering leadership and team direction of information

exchange than do team members holding performance goal orientations.

SAMENVATTING (DUTCH SUMMARY)

Empowering leiderschap, de handelingen waarmee macht gedeeld wordt met een werknemer, is “en vogue” en voor organisaties een veelbelovend instrument om het beste uit werknemers te halen. Tegelijkertijd vormt het uitvoeren van effectief empowering leiderschap een uitdaging. Deze dissertatie heeft als doel inzicht te verwerven in de situaties waarin en de manieren waarop empowering leiderschap het meest effectief is. In drie studies wordt onderzocht wat de rol is van achievement motivations (generalized work-role self-efficacy en goal orientations) als randvoorwaarde voor effectief empowering leiderschap en worden de belangrijkste processen geïdentificeerd die ervoor zorgen dat empowering leiderschap invloed heeft op de werkprestaties van het individu.

De eerste studie richt zich op de vraag of de impact van empowering leiderschap afneemt en werknemers overbelast raken wanneer het in hoge mate wordt toegepast. We beargumenteren dat dit effect plaatsvindt onder voorbehoud van beperkte algemene werkgerelateerde self-efficacy van werknemers. Onze bevindingen, uit een veldonderzoek vanuit meerdere bronnen in de VS onderschrijven deze argumentatie. Het veldonderzoek laat zien dat de positieve invloed van empowering leiderschap op de creativiteit en de werkgerelateerde prestaties voor werknemers met lage werkgerelateerde self-efficacy afneemt bij hogere mate van empowerment, maar geen effect heeft op werknemers met een hoge mate van werkgerelateerde self-efficacy.

In de tweede studie wordt gekeken naar de goal orientations van werknemers als bepalende factor voor de mate waarin werknemers gevoelig zijn voor de implicaties van empowering leiderschap op de psychological states (d.w.z. psychologische toestand) van betekenisgeving en competentie, en dat deze states betrekking hebben op, respectievelijk, creativiteit en werkgerelateerde prestaties. We stellen dat empowering leiderschap een positief effect heeft op de mate van betekenis die de werknemer hecht aan het beroep en, derhalve, op de creativiteit van werknemers met een hoge learning goal orientation (d.w.z. motivatie geënt op persoonlijke ontwikkeling). Voor werknemers met een hoge performance orientation (d.w.z. motivatie gericht op werkprestaties) voorspellen we dat empowering leiderschap effect heeft op werkgerelateerde prestaties door de competentiegerichte state van deze werknemers. Resultaten van een onderzoek in Nederland, met gebruik van meerdere bronnen, bevestigen onze hypotheses ten aanzien van zowel de learning- als de performance-

goal orientations.

De derde studie behandelt het ("cross-level") effect van team empowerment versus directive leadership (d.w.z. relatief directe aansturing) op de creativiteit van het individu. We stellen dat empowering leiderschap een team coördinatieproces in gang zet en voorspellen dat – afhankelijk van de goal orientations – teamleden verschillen in de mate waarin hun individuele creativiteit baat heeft bij dit proces. Uit een laboratoriumexperiment komt naar voren dat teamleden met een learning goal orientation meer profijt hebben bij empowering leiderschap en teamaansturing van de informatie-uitwisseling dan teamleden met een performance goal orientation.

RESUME (FRENCH SUMMARY)

Le leadership d'habilitation ou « empowering leadership » est le processus par lequel un leader partage son pouvoir avec un employé. Ce style de leadership est à la fois en vogue et prometteur pour les entreprises désirant valoriser au mieux les capacités de leurs employés. Cependant, le développement d'un leadership d'habilitation efficace s'avère aussi difficile qu'important. Cette thèse a pour but de mieux comprendre les conditions dans lesquelles le leadership d'habilitation est efficace, et pourquoi. Plus précisément, cette thèse examine à travers trois études le rôle des motivations d'accomplissement des individus (c.-à-d., orientation envers les buts et croyance d'auto-efficacité) comme étant nécessaire pour que le leadership d'habilitation puisse produire ses effets bénéfiques, et identifie les processus clefs liant le leadership d'habilitation à la performance des individus.

La première étude examine si le leadership d'habilitation n'aurait pas un impact marginal et dégressif sur la performance des employés, voire accablant si son utilisation est excessive. De plus, nous argumentons que cette relation est modérée par la croyance d'auto-efficacité généralisée des employés concernant leur rôle au travail. A travers une étude menée sur le terrain aux Etats-Unis, nous démontrons que le leadership d'habilitation a un effet positif décroissant sur la créativité des employés, ainsi que sur leur performance au travail, et ce, dans le seul cas d'une faible croyance d'auto-efficacité.

Concernant la deuxième étude, nous argumentons que l'orientation envers les buts est cruciale pour le déploiement de la sensibilité des employés concernant les implications du leadership d'habilitation en termes d'états psychologiques relatifs à la signification et à la compétence, et que ces états agiraient respectivement sur la créativité et la performance au travail des employés. Nous postulons que le leadership d'habilitation aurait un effet positif sur l'importance donnée au poste occupé, ce qui amènerait à plus de créativité chez les employés ayant une forte orientation envers les buts d'apprentissage et impacterait la performance au travail à travers un état psychologique de compétence chez les employés ayant une forte orientation envers la performance. Les résultats d'une étude menée sur le terrain au Pays-Bas supportent nos prédictions concernant l'orientation envers les buts d'apprentissage et de performance.

La troisième étude examine l'effet du leadership d'habilitation d'équipe versus du leadership directif sur la créativité des individus. Nous proposons que le leadership

d'habilitation déclenche un processus de coordination d'équipe et prédisons que les membres d'une équipe ne bénéficieront pas tous de la même manière de ce que ce processus peut apporter à leur créativité selon leurs orientations envers les buts. Les résultats d'une expérience menée en laboratoire démontrent que les membres d'un groupe ayant une orientation envers les buts d'apprentissage ont bénéficié davantage du leadership d'habilitation et de la direction de l'équipe quant à l'échange d'information que les membres d'équipe ayant une orientation envers des buts de performance.

ABOUT THE AUTHOR

Tobias Dennerlein received his Diplom-Kaufmann (Master's in Business and Economics) degree from Friedrich-Alexander University Erlangen-Nuremberg in 2007 upon which he gained further business experience in Banking and Finance. He started his PhD at HEC Lausanne, Switzerland, in 2011 and initiated a joint PhD degree supervision with Rotterdam School of Management, the Netherlands, in 2013. Currently, he is a Lecturer at Rotterdam School of Management.

Tobias's research interests revolve around (1) the intersection of leader behavior (e.g., empowering leadership, narcissistic leadership, leader justice) and employee motivation and outcomes across levels of analysis, (2) trust in different organizational targets, and (3) the effects of cognitive leader and gender prototypes. His dissertation examines when and why empowering leadership is most effective by uncovering individuals' achievement motivations as an important boundary condition of empowering leadership. His work has appeared in the European Journal of International Management and is currently under review at various leading management journals. Tobias also presents his work regularly at major international conferences such as the Academy of Management Meeting and the Society for Industrial and Organizational Psychology Conference. Tobias is a member of the Academy of Management.

PORTFOLIO

Refereed Publications

Puck, J.F.; Neyer, A.K.; & Dennerlein, T. (2010). Diversity and conflict in teams: A contingency perspective. ***European Journal of International Management***, 4 (4), 417-439.

Cases

Rygl, D.; Kittler, M.; & Dennerlein, T. (2007). The case of Adidas's acquisition of Reebok. Case study published by ***The Case Centre***, reference number 307-325-1.

Papers Under Review

Kleinlogel, E.P.; Dietz, J.; & Dennerlein, T. Gender and leader prototypes: Are we using the right measurement instruments for their assessment?

Conference Presentations

Dennerlein, T.; van Knippenberg, D.; & Dietz, J. (2016): Linking empowering leadership to creativity and in-role performance: The role of goal orientations. Paper presented at the *76th Annual Meeting of the Academy of Management (AOM)*, Anaheim, California.

Dennerlein, T. (2016): Trust in supervisors and trust in top management: Main and interactive effects on employee outcomes. Paper presented at the *76th Annual Meeting of the Academy of Management (AOM)*, Anaheim, California.

Koopman, J.; Matta, F. K.; Scott, B. A.; Conlon, D. E.; & Dennerlein, T. (2016): Categorization theory and substitutes for justice enactment: The role of ethical leadership. Paper presented at the *76th Annual Meeting of the Academy of Management (AOM)*, Anaheim, California.

Dennerlein, T.; van Knippenberg, D.; & Dietz, J. (2015): The role of subordinates' goal orientations in the empowering leadership process. Paper presented at the *75th Annual Meeting of the Academy of Management (AOM)*, Vancouver, Canada.

Dennerlein, T. (2015): Why leader involvement granting is not always positive: The role of followers' role orientations. Paper presented at the *75th Annual Meeting of the Academy of Management (AOM)*, Vancouver, Canada.

Ding, B.; Dennerlein, T.; Kleinlogel, E.P.; & Dietz, J. (2015): Understanding leader evaluations through leader gender and body posture. Paper presented at the *75th Annual Meeting of the Academy of Management (AOM)*, Vancouver, Canada.

Dennerlein, T.; Kleinlogel, E.P.; Dietz, J.; & Ding, B. (2014): Gender ingroup projection and the evaluative connotation of leader prototypes. Paper presented at the *29th Annual Conference of the Society for Industrial and Organizational Psychology (SIOP)*, Honolulu, Hawaii.

Dietz J.; Dennerlein T.; Kleinlogel E.P.; & Ding, A. B. (2013): How women and men project their gender prototypes on leader prototypes. Paper presented at the *13th Biannual Congress of the Swiss Psychological Society (SSP)*, Basel, Switzerland.

Kleinlogel E.P.; Dennerlein T.; Dietz J.; & Gabarrot F. (2013): Why women rarely rise to the top: A social identity model of leader prototypes. Paper presented at the *16th Congress of the European Association of Work and Organizational Psychology (EAWOP)*, Münster, Germany.

Dennerlein T. & Dietz J. (2013): Why granting voice is not always positive. Paper presented at the *28th Society for Industrial and Organizational Psychology Conference*, Houston, Texas.

Dennerlein T.; Kleinlogel, E.P.; Dietz J.; & Gabarrot F. (2013): Gender ingroup prototypicality and manager prototypes. Paper presented at the *28th Society for Industrial and Organizational Psychology Conference*, Houston, Texas.

Ossipowski V.; Kleinlogel, E.P.; Dennerlein T.; & Dietz J. (2012). The effects of safety climate and trust on job satisfaction. Paper presented at the *27th Annual Society for Industrial and Organizational Psychology Conference*, San Diego, California.

Dennerlein, T. & Vogel, B. (2010). Followership at the team level: Possible antecedents and consequences. Paper presented at the *British Academy of Management Conference*, Sheffield, England.

Puck, J.F.; Neyer, A.-K.; & Dennerlein, T. (2008). Diversity and conflict in teams: A contingency perspective. Paper presented at the *Academy of Management Annual Meeting*, Anaheim, California.

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Empowering leadership – behaviors, such as transferring authority to employees, promoting their self-direction and autonomous decision making, encouraging them to set their own goals, expressing confidence in their ability to successfully complete tasks, and coaching – is a promising tool for managers to bring out the best in employees. Employees' achievement motivations as important qualifiers of empowering leadership effects are a crucial component in this process. Hence, the objective of this dissertation was to investigate in more depth how differences across individuals in such achievement motivations play out to alter the effect of empowering leadership. From the three empirical studies reported in this dissertation we learn that generalized work-role self-efficacy can substitute for the effect of empowering leadership – thereby rendering it ineffective; that learning oriented individuals experience higher levels of job meaningfulness which fuels their creativity; that performance avoid oriented individuals experience increased feelings of competence which boosts their in-role performance; and that empowering leaders spawn a team-directed coordination process of information exchange which in turn learning oriented team members' creativity benefits from most (as compared to the creativity of team members holding performance orientations). While each of the empirical chapters answers important questions, they also serve as points of departure for asking new questions. Therefore, I hope that future research will build on the models presented and knowledge retained from this dissertation to develop our understanding about the role of achievement motivation in the empowering leadership process further.

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