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# The Dispersed Leadership Theory in Teams: Model and Empirical Evidence

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## Abstract

This paper addresses how leadership can be conceptualized in times of dispersed and team working structures. The Dispersed Leadership Theory in Teams proposes three distinguishing types of leadership, which include interactional leadership exerted by leaders; team leadership provided by team members; and structural leadership influenced by work and organizational factors (i.e., task, organizational structures, and customers). It is assumed that these three types of leadership simultaneously exert influence on follower's attitudes and behaviors. We outline the theory, review empirical evidence based on the model and discuss the strengths and limitations. In conclusion, we discuss the emerging topics for future studies.

*Keywords:* Teams; Distributed leadership; Shared Leadership; Team Leadership.

# 1 Introduction

Similar to other areas of organizational behavior, leadership is undergoing significant changes (House, 1995; Shamir, 1999; Wiesenfeld, Raghuram, & Garud, 1999). In respect to teams, complexity, uncertainty and the dynamic of tasks become more challenging to employees' motivation and self-regulation. Systems regarding the organizational management of personnel are gaining more influence, such as compensation and benefits (Rynes & Bono, 2000), as well as followers empowered by task structures that give access to information, resources, support and opportunities to learn and grow (Laschinger, Finegan, Shamian, & Wilk, 2004), and personnel self-regulation (e.g., Neck & Houghton, 2006). In respect to organization, structures are becoming more loosely coupled (Orton & Weick, 1990; Weick, 1979) comprised of increasingly open, more lateral communication, and multiple independent decision makers occasionally sharing information across a chain of command.

Evidently these organizational processes have a number of consequences for leaders and followers. Organization, as a dynamic network of interconnected and changing relationships require followers to be more self-regulated. Moreover, programs which demand less formalization and standardization, such as self-management (Manz & Sims, 1993), have reduced the number of middle managers. Moreover, centralized functions have been replaced by more autonomous employees.

Recent leadership theories contribute to these changes. Concepts of shared leadership (see Day, Gronn, & Salas, 2006, for a review) argue that leadership should not be conceptualized as a centralized downward influence on subordinates and an appointed leader. Rather, leadership tasks and functions are divided among a set of individuals who are acting as leaders. Second, with the prevalence and significance of team work in today's work (see Kozlowski & Ilgen, 2006, and Mathieu, Maynard, Rapp, & Gilson, 2008, for reviews), team members and team processes will more significantly affect individuals' attitudes, motivation, and behaviors. Consequently, researchers have developed conceptions such as self-managing teams, where the team itself plays a more active role in generating, maintaining and changing individuals' behavior (e.g., Kozlowski, Gully, Salas, & Cannon-Bowers, 1996; Manz & Sims, 1993). Finally, as suggested by Fletcher (2006), it will become increasingly unlikely that, in a world of growing complexity, a single leader will possess the capability and competence to understand, solve and improve leadership problems in order to achieve effective team outcomes. As a consequence, the degree of influence which does not come from the positional leader becomes obvious.

Theoretical and empirical studies of virtual teams and E-leadership (see reviews by Avolio, Kahai, & Dodge, 2001; Hertel, Geister, & Konradt, 2005; Webster & Staples, 2006) suggest that the flattening and dynamics of organizational hierarchies reduces the influence of the leader, because the leader has less information to follow and assess the team's situation and to initiate interventions. Consequently, this undermines the use of adequate behavioral theories on leadership to manage the dynamics of social behavior in virtual

teams, i.e. to uncover conflicts, to motivate team members who are working at disparate sites, and to develop trust and team cohesion (Avolio et al., 2001). In addition, it has been argued that the amount and quality of dyadic leader-member exchange (Gerstner & Day, 1997) is reduced, due to the physical distance between an appointed or formal leader of a team (that is the vertical leader) and the team members. Instead, the leadership process is divided into shared facets and spread across units and organizations (Pearce & Conger, 2003). Consequently, the changing role of leadership has been discussed (Gibson & Cohen, 2003; Hinds & Kiesler, 2002). Management concepts have also been proposed for virtual teams that shift parts of managerial functions to situational substitutes, who might perform motivating functions, including task interdependence, incentives (Kahai, Sosik, & Avolio, 2003) and is also intended to empower the team members to make decisions by themselves in self-managing teams (Manz & Sims, 1993).

In dispersed working structures, the influence of a single leadership authority or instance is reduced or completely dropped out while other instances become influential (e.g., Cramton, 2001). Direct supervisory functions, such as observing, monitoring, and controlling behavior and task outcomes will be more difficult for leaders. Latham and Ernst (2006) argue that in increasingly volatile, uncertain and complex working contexts, followers' motivation will no longer be determined and sustained by a single leader or a small group of senior executives. Instead, leadership functions will be distributed among people who act in a dynamic process. Latham and Ernst (2006) proposed that leadership will thus "consist of collective activities of organizational members to set direction, build commitment, and create alignment" (p. 191).

Despite growing evidence for the changing role and functions of leaders in today's working systems and the significance of dispersed leadership, past leadership research has mainly focused either on single-level models, reflecting the leader or dyadic relationships between leader and follower, or on cross-level models which consider moderator effects of task, team and organizational characteristics (see DeChurch et al., 2010, for a review). Accordingly, Mathieu et al. (2008) are calling for greater theoretical integration of the individual, team, and organizational levels. We argue that hitherto theories regarding leadership, teams, and organization are kept artificially separate and that the simultaneously ongoing processes of dispersed leadership are largely ignored. In particular, there is an insufficient amount of concepts which link individual, team, and organizational aspects in an integrated framework of leadership (see Mathieu et al., 2008, for a similar argumentation). The purpose of this paper is to develop a theory, *the Dispersed Leadership Theory in Teams* (DLT) which incorporates a process that influences the attitudes, motivation, and behavior of individuals in teams. It is proposed that different types of leadership exerted by different sources concurrently influence an individual's attitude and behavior in teams and thus contribute to output variables. In the following, we outline the conceptual components of the model, and propose fundamental assumptions. In the second section, we offer empirical research relevant to the model. I conclude by discussing empirical open research questions based on the model.

## 2 Approach and Structure of the Dispersed Leadership Theory in Teams

### *Definition*

In view of the extent of leadership research and the diverse approaches which focus on various and in part contradictory aspects (see Bryman, 1996, for a review) there is no one consistent definition of leadership, which would also not be useful. According to Yukl (2010, p. 2), most definitions of leadership refer to the assumption of a process whereby one person intentionally influences other people in order to guide, structure and facilitate their activities, which are embedded in a team or an organization. Other definitions are broader in meaning. For example, Stogdill (1950) defined leadership as the process of influencing group activities in an effort to set and achieve goals. Similarly, Katz and Kahn (1966) defined leadership as “any act of influence on a matter of organizational relevance” (p. 334). Thus, all definitions have in common that leadership refers to processes of influence in organizations which are directed toward the manipulation of organizational behavior.

As the starting point of the DLT is to understand *who* or *what* exerts influence on follower’s attitudes and behaviors, existing leadership theories of leader-centered and shared leadership have to be extended by adding the dimension of structural leadership. Consequently, we define dispersed leadership in teams as a pattern of conjoint personal and situational influence of employees which is exerted by the leader, by team members, and by the organizational management. This is intended to guide, structure, and facilitate personal choice, stabilization, and modification of attitudes and behaviors in a working team. This definition of dispersed leadership emphasizes the principle of the organizational embeddedness of leaders’ behavior with reference to the organization and the team. Moreover, the team and the organization are distinct instances of leadership which refer to the major sources of influence within an organization, which possess or have access to leadership functions, and use relevant techniques to achieve goals within organizations. This leadership definition would also incorporate informal leaders, for example opinion leaders and informal leaders. This has been shown to affect the setting of team members’ goals (De Souza & Klein, 1995), the feedback to other group members (Pescosolido, 2001), and is strongly related to group efficacy (Pescosolido, 2001).

The model in Figure 1 shows the proposed relationships which will be developed in further detail in the paper. It assumes that leadership is exerted via leadership functions, which are single and self-contained functional constructs that influence peoples’ attitudes and behavior. As an illustrative but non-exhaustive enumeration, leadership functions for interactional leadership, for instance, include constructs such as leader-member exchange (Graen, Novak, & Sommerkamp, 1982; Graen & Uhl-Bien, 1995), participative goal-setting (Locke & Latham, 2006; Latham & Locke, 2007), coaching and mentoring (Darrow, Klein,

Levinson, & McKee, 1978)<sup>2</sup>. Note that leadership types are defined as latent formative constructs which are to be composed of relevant leadership functions (see Diamantopoulos & Winklhofer, 2001, for details). Leadership functions are manifested by specific leadership techniques which include a number of tools, methods and practices. For example, leadership techniques are a verbal instruction from the supervisor; the offer of financial gratifications if new business is acquired; information communicated by the company's management; direct support from colleagues; or the assignment of tasks among team members. Ultimately, the DLT proposes that techniques are expressed by actions, events, symbols, or information which are concrete and perceivable entities. They allow followers to have a sense of motivation in relation to the work which affects their psychological processes. The DLT assumes that the allocation of leadership functions to leadership types is distinct while the same techniques or specific activities may belong to several leadership functions and types.

### *Leadership Types*

In the following section, I describe the three leadership types in more detail. Characteristics of the leadership types are depicted in Table 1. We define interactional leadership as types of vertical, dyadic relationships in which a formalized leader or superior and a follower are directly influenced by each other. The type of influence is characterized as vertical with downward and upward as typically patterns of influence. Interactional leadership is personalized and occurs within a social situation. A majority of leadership theories and concepts have been advanced to examine interactional leadership and their relationships in regard to a variety of outcome variables (see Avolio, Walumbwa, & Weber, 2009, and Yukl, 2010, for reviews). Examples of concepts in which interactional leadership plays a central role represent leader member exchange, management by objectives, and mentoring.

As with interactional leadership, team leadership<sup>3</sup> is also a direct and social type of leadership. In contrast to interactional leadership, team leadership is conceived as horizontal and lateral which entails no clear-cut structure. An early approach to team leadership is the functional leadership theory (Hackman & Walton, 1986) which postulates that different techniques of leadership can simultaneously be effective in teams. More recently, Pearce and Conger (2003) conceived shared leadership as "a dynamic, interactive influence process among individuals in groups for which the objective is to lead one another to the achievement of group or organizational goals or both" (p. 1). This definition highlights that individuals demonstrate leadership by influencing other team members as well as providing direction, fostering motivation, and offering support (Carson, Tesluk, & Marrone, 2007). Previous research has shown shared leadership to be positively related to self-reported ratings of

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<sup>2</sup> In summarizing the literature on leadership processes within a team, Morgeson, Scott DeRue, and Karam (2010) recently proposed a taxonomy of fifteen team leadership functions, which may arise from sources inside and outside a team. Although it is beyond the scope of this article to show the relations to DLT, it can be used as a starting point for theorizing about their connections.

<sup>3</sup> To avoid misunderstandings, we conceive "team leadership" not simply as the leading of a team (e.g., Zaccaro, Rittman, & Marks, 2001), but as a type of leadership resulting from leadership functions being distributed across multiple team members.

effectiveness (Avolio, Jung, Murra, & Sivasubramaniam, 1996), and to be a positive predictor of team management in effectiveness in conventional teams (Ensley, Hmieleski, & Pearce, 2006; Pearce & Sims, 2002) and perceived effectiveness in virtual teams (Pearce, Yoo, & Alavi, 2004).

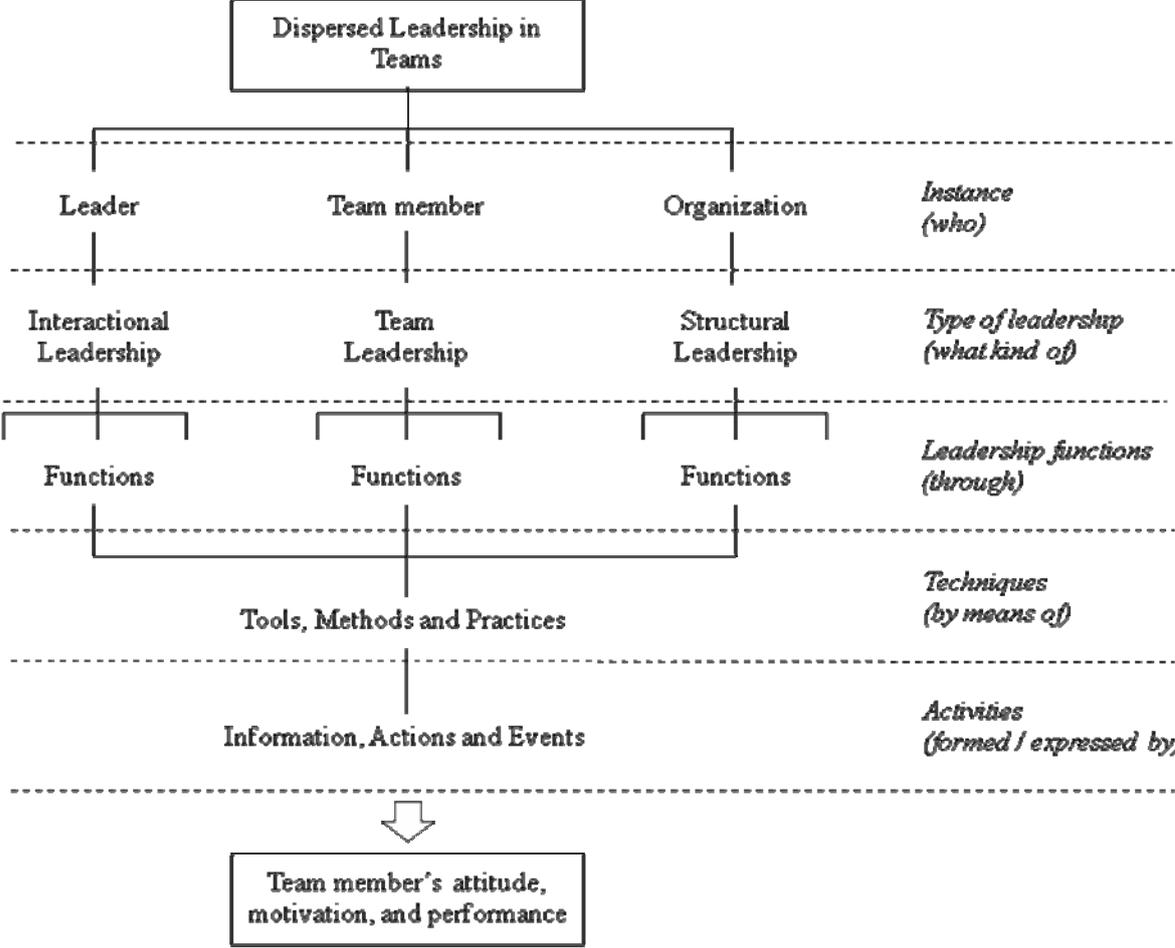


Figure 1. The Dispersed Leadership in Teams Model

Cox, Pearce, and Perry (2003) noted that shared leadership, in particular lateral leadership, is bounded to a sequence of conditions which moderate any relationship. The authors argue that team members must acknowledge the impact of lateral influence, must accept to provide and receive peer influence, and have to develop effective leadership skills. Moreover, the vertical leader has to encourage lateral peer influence by providing descriptions of peer leaders' behavior, expectations; evaluating performance and providing appropriate training resources. The development and display of shared leadership is thus related to interactional (vertical) leadership.

In this article, we define the third leadership type, structural leadership, as structural arrangements within the organization which are formed by rules, behavioral norms, incentives and organizational structures in which a follower acts. Structural leadership is

conceived as vertical, downward and indirect. Indirect means that the leadership techniques are rather general and typically do not address a single person or team. More precisely, structural leadership follows the principle of all-round distribution. Structural leadership includes a variety of characteristics that have been studied in several areas of human resource management, including personal marketing, personal assessment, personal responsibility, and performance management. Since structural leadership provides rules, possibilities, and boundaries for individual's organizational behavior, it affects the perceived task uncertainty, the degree of employee participation and organizational support. Moreover, structural leadership is related to organizational incentives, i.e. benefits and gratifications. Lawler (2000) points out that team-based pay systems tend to foster the exchange of information, highlight personal goals, might foster commitment to the team, and develop a stronger personal responsibility for work processes. Finally, a team-based pay structure might support the motivation of functional experts to share their skills and develop the expertise of the team or department (Lawler, 2000). More importantly, structural leadership could also alleviate the need for supervision and control.

Table 1: *Characteristics of the Three Leadership Types*

	Type of leadership		
	Interactional Leadership	Team Leadership	Structural Leadership
Exerted by	Leader	Team members	Team characteristics and organizational procedures
Type of influence	Vertical, downward, direct, social	Horizontal, lateral, direct, social	Vertical, downward, indirect
Provided by / Examples	Leader-member exchange Management by objectives (i.e. goal-setting, feedback) Coaching Mentoring	Team-member exchange Perceived team support Social support Team learning	Cultural factors (i.e., values, norms, symbols) Strategy factors (i.e., empowerment, principles of management, participation) Organizational factors (i.e., task structures, information policy, pay systems)
Related concepts and theories	Leadership style Full-Leadership model	Shared leadership	Situational leadership Leadership-substitute theory
Cycle time	Low	Low to intermediate	Intermediate to high

Another differentiating characteristic is the fact that leadership types have different cycle times. A cycle time is defined as the time to complete a sequence from the intention to display to the perception of a follower, to have an effect on his/her attitude and behavior and the perception of an actor. We assume that interactional leadership is typically represented in short-cycle periods with short acts. Team leadership, in contrast, is a more time-consuming cyclical process, and structural leadership is typically a long-cycle process.

#### *Assumptions of the Model*

There are several characteristics of the model which derive from this conception and deserve a closer look.

*Leadership as an emergent phenomenon.* The Dispersed Leadership Theory in Teams is based on the principle of “Conjoint agency” (Gronn, 2000) which is defined as “the concertive labor performed by pluralities of interdependent organization members”(p. 318). Both organizational management and operational personnel are considered as collaborators who share the responsibility of fulfilling a number of joint goals. Thus, dispersed leadership could be characterized as a fluid and emergent phenomenon (De Souza, & Klein, 1995; Hollander, 1961) which exists during task fulfillment and ends if the task is completed. In an exploratory study with geographic dispersed virtual teams, Yoo and Alavi (2004) examined emergent leadership which refers to how group members exert influence over other group members although they are not the formal leader. They found that concrete activities such as the use of e-mails were strongly correlated with emergent leadership whereas personal characteristics (e.g., age, job experience, and experience in the current position) do not affect emergent leadership.

The assumption of dispersed leadership as an emergent phenomenon also emphasizes the significance of processes and time (Marks, Mathieu, & Zaccaro, 2001). In respect to self-regulation theories, leadership can be conceived as consisting of episodes which unfold in cycles over time (cf. Ilgen, Hollenbeck, Johnson, & Jundt, 2005) resulting in a forerunning episode influencing the following one.

*Equifinality.* A second main characteristic of the theory, which derived from the fact that behavior is determined by multiple causes, is its equifinality. In the theory, different types of leadership are assumed to be alternatives that have functional equivalence and are able to influence team member’s attitudes, motivation and behavior in organizational settings (Merton, 1967; Giddens, 1979). Following the concept of functional equivalence by Merton (1967), structures are patterns of relationship between individuals that transform and modify information and physical objects. Structures can take on different physical forms, such as communication patterns, social arrangements, or standardized organizational practices. Depending on the organizational context in which structures are embedded, e.g., managerial and organizational preferences, different structures emerge. Gresov and Drazin (1997) stated that “equifinality occurs when, in a sample of organizations, different structural alternatives yield to the same functional effect” (p. 408).

Although equifinality has occasionally been applied to organizational research, including team mental models (Mathieu, Heffner, Goodwin, Cannon-Bowers, & Salas, 2005), entrepreneurship (Jennings & Hindle, 2004), and organizational design (Gresov & Drazin, 1997), research has been very limited. With regard to configurational theory, Fiss (2007) argues that this is due to a mismatch between theory and methods. He states that empirical research has largely drawn on methods that assume unifinality, while methods that are able to explore equifinality have been ignored. In his approach, he suggests set-theoretic methods, i.e. combinations of attributes and the use of Boolean algebra as a viable alternative for overcoming this mismatch. Apart from methodological considerations on how to measure equifinality, a notion of equifinality is that a variety of strategic approaches can achieve the same outcome and is a significant theoretical characteristic of the model, which has also been included in complementarity theory, complexity theory, and the resource-based theories.

*Absence of leadership.* A third main characteristic of the DLT pertains to the notion that, at the operational level, individual outcomes are determined by leadership techniques and activities. Here, if a leadership technique and relevant activities exist (i.e., they are perceived by an employee) it will effect a team member's motivation, resulting in affective and behavioral consequences. In this case, specific concrete leadership actions exist and its presence will be noticed. However, the opposite is not true. If a leadership technique does not exist, there might be two consequences: Firstly, it might not be perceived by the employee and thus will have no effect on the individual. Secondly, the non-existence of a leadership technique may also be perceived as not-present and be recognized as a missing presence. In this case, the nonexistent technique would lead to a non-presence or, in other words, a presence of absence which should have an impact on an individual's motivation and performance.

The effects of the absence of leadership or "weak leadership" (Shamir, 1999) has been addressed in several leadership concepts, including the full range of leadership model (FRLM) of Bass and Avolio (1994). Drawing on FRLM, meta-analytic results from Judge and Piccolo (2004) indicated that passive leadership types, like laissez-faire or management by exception (passive), held strong negative correlations with leaders' effectiveness and followers' motivation. Although the DLT is able to reveal the effects of missing leadership in organizational settings, it is unclear, under what conditions missing presence occurs and which processes are involved. Missing presence may take place regarding organizational aspects, i.e. reasonable congruence with other existing techniques or by means of completeness. Moreover, it can be assumed that task and individual variables might influence the strength of the relation.

*Relationships among leadership types.* Another issue which would merit closer consideration is the interplay between the three leadership types. According to the DLT, the relationships between the three leadership types can be represented by the type of relationships (i.e., additive, conjunctive, and disjunctive) and in type of effect or result (i.e., intensifying, reducing, and neutralizing).

*Distributiveness.* Besides the question of whether the total amount of leadership is of significance, another question or concern is what happens, if leadership (concentrates/focuses) on a single type of leadership and excludes other types. In this case we assume “isolated leadership”. Connaughton and Daly (2004) found that perceived isolation is negatively related to leader identification in proximate settings, but not in distant ones. One explanation is that employees in distant settings perceive isolation as a consequence of the work setting and do not blame the leader for their isolation. That means that different effects can be expected in distant compared to proximate settings.

*Content of leadership functions: Congruence and Incongruence.* Some techniques fit, others don't. Here, we have to distinguish between congruence within a leadership type (intra-leadership-type fit) and congruence between different leadership types (inter-leadership-type fit). Intra-leadership-type fit is a local form of congruence (e.g., the superior clearly communicates goals, gives feedback, and demonstrates helpful coaching techniques), while inter-leadership-type fit (e.g., the superior clearly communicates goals; team members promote a climate of psychological safety; and the management has an appropriate policy is a global one. The Dispersed Leadership Theory in Teams assumes that in the case of incongruence, inter-leadership-type fit may result in higher demands, and share risks such as conflicts. Ambiguity describes the degree to which followers perceive leadership techniques, from different sources, as missing or mismatched.

#### *Related Leadership Concepts and Theories*

Due to the widespread multiple and macroscopic approach of the DLT, a number of corresponding leadership theories and management conceptions are obviously related. In the following section, core concepts and theories of leadership research that are related to the DLT are presented.

As mentioned above, a key related theory is shared leadership (Pearce & Conger, 2003). Although shared leadership theory has contributed to the development of an awareness of leadership pluralism, and empirical evidence has been provided, we argue that relevant theories are insufficient with regard to structural leadership. To express it more reserved, our model can be viewed as a theoretical extension of shared leadership concepts.

Another concept which is conceptual close to the DLT is democratic leadership. Formally proposed by Lewin (1945), democratic leadership is a leadership style that is based on principles and processes of self-determination, sharing of responsibility and participation. Gastil (1994) argued that democratic leadership emphasizes aspects of ownership, learning, and sharing. Ownership means that tasks and issues become the responsibility of all concerned, with chances for members to share and participate. Secondly, there is an emphasis on learning and development that enables members to contribute to the task and understand the underlying processes. Finally, sharing arises due to a communication culture that is open, respectful and informed as well as the motivation to share resources. A meta-analytic integration of research revealed a small, although significant, tendency for groups that have democratic leadership to be more satisfied compared to groups that have

autocratic leadership (Foels et al., 2000). Since the concept of democratic leadership is conceptually ambiguous and operationally inconsistent (see Weibler, 2004a, for a critique), it has no clear definition and substantial concepts overlap with other concepts such as collegial, consensual and participative leadership. In describing the distinctiveness of the concept of shared leadership, Woods, Bennett, Harvey and Wise (2004) concluded that principles and characteristics of democratic leadership are similar to the concept of shared leadership, although the former is more comprehensive and has not been fully transposed to shared leadership.

Another theory proposed by Kerr and colleagues is the theory of leadership neutralizer (Kerr & Jermier, 1978), which distinguishes between substitutes and neutralizers and is related to DLT. Neutralizers are defined by “characteristics which make it effectively impossible for relationship and/or task oriented leadership to make a difference” (p. 395). Substitutes are denoted as “characteristics which render relationship and/or task-oriented leadership not only impossible but also unnecessary” (p. 395). This theory assumes that each characteristic can potentially affect the influence of a leader and thus might serve as neutralizers. However, not all characteristics can be considered as substitutes, which entirely replace the specific behavior of leaders. Previous research has found mixed empirical support (Podsakoff & MacKenzie, 1994; Podsakoff, Mackenzie, & Bommer, 1995). There is evidence to show that substitutes account for more criterion variance than leader behaviors alone (Podsakoff, MacKenzie & Fetter, 1993; Podsakoff, Niehoff, MacKenzie & Williams, 1993). Besides the proposed direct and moderating effects, the ‘substitutes for leadership theory’ has led our attention to direct the behavior of the leader as one factor among others.

Finally, in the field of management research, Prahalad and Hamel (1990) and Grant (1991) proposed the approach of resource-based management which focuses on the different organizational resources. The resource-based management approach considers the total resources that are available to a company that can be utilized to create a competitive advantage for the company. Resources might be physical, financial, human, technological, or organizational. The core idea of the resource-based approach to management is that organizations consist of resources and capabilities which have to be configured in order to have a competitive benefit. Although the resource-based approach to management is a useful model for macroscopic strategic management, it excludes predictions for micro personnel management and leadership. Nevertheless, we think that it is a framework in which our model might be incorporated.

### 3 Empirical Illustration of the Dispersed Leadership Theory in Teams

There is empirical evidence for DLT, derived from past research, regarding the impact of the three leadership types on individual and team level outcomes (Garbers & Konradt, 2011; Hoch, 2007; Hoch & Konradt, 2006; Konradt, Hoch, & Ellwart, 2007). However, the model which assumes a simultaneous influence of leadership types has only been examined recently.

The aim of an initial study by Hoch (2007) was to provide evidence for the factorial validity of the DLT. Moreover, criteria validity was examined using team cohesion and organizational commitment as criteria. Data was collected from managers and employees of 101 organizational teams. Based on theoretical considerations, a formative measurement approach (cf. Bollen & Lennox, 1991) was used to specify each leadership type. Accordingly, (a) the leadership types are defined by their indicators (e.g., information and resource management) rather than representing reflective and interchangeable indicators of a latent variable construct; (b) each indicator represents different aspects, and, as a result, is not freely interchangeable and thus need not to be highly related; and (c) the latent constructs, i.e. leadership types, are composed of their indicators. As the three leadership types are multidimensional, we specified a 'reflective first-order formative second-order model' (cf. Jarvis, MacKenzie, & Podsakoff, 2003) which represents the three leadership types as second-order constructs (i.e. structural leadership, interactional leadership and team leadership) which are measured by first-order reflective constructs. Partial least square analyses (Chin, 1998) at the team level demonstrated a good fit to the data and also show a better fit than alternative models. Moreover, as hypothesized, results indicate that the model predicts organizational commitment, while structural leadership and team leadership were good predictors of team cohesion.

To provide initial empirical evidence for the proposed causal effects of leadership types on team member's outcomes, we examined the basic assumptions of the DLT in a series of field-experimental studies (Hoch & Konradt, 2006; Konradt, Hoch, & Ellwart, 2007). The main assumption of the DLT that leadership techniques of structural, interactional and team-related categories have a simultaneously effect on team members' behavior was examined. Using a policy-capturing approach (see Karren & Barringer, 2002, for a review), text-based scenarios were created in which the conditions of task uncertainty (high vs. low), task content (build-up a new behavior vs. changing behavior) were systematically varied. To enhance the generalizability of the results, we also varied the work domains in which the scenarios occur (that is, market research, IT/operations, sale, and marketing). Employees were asked to make judgments regarding the extent to which six leadership techniques, which were related to the three leadership types, would influence their behavior as a team member. Consistent with hypotheses, hierarchical linear models analyses showed that in situations with high uncertainty and in which new behavior is expected to develop, leadership was more dispersed, compared to situations of low uncertainty and changing behavior. Job

tenure moderated these relations in such a way that the leadership of people with more professional experience was lesser dispersed and more focused compared to people with lower professional tenure.

In a second study by Hoch and Konradt (2006), the effect of dispersed leadership on task performance and job satisfaction was examined in two studies, which used experimental policy-capturing designs. It was hypothesized that structural leadership (e.g., reward systems, information management, and autonomy), interactional leadership (e.g., trust/fairness, coaching, and feedback) and team leadership (e.g., reciprocal support, and quality of member exchange) simultaneously affect individual attitude and behavior. In Study 1, the factor-levels of the independent variable activation were the type of leadership, whereas in Study 2 type of leadership and task uncertainty were manipulated. Job satisfaction and job performance were assessed as dependent variables. The results of the two studies support the assumption. Study 1 shows a positive effect of structural, interactional and team leadership on task performance and job satisfaction. Relationships were moderated by the personnel's extraversion, agreeableness and personal initiative. Study 2 replicated the main finding and demonstrated the external validity of the model by demonstrating that the need for all three leadership groups varied due to situational demands (i.e., task uncertainty) but was stable across different work contexts.

In the preceding studies, leadership types were conceived as formative constructs that are composed of indicators. However, as noted by Jarvis et al. (2003), and Howell, Breivik, and Wilcox (2007) constructs, in many ways, are not necessarily either reflective or formative in nature, but can be formatively or reflectively modeled. Thus, the aim of additional research was to develop a reflective measure of distributed leadership in teams. Garbers and Konradt (2011) developed a reflective measure of the three types of leadership and provided evidence for the 3-factor structure as well as hypothesized positive relations to shared leadership, team-member exchange and leader-member exchange, indicating nomological validity.

In sum, empirical data provide initial and encouraging construct and predictive validity of the basic assumptions proposed by the DLT. In the following section, several directions for future research are put forward within the frame of the theoretical model.

## 4 Agenda for Future Research

The Dispersed Leadership Theory in Teams which has been presented suggests some important conclusions about leadership in teams and some propositions for future research. Firstly, dispersed leadership is conceptualized as a "fluid pattern" which relies on a multiplicity of upward and downward processes and which unfolds over time. Based on the concept of emergent leadership by Hollander (1961), which refers to the selection of the leader by the members in a team, Pearce and Conger (2003) noted that the concept of shared leadership is related to the "serial emergence" of multiple leaders over time. While

this concept assumes that a leader, who is formally appointed or elected, in a team can be questioned, the dynamic change in leadership forces within a tenet of agents is problematic in respect to measurement.

George and Jones (2000) noted that although temporality is an essential feature of organizational behavior, it is seldom considered if not completely ignored, though it may significantly enhance our understanding of the nature and consequences of leadership. Hence, our first proposition for future research is to involve various types and patterns of leadership and to represent processes which unfold over time.

Secondly, similar to other leadership theories (cf. Yukl, 2010), dispersed leadership is not consistently defined. For example, Gronn (2002) considered multiple meanings, including low-road approaches, in which dispersedness is defined as only an additional influence spread among agents and includes high-road approaches considering a holistic view. In our view, dispersed should not be used for simple insight that influence is spread among organizational agents but should include the who's and how's of the leadership process. Hence, our second proposition for future research is to examine multiple and ambiguous definitions for distributed leadership and to develop definitional clarity and rigor.

Thirdly, what happens when leadership techniques are incompatible or conflicting? For example, Gresov and Drazin (1997) denotes a situation, in which an organization decides to adopt only a limited repertoire of structural options to cope with multiple and functional demands. In this case, the authors proposed that this constellation is always suboptimal. Incompatible or conflicting leadership techniques may result when the pursuing goals of leadership authorities are different, e.g., when governance and autonomy goals or excellence vs. equality goals are pursued at the same time. Although organizations made great efforts to converge and align relevant goals, we assume that multiple goals and goal variety is rather the rule than the exception. This leads us to proposition 3 that the antecedent conditions that lead to goal dilemmas and methods how dilemmas have to be treated by leadership should be examined.

Fourthly, although dispersed leadership is often described as a construct with an equal level of influence regarding each team member, it is neither realistic nor meaningful to assume that teams may exclusively regulate in a unified manner. Seibert, Sparrowe, and Liden (2003) developed a concept of group exchange structures reflecting different levels of influence among team members. Besides a unified structure, in which each member participated to an equal degree, Seibert et al. (2003) conceived more uneven structures which reflect structures which are distinguished as 'unified with isolates', 'polarized', 'multi coalition', and 'fragmented'. Applying this consideration to our theory, our fourth proposition for future research is to examine types and forms of structures in dispersed leadership.

The fifth suggestion pertains to the measurement of dispersed leadership. Currently, several ways of measuring distributed leadership have been proposed (see Carson, Tesluk, and Marrone, 2007, for an overview). Besides qualitative approaches to measure shared leadership, including sociograms and ethnographic methods, several quantitative survey-

based approaches have been developed (Conger & Pearce, 2003, p. 297f). Mayo, Meindl and Pastor (2003) used a method that measures the group as a social network; and view the topography of shared leadership as a network concept. They argue that the degree of shared leadership can be considered as the degree of team decentralization in leadership. Thus, the highest level of shared leadership will be realized if all members equally participate in leadership behaviors. This state reflects low centrality. Contrarily, low shared leadership is present in states of high centrality. Mayo et al. (2003) also argue that it is also important to consider the total amount of influence in the group. They conceive the total amount of leadership or influence perceived in a team as a measure of density. Based on the dimensions of centrality (low and high) and density (low and high), they construct four categories of shared and vertical leadership. Also, Mehra, Smith, Dixon, and Robertson (2006) used sociometric data to investigate the network structure of leadership perceptions. Thus, we propose that measures or indices have been constructed to determine the structures and processes in dispersed leadership.

Sixth suggestion, as levels of analysis are individual, dyadic, team-oriented, and organizational, the proposed model is multilevel. Structural leadership as a construct is conceived on a meso-based level which addresses the entire organization. Interactional and team leadership are conceived on a micro-based level. It is apparent that an appropriate method for validating the proposed model is multilevel research (e.g., Hitt, Beamish, Jackson, & Mathieu, 2007). As Ployhart (2004) pointed out, the strength of connections between levels may differ. Constructs of adjacent levels are more strongly related than levels which are further apart. This means that the relationship of level-3 variables, i.e. managerial HR-practices are farther from the focal level (i.e. the individual) than variables on a team-level (level-2 variables), and thus should have a weaker influence. In extending this consideration, the influence of customer or customer groups on increasing leadership (see Bowen, 1986; Maas & Graf, 2004) might be considered at level-4. In a similar vein, several scholars (e.g., Kozlowski & Klein, 2000; Ployhart, 2004) pointed out that variables on different levels are assumed to have different temporal characteristics. Processes on the individual level are typically much quicker and more changeable, while processes on an organizational level are slower and highly dependable. Hence, our sixth proposition for future research suggests the examination of leadership in multilevel-models which allow delineating the intra- and inter-level effects on individual's outcome measures and analyzing different strengths and dynamics.

Seventh, an interesting array of research would be to link external forms of dispersed leadership to individual self-regulation processes. Here, self-leadership theory (see Neck and Houghton, 2006, for a review) should be investigated which comprised of a set of individual self-management and motivational strategies to motivate oneself. As an example, Andressen (2007) recently examined alternative models of the relationship between self-leadership, transformational leadership and motivation. Results from structural equation modeling indicated that self-leadership is a process factor that self-leadership mediates the relationship between transformational leadership and employees' motivation. Hence, our

seventh proposition is that further efforts need to be made to demonstrate the tenets between external leadership and individual cognitive and behavioral processes.

## 5 Strength and Limitations

As with any concept, this theory, which has been presented, contains a number of limitations and strengths. According to Gronn (2000), the benefits of the concept of distributed leadership are that higher-level structures can be integrated into concepts of leadership which better reflect team-based working structures and allows the integration of tasks and personnel elements within a single framework. As put forward by Harris (2004), the concept of dispersed leadership may offer “the real possibility of looking at leadership through a new and alternative lens that challenges the tacit understanding of the relationship between leaders and followers” (p. 11). Moreover, the proposed theory simultaneously takes into account micro-based (i.e. personalized processes) and macro-based approaches of leadership (i.e., organizational processes which enables the interactions between these variables to be more extensively analyzed. In contrast, organizational processes are commonly used as moderators in dominant micro-based concepts of leadership. Secondly, we argue that the interrelationships between types of leaders, when using criterion measures, and the correlation between leadership techniques enables one to obtain a more accurate estimate of the unique strength of a leadership type with subordinate criterion variables, because it requires the controlling of other variables. Finally, the leadership model and findings contribute to expand our view of patterns of influence. In contrary to an emphasis on isolated events and leadership activities, this perspective helps to understand how different sources can be used. Managers’ leadership activities, members’ behaviors and the existing methods and structures of an organization could be better aligned and harmonized with the strategic goals of the organization.

Although the aspects and dimensions, on which we focus in this paper, may provide a fruitful ground for a more extensive consideration and theorizing in dispersed leadership, suggestions are not necessarily exhaustive. In this respect, a first limitation of the model is that while we address aspects of the instances or sources of leadership (who and what), we neglected other aspects within the scope of the leadership model, including the type of influence (enthusiasm vs. compliance), and the basis of influence (cognitive vs. emotional) (Yukl, 2010; p. 5). Furthermore and more generally, a second limitation is distinguishing between organizational factors pertaining to structural leadership and other organizational factors acting as moderators. Although categorizing a variable as a moderator or a predictor is entirely a matter of theory, one may argue that the model is blurred. Because we proposed a team-level model, effects of interactional leadership on performance processes and outputs are, by definition, influenced by the team leader. Team leaders do not only use structural leadership techniques, i.e. feedback and reward systems, and communicate in order to influence motivation and performance. They are also responsible for creating effective structures and to set up a supportive work environment. However, although seldom

investigated, middle-level executives and managers may not only influence organizational policies and strategies but also have an indirect effect on individual team members' behavior through transformational leadership. Future research should thus compare competing models that include direct effects, additional effects, and interactional effects. A final issue that deserves mention relates to dealing with causality. The model suggests direct causal influence on the outcomes for individuals in regard to team leader, organizational, and team leadership while a reverse influence which might switch the direction of the relationships or both relationships (i.e. reciprocal influence) might also be true. In its current form, the model should be validated on the basis of a direct effect; however, reverse and reciprocal effects also expected following input-mediator-output-input process models (Ilgen et al., 2005).

## 6 Concluding remarks

As teams in organizations are becoming more prevalent and are increasingly becoming cross-functional and dispersed, the influence of leadership, shown by a single leader, decreases and leadership is distributed among diverse organizational forces. We propagate that integrative leadership models are needed to describe the interplay between different sources, as well as explain and predict organizational behavior. The Dispersed Leadership Theory in Teams integrates interactional leadership carried out by leaders, team leadership exerted by team members, and structural leadership in a work and organizational context within a unified framework. This relies on a multiplicity of upward and downward processes which take place within the leadership process. By integrating micro and macro spheres of organizational behavior and organizational science, researchers are able to integrate parts of leadership research which have not yet been examined simultaneously. Consequently, it will enable researchers to study a much wider range of inputs and outputs in leadership research and delineate new routes of research. Preliminary empirical evidence regarding the basic assumptions of the theory may encourage opening up this line of research.

## References

- Avolio, B. J., Kahai, S., & Dodge, G. E. (2001). E-Leadership: Implications for theory, research, and practice. *The Leadership Quarterly, 11*, 615-670.
- Avolio, B. J., Jung, D., Murry, W., & Sivasubramaniam, N. (1996). Building highly developed teams: Focusing on shared leadership process, efficacy, trust, and performance. In D. A. Beyerlein, D. A. Johnson, & S. T. Beyerlein (Eds.), *Advances in interdisciplinary studies of work teams* (pp. 173-209). Greenwich, CT: JAI Press.
- Avolio, B. J., Walumbwa, F. O., & Weber, T. J. (2009). Leadership: Current theories, research, and future directions. *Annual Review of Psychology, 60*, 421-449.
- Bass, B. M., & Avolio, B. J. (1994). *Improving organizational effectiveness through transformational leadership*. Thousand Oaks, CA: Sage.
- Bollen, K. A., & Lennox, R. (1991). Conventional wisdom on measurement: A structural equation perspective. *Psychological Bulletin, 110*, 305-314.
- Bowen, D. E. (1986). Managing customers as human resources in service organizations. *Human Resource Management, 25*, 371-383.
- Bryman, A. (1996). Leadership in organizations. In S. A. Clegg, C. Hardy, & W. R. Nords (Eds.), *Handbook of organization studies* (pp. 276-292). London: Sage.
- Carson, J. B., Tesluk, P. E., & Marrone, J. A. (2007). Shared leadership in teams: An investigation of antecedent conditions and performance. *Academy of Management Journal, 50*, 1217-1234.
- Chin, W.W. (1998). The Partial Least Squares approach to Structural Equation Modeling. In G.A. Marcoulides (Ed.), *Modern methods for business research* (pp. 295-336). Mahwah: Lawrence Erlbaum.
- Connaughton, S. L., & Daly, J. A. (2004). Identification with leader. *Corporate Communication: An International Journal, 9*, 89-103.
- Cox, J. F., Pearce, C. L., & Perry, M. L. (2003). Toward a model of shared leadership and distributed influence in the innovation process: How shared leadership can enhance new product development team dynamics and effectiveness. In C. L. Pearce & J. A. Conger (Eds.), *Shared leadership: Reframing the hows and whys of leadership*. (pp. 48-76). Thousand Oaks, CA: Sage.
- Cramton, C. (2001). The mutual knowledge problem and its consequences for dispersed collaboration. *Organization Science, 12*, 346-371.
- Day, D. V., Gronn, P., & Salas, E. (2006). Leadership in team-based organizations: On the threshold of a new era. *The Leadership Quarterly, 17*, 211-216.
- DeChurch, L. A., Hiller, N. J., Murase, T., Doty, D., & Salas, E. (2010). Leadership across levels: Levels of leaders and their levels of impact. *The Leadership Quarterly, 21*, 1069-1085.
- De Souza, G., & Klein, H. (1995). Emergent leadership in the group goal-setting process. *Small Group Research, 26*, 475-495.

- 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*, 217-231.
- Fiss, P. C. (2007). A set-theoretic approach to organizational configurations. *Academy of Management Review*, *32*, 1180-1198.
- Fletcher, J. 2007. Leadership, power and positive relationships. In J. Dutton & B. R. Ragins (Eds.), *Exploring positive relationships at work: Building a theoretical and research foundation* (pp. 347-371). Mahwah, N.J.: Lawrence Erlbaum Publishers.
- Foels, R., Driskell, J. E., Mullen, B., & Salas, E. (2000). The effects of democratic leadership on group member satisfaction: An integration. *Small Group Research*, *31*, 676-701.
- Garbers, Y., & Konradt, U. (2011). [Development and validation of the Dispersed Leadership Inventory]. Unpublished raw data, University of Kiel.
- Gastil, J. (1994). A definition and illustration of democratic leadership. *Human Relations*, *47*, 953-975.
- George, J., & Jones, G. (2000). The role of time in theory and theory building. *Journal of Management*, *26*, 657-684.
- Gerstner, C. R., & Day, D. V. (1997). Meta-analytic review of leader-member exchange theory: Correlates and construct issues. *Journal of Applied Psychology*, *82*, 827-844.
- Gibson, C. B., & Cohen, S. G. (Eds.) (2003). *Virtual teams that work. Creating conditions for virtual team effectiveness*. San Francisco: Jossey-Bass.
- Giddens, A. (1979). *Central problems in social theory*. London: MacMillan.
- Graen, G. B., & Uhl-Bien, M. (1995). Relationship-based approach to leadership: Development of leader-member exchange (LMX) theory of leadership over 25 years: Applying a multi-level multi-domain perspective. *Leadership Quarterly*, *6*, 219-247.
- Grant, R. M. (1991). The resource-based theory of competitive advantage: Implications for strategy formulation. *California Management Review*, *33*, 114-135.
- Gresov, C., & Drazin, R. (1997). Equifinality: Functional equivalence in organization design. *Academy of Management Review*, *22*, 403-428.
- Gronn, S. (2000). Distributed properties: A new architecture for leadership. *Educational Management and Administration*, *28*, 317-338.
- Gronn, P. (2002). Distributed leadership as a level of analysis. *Leadership Quarterly*, *13*, 423-451.
- Hackman, J. R., & Walton, R. E. (1986). Leading groups in organizations. In P. S. Goodman (Ed.), *Designing effective work groups* (pp. 72-119). San Francisco: Jossey-Bass.
- Harris, A. (2004). Distributed leadership: Leading or misleading. *Educational Management and Administration*, *32*, 11-24.
- Hertel, G., Geister, S., & Konradt, U. (2005). Managing virtual teams: A review of current empirical research. *Human Resource Management Review*, *15*, 69-95.
- Hinds, P., & Kiesler, S. (2002). *Distributed work*. Cambridge, MA: MIT Press.

- Hitt, M. A., Beamish, P. W., Jackson, S. E., & Mathieu, J. (2007). Building theoretical and empirical bridges across levels: Multilevel research in management. *Academy of Management Journal*, *50*, 1385-1399.
- Hoch, J. E. (2007). *Verteilte Führung in virtuellen Teams*. [Distributed leadership in virtual teams, PhD thesis]. URL: <http://e-diss.uni-kiel.de/index.html>
- Hoch, J. E., & Konradt, U. (2006). [The conjoint effect of interactional leadership, team leadership, and structural leadership on team member's task performance and job satisfaction]. Unpublished raw data, University of Kiel.
- Hollander, E. P. (1961). Emergent leadership and social influence. In L. Petruccio & B. M. Bass (Eds.), *Leadership and interpersonal behavior* (pp. 30-47). New York: Holt, Rinehart, and Winston.
- House, R. J. (1995). Leadership in the twenty-first century. A spectacular inquiry. In A. Howard (Ed.), *The changing nature of work* (pp. 411-450). San Francisco: Jossey-Bass.
- Howell, R. D., Breivik, E., & Wilcox, J. B. (2007). Reconsidering formative measurement. *Psychological Methods*, *12*, 205-218.
- Ilgen, D. R., Hollenbeck, J. R., Johnson, M., & Jundt, D. (2005). Teams in organizations: From I-P-O models to IMO models. *Annual Review of Psychology*, *56*, 517-544.
- Jarvis, C. B., MacKenzie, S. B., & Podsakoff, P. M. (2003). A critical review of construct indicators and measurement model misspecifications in marketing and consumer research. *Journal of Consumer Research*, *30*, 199-218.
- Jennings, D. F., & Hindle, K. (2004). Corporate entrepreneurship and equifinality: An empirical analysis of strategy-structure-performance. *Best Papers from the Proceedings of the Academy of Management Conference*. New Orleans, LA: Academy of Management.
- Judge, T. A., & Piccolo, R. F. (2004). Transformational and transactional leadership: A meta-analytic test of their relative validity. *Journal of Applied Psychology*, *89*, 755-768.
- Kahai, S. S., Sosik, J. J., & Avolio, B. J. (2003). Effects of leadership style, anonymity, and rewards on creativity-relevant processes and outcomes in an electronic meeting system context. *The Leadership Quarterly*, *14*, 499-524.
- Karren, R. J., & Woodard Barringer, M. (2002). A review and analysis of the policy-capturing methodology in organizational research: Guidelines for research and practice. *Organizational Research Methods*, *5*, 337-361.
- Katz, D., & Kahn, R. L. (1966). *The social psychology of organizations*. New York: Wiley.
- Kerr, S., & Jermier, J. M. (1978). Substitutes for leadership; their meaning and measurement. *Organizational Behavior and Human Performance*, *22*, 375-403.
- Konradt, U., Hoch, J., & Ellwart, T. (2007). *Verteilte Führung in Gruppen - Eine Policy-Capturing Untersuchung* [Dispersed leadership in teams: A policy capturing study]. Unpublished manuscript, Institute of Psychology, University of Kiel, Germany.
- Kozlowski, S. W. J., Gully, S. M., Salas, E., & Cannon-Bowers, J. A. (1996). Team leadership and development: Theory, principles, and guidelines for training leaders and teams. In M. Beyerlein, D. Johnson, & S. Beyerlein (Eds.), *Advances in interdisciplinary studies of work teams: Team leadership* (Vol. 3, pp. 251-289). Greenwich, CT: JAI Press.

- Kozlowski, S. W. J., & Ilgen, D. R. (2006). Enhancing the effectiveness of work groups and teams. *Psychological Science in the Public Interest*, 7, 77-124.
- Kozlowski, S. W. J., & Klein, K. J. (2000). A multilevel approach to theory and research in organizations: Contextual, temporal, and emergent processes. In K. J. Klein & S. W. J. Kozlowski (Eds.), *Multilevel theory, research and methods in organizations: Foundations, extensions, and new directions* (pp. 3-90). San Francisco, CA: Jossey-Bass.
- Laschinger, H. K. S., Finegan, J. E., Shamian, J., & Wilk, P. (2004). A longitudinal analysis of the impact of workplace empowerment on work satisfaction. *Journal of Organizational Behavior*, 25, 527-545.
- Latham, G. P., & Ernst, C. T. (2006). Keys to motivating tomorrow's workforce. *Human Resource Management Review*, 16, 181-198.
- Lawler, E. E. (2000). Pay strategy: New thinking for the new millennium. *Compensation and Benefits Review*, 32, 7-12.
- Lewin, K. (1945). The research center for group dynamics at Massachusetts Institute of Technology. *Sociometry*, 8, 126-136.
- Maas, P., & Graf, A. (2004). Leadership by customers? New roles of service companies' customers. *German Journal of Human Resource Research*, 18, 329-345.
- Manz, C. C., & Sims, H. P. (1993). *Business without bosses: How self-managing teams are building high performance companies*. New York: Wiley.
- Marks, M. A., Mathieu, J. E., & Zaccaro, S. J. (2001). A temporally based framework and taxonomy of team processes. *Academy of Management Review*, 26, 356-376.
- Mathieu, J. E., Heffner, T. S., Goodwin, G. F., Cannon-Bowers, J. A., & Salas, E. (2005). Scaling the quality of teammates' mental models: Equifinality and normative comparisons. *Journal of Organizational Behavior*, 26, 37-56.
- Mathieu, J. E., Maynard, M. T., Rapp, T., & Gilson, L. (2008). Team effectiveness 1997-2007: A review of recent advancements and a glimpse into the future. *Journal of Management*, 34, 410-476.
- Mayo, M., Meindl, J. R., & Pastor, J. C. (2003). Shared leadership in work teams: A social network approach. In Pearce C. L. & Conger J. A. (Eds.), *Shared leadership: Reframing the hows and whys of leadership* (p. 193-214). Thousand Oaks, CA: Sage Publications.
- Mehra, A., Smith, B. R., Dixon, A. L., & Robertson, B. (2006). Distributed leadership in teams: The network of leadership perceptions and team performance. *Leadership Quarterly*, 17, 232-245.
- Merton, R. K. (1967). *On theoretical sociology*. New York: The Free Press.
- Morgeson, F. P., Scott DeRue, D., & Karam, E. P. (2010). Leadership in teams: A functional approach to understanding leadership structures and processes. *Journal of Management*, 36, 5-39.
- Neck, C. P., & Houghton, J. D. (2006). Two decades of self-leadership theory and research: Past developments, present trends, and future. *Journal of Managerial Psychology*, 21, 270-295.
- Orton, J. D., & Weick, K. E. (1990). Loosely coupled systems: A reconceptualization. *Academy of Management Review*, 15, 203-223.

- Pearce, C. L., & Conger, J. A. (Eds.) (2003). *Shared leadership: Reframing the how and whys of leadership*. Thousand Oaks, CA: Sage Publications.
- Pearce, C. L., & Sims Jr., H. P. (2002). Vertical versus shared leadership as predictors of the effectiveness of change management teams: An examination of aversive, directive, transactional, transformational and empowering leader behaviors. *Group Dynamics*, 6, 172-197.
- Pearce, C. L., Yoo, Y., & Alavi, M. 2004. Leadership, social work and virtual teams: The relative influence of vertical vs. shared leadership in the nonprofit sector. In R. E. Riggio & S. Smith-Orr (Eds.), *Improving leadership in nonprofit organizations* (pp. 180-203). San Francisco: Jossey-Bass.
- Pescosolido, A. T. (2001). Informal leaders and the development of group efficacy. *Small Group Research*, 32, 74-93.
- Ployhart, R. E. (2004). Organizational staffing: A multilevel review, synthesis, and model. In J. Martocchio (Ed.), *Research in Personnel and Human Resource Management (Vol. 23*, pp. 121-176). Oxford: Elsevier.
- Podsakoff, P. M., & MacKenzie, S. B. (1994). Organizational citizenship behaviors and sales unit effectiveness. *Journal of Marketing Research*, 3, 351-363.
- Podsakoff, P. M., MacKenzie, S. B., & Bommer, W. H. (1996). Transformational leader behaviors and substitutes for leadership as determinants of employee satisfaction, commitment, trust, and organizational citizenship behaviors. *Journal of Management*, 22, 259-298.
- Podsakoff, P. M., MacKenzie, S. B., & Fetter, R. (1993). Substitutes for leadership and the management of professionals. *Leadership Quarterly*, 4, 1-44.
- Prahalad, C. K., & Hamel, G. (1990). The core competence of the corporation. *Harvard Business Review*, May-June, 71-91.
- Rynes, S. L., & Bono, J. E. (2000). Psychological research on determinants of pay. In S. L. Rynes, & B. Gerhart (Eds.), *Compensation in organizations. Current research and practice* (pp. 3-31), San Francisco, CA: Jossey-Bass.
- Seibert, S., Sparrowe, R. T., & Liden, R. C. (2003). A group exchange structure approach to leadership in groups. In Pearce, C. & Conger, J. (Eds.), *Shared Leadership: Reframing the 'Hows' and 'Whys' of Leadership* (pp. 173-192). Newbury Park, CA: Sage.
- Shamir, B. (1999). Leadership in boundaryless organisations: Disposable or indispensable. *European Journal of Work and Organizational Psychology*, 8, 49-71.
- Sivasubramaniam, N., Murry, W. D., Avolio, B. J., & Jung, D. I. (2002). A longitudinal model of the effects of team leadership and group potency on group performance. *Group and Organization Management*, 27, 66-96.
- Stogdill, R. M. (1950). Leadership, membership and organization. *Psychological Bulletin*, 47, 1-14.
- Webster, J., & Staples, D. S. (2006). Comparing virtual teams to traditional teams: An identification of new research opportunities. *Research in Personnel and Human Resources Management*, 25, 181-215.
- Weibler, J. (2004a). Democratic leadership. In G. R. Goethals, G. Sorenson, & J. R. Burns (Eds.), *The encyclopedia of leadership* (pp. 331-338). Thousand Oaks, CA: Sage

- Weibler, J. (2004b). Leading at a distance. In G. R. Goethals, G. Sorenson, & J. R. Burns (Eds.), *The encyclopedia of leadership* (pp. 874-880). Thousand Oaks, CA: Sage.
- Weick, K. E. (1979). *The social psychology of organizing* (2. Ed.). Reading: MA: Addison-Wesley.
- Wiesenfeld, B. M., Raghuram, S., & Garud, R. (1999). Managers in a virtual context: The experience of self-treat and its effects on virtual work organizations. In C. L. Cooper & D. M. Rousseau (Eds.), *The virtual organization* (pp. 31-44). Chichester: Wiley.
- Woods, P. A., Bennett, N., Harvey, J. A., & Wise, C. (2004). Variabilities and dualities in distributed leadership. *Educational Management Administration & Leadership*, 32, 439-457.
- Yoo, Y., & Alavi, M. (2004). Emergent Leadership in virtual teams: What do emergent leaders do? *Information and Organization*, 14, 27-58.
- Yukl, G. (2010). *Leadership in organizations* (7. Ed.). London: Prentice Hall.
- Zacarro, S., Rittman, A., & Marks, M. (2001). Team leadership. *The Leadership Quarterly*, 12, 451-483.

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