

## Charisma and organizational change: A multilevel study of perceived charisma, commitment to change, and team performance

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### ABSTRACT

What makes people perceive a leader as charismatic, and how do team leaders obtain performance outcomes from their followers? We examine leaders in times of organizational change and investigate the mechanisms through which leaders' change-promoting behaviors are associated with team performance. In a multilevel mediation model, we propose that the indirect relationship between change-promoting behaviors and team performance is sequentially transmitted through followers' perceptions of charisma and followers' commitment to change. A study of 33 leaders and 142 followers provides empirical support for the model, using multilevel structural equation modeling to analyze top-down relationships between leaders and followers and bottom-up relationships between followers and team outcomes. Results suggest that team leaders are perceived as more charismatic when they engage in change-promoting behaviors. These behaviors facilitate team performance through individual followers' perceived charisma and commitment to change.

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### 1. Introduction

When Max Weber (1947) wrote about charismatic leaders, he envisioned men and women with exceptional, almost mystical, powers, who inspire their followers to support them ardently. Similarly, current researchers see charismatic leaders as set apart from ordinary people (Conger & Kanungo, 1988) and capable of fostering higher levels of employee and team performance in organizations (DeGroot, Kiker, & Cross, 2000). Although researchers have conducted a wide range of studies on charismatic leadership over the last half-century (for a review, see e.g., Walter & Bruch, 2009), several critical questions remain unanswered.

One of these questions is, *what* makes followers perceive leaders as being charismatic? Weber (1947; also see Bayer, 1999; House, 1999) thought that the momentum of crises and change partly encourages such perceptions. Other scholars suggested that charisma's glow comes from certain leadership behaviors (Conger & Kanungo, 1988) or that observers assign leaders those attributes (Galvin, Balkundi, & Waldman, 2010; Howell & Shamir, 2005). Yet, little research has combined those perspectives for an etiology of charisma (Walter & Bruch, 2009). We bring these different perspectives together and examine certain team leadership behaviors in times of change and their cross-level relationship with individual followers' perceptions of leader charisma (i.e., top-down relationship).

Considering that so many studies have found that charisma engenders increased collective efforts and higher team performance (DeGroot et al., 2000; Wu, Tsui, & Kinicki, 2010), another question is, *how* does that relationship occur? Specifically,

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we need a more nuanced understanding of how perceived charisma affects followers individually and then propels them to collectively achieve higher levels of team performance. In other words, the individual-level origins of team performance (i.e., bottom-up relationships) are not well understood (cf. Kozlowski & Klein, 2000).

In this study, we address those two questions theoretically and empirically in an integrated multilevel model of charisma. The model depicted in Fig. 1 suggests that in times of organizational change individual followers see change-promoting leaders as being more charismatic. Consequently, followers individually commit themselves to the focal change and this, in turn, increases their collective team performance. Commitment to change refers to “a mind-set that binds an individual to a course of action deemed necessary for the successful implementation of a change initiative” (Herscovitch & Meyer, 2002, p. 475). We field-tested this model in a company that was undergoing change. We assessed 33 team leaders and 142 subordinate team members, capturing team leaders' behaviors, team members' perceptions of team leaders' charisma, team members' individual commitment to change, and collective team performance during the change.

Notably, our model refers to *charisma perceptions*. We define charisma, as a construct, as “symbolic leader influence rooted in emotional and ideological foundations” (Antonakis, Fenley, & Liechti, 2011, p. 376). This definition implies that the leader's power is based on emotions and ideology but not on expert influence or reward as stressed in leadership styles of task-focused or transactional leadership (Antonakis & House, 2002; Antonakis et al., 2011). Vivid verbal and non-verbal communication tactics (e.g., metaphors, anecdotes, and body gestures) are typically viewed as means that leaders can use to arouse followers' emotions, inspire them, and initiate collective action around a vision (Antonakis et al., 2011; Den Hartog & Verbarg, 1997; Shamir, House, & Arthur, 1993). Followers validate a leader's charisma through their perceptions of whether the leader acts in ways that make the leader appear to be charismatic or non-charismatic (Antonakis et al., 2011; Conger, 1999; Keyes, 2002). Indeed, Conger and Kanungo (1987, 1988) stressed followers' perceptions as the ultimate determinant of leader influence, a position reiterated across the literature on charismatic leadership (e.g., Antonakis et al., 2011; Galvin et al., 2010; Howell & Shamir, 2005). Therefore, the consequences of charismatic leadership depend on the extent to which followers attribute charisma to the leader (Antonakis, 2012; Conger & Kanungo, 1987, 1988; House, 1999; Shamir, 1999; Yukl, 1999). Accordingly, research shows that *perceived charisma* relates to desirable outcomes such as cooperation among followers (De Cremer & van Knippenberg, 2002), helping behaviors (Den Hartog, De Hoogh, & Keegan, 2007), leader influence (Yorges, Weiss, & Strickland, 1999), and company stock prices (Tosi, Misangyi, Fanelli, Waldman, & Yammarino, 2004). Therefore, in this study, we focus on followers' charisma perceptions, rather than charismatic leadership behavior.

Our study contributes to the leadership literature in three particular ways. First, we provide an etiology of perceived charisma, identifying leadership behaviors that, in times of change, are associated with followers' perceptions of leaders' charisma. Second, we show that certain team leader behaviors engender collective team benefits through an individual-level mechanism comprising individual followers' perceptions of charisma and commitment to change. Our study is among the first to model and test the multilevel mechanisms of charisma in teams as depicted in Fig. 1, specifically looking at the top-down relationship between leaders and individual followers and the bottom-up relationship between individual followers and their teams. Bottom-up processes refer to organizational phenomena that have theoretical origins at lower levels and emergent properties at higher levels (Kozlowski & Klein, 2000). Third, our multilevel model contributes to “the dynamic interplay between the individuals within a team and the team as a whole” (Chen, Kirkman, Kanfer, Allen, & Rosen, 2007, p. 331). Our model is among the first to address both top-down and bottom-up relationships and thus to bridge micro and macro domains – arguably one of the biggest future challenges in management research (Aguinis, Boyd, Pierce, & Short, 2011; Mathieu & Chen, 2011).

## 2. Theoretical background

### 2.1. Leader's change-promoting behaviors and perceived leader charisma

What makes people perceive a leader as charismatic? In times of change, we suggest that perceptions of charisma depend on how extensively leaders demonstrate certain change-promoting behaviors, which we define as efforts to promote and support change effectively (cf. Herold, Fedor, Caldwell, & Liu, 2008). Those behaviors entail communicating with all affected by the

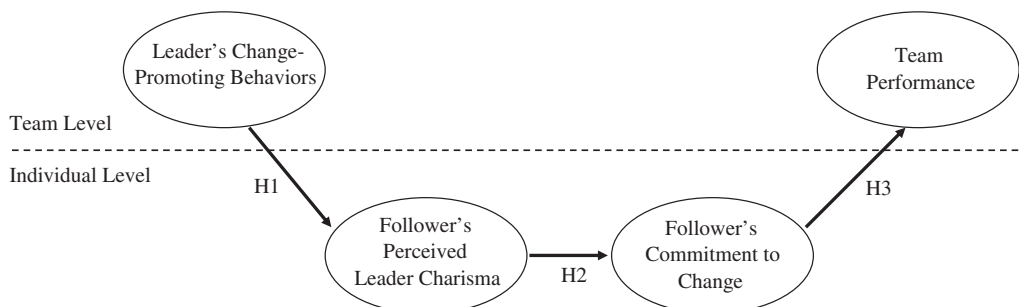


Fig. 1. A multilevel model of perceived leader charisma and team performance. Solid arrows indicate hypothesized paths.

change, making it clear that the change is really necessary, depicting the future, and removing obstacles that hinder accomplishing the communicated goals and vision (Kotter & Cohen, 2002). The literature on organizational change describes these change-promoting behaviors as targeting the collective that will undergo change (Herold et al., 2008).

Researchers since Weber (1947) have explained that change encourages perceptions of charisma (e.g., Bligh, Kohles, & Pillai, 2004; Hunt, Boal, & Dodge, 1999), with empirical evidence coming from studies on charisma and crises. Crises reflect dilemmas requiring decisions that invoke change (Pearson & Clair, 1998). For example, U.S. presidents who faced substantial external crises were attributed with higher behavioral charisma (House, Spangler, & Woycke, 1991). Similarly, experimentally induced crisis situations, compared with non-crisis situations, caused higher ratings of leader charisma (Pillai, 1996). Experimentally induced stress situations, compared with non-stress situations, also encouraged higher ratings of leader charisma (Halverson, Murphy, & Riggio, 2004). However, in another study, the more crises the teams experienced, the less team members rated their leader as charismatic (Pillai & Meindl, 1998). Similarly, a negative relationship occurred between perceptions of a crisis in California and ratings of charismatic leadership for then-governor Gray Davis (Bligh et al., 2004). Additionally, a crisis situation decreased ratings of leader charisma if participants experienced stress prior to the crisis manipulation (Halverson et al., 2004). We believe those mixed findings are partly because the studies failed to assess specific leader efforts to promote the changes caused by crises.

Leadership behaviors are important for the formation of charisma perceptions (Antonakis et al., 2011). Conger and Kanungo (1988) propose in their three-stage model that followers perceive leaders as being charismatic when they display the following behaviors. First, the leader evaluates the status quo in terms of resources, constraints, and employees' needs. Second, they formulate and communicate compelling goals for the collective. Third, the leader builds trust in these goals and demonstrates through exemplary actions how the goals can be accomplished. Followers then interpret those leader behaviors as expressions of charisma (Conger & Kanungo, 1988).

We suggest that the behaviors leaders engage in to promote change closely resemble the three types of behaviors prescribed in the Conger and Kanungo (1988) model. In particular, leaders' change-promoting behaviors have key elements that can enhance charisma, such as "inspiration through vision, empowerment through involvement, and being sensitive to followers' needs" (Herold et al., 2008, p. 348). Note that those behaviors are at a lower abstract level and focus on the particular change context (Kotter, 1996). For example, a leader promoting change makes it clear up front why the change is necessary and makes a case for the urgency of this particular change before implementation. Those two elements of change-promoting behavior are associated with the first type of behaviors in the Conger–Kanungo model. Moreover, change-promoting behaviors include describing what the team and work environment will look like after the change is completed and involving followers to increase their understanding and acceptance of the change, corresponding with the second and third behaviors in the model. Therefore, we expect that the change-promoting behaviors, which match behavioral attributes specified by Conger and Kanungo (1988), can increase perceptions of leader charisma.

Leaders' change-promoting behaviors often address teams as a whole and have therefore been conceptualized as a team-level variable (e.g., Herold et al., 2008), whereas charisma has been treated as both team-level (e.g., Wu et al., 2010) and individual-level variables (e.g., De Cremer & van Knippenberg, 2002; Hunt et al., 1999; Walumbwa, Avolio, & Zhu, 2008; Yorges et al., 1999). To change a follower's attitudes and behaviors, a leader's charisma (i.e., a team-level phenomenon) needs to be validated by individual followers' perceptions (cf. Antonakis et al., 2011). Our specific interest in how team-leadership behaviors in times of change influence individual perceptions of leader charisma led us to follow previous studies (e.g., Awamleh & Gardner, 1999; Puffer, 1990; Walumbwa et al., 2008) in conceptualizing charisma as an individual-level variable. Throughout this study, we use *perceived charisma* (or *perceptions of leader charisma*) to label the perceptual phenomenon of charisma. Thus, leaders' change-promoting behaviors and followers' perceptions of leader charisma reflect a top-down association between a group-level phenomenon and an individual-level variable (Mathieu & Chen, 2011; Mathieu & Taylor, 2007).

In sum, we suggest that in times of change followers perceive leaders as charismatic depending on how extensively leaders promote change. Hence, we suggest the following hypothesis:

**Hypothesis 1.** Leaders' change-promoting behaviors will be positively associated with followers' perceptions of leader charisma.

## 2.2. *Perceived charisma and followers' commitment to change*

We expect that followers who perceive leaders as charismatic will feel more committed to proposed changes. From a self-concept-based motivational perspective (Shamir et al., 1993), perceiving a leader as charismatic implies that followers have linked their self-concept to the mission articulated by the leader. Thereby, efforts and goals that are part of the leader's mission increase in meaning and intrinsic motivational valence (Awamleh & Gardner, 1999; Bono & Judge, 2003). As a result, followers are likely to identify with the change goals, thereby increasing their motivation and willingness to support the goal and commit to the change. Additionally, charisma perceptions cause followers to shift focus from self-interest to collective interest (Conger & Kanungo, 1987; De Cremer & van Knippenberg, 2002). Consequently, followers should be more willing to contribute to the benefit of the organization and commit themselves to proposed changes.

Previous research has supported the individual-level linkage between charisma perceptions and feelings of commitment. For example, leader charisma makes followers feel a stronger "bond or linking of the individual to the organization" (Mathieu & Zajac, 1990, p. 171). Commitment to change also results specifically from perceptions of transformational leadership (Herold et al., 2008; Michaelis, Stegmaier, & Sonntag, 2010), a leadership style that has charisma as a component (Lowe, Kroeck, & Sivasubramaniam, 1996). Therefore, we hypothesize:

**Hypothesis 2.** Followers' perceptions of leader charisma will be positively associated with their commitment to change.

### 2.3. Followers' commitment to change and team performance

We suggest that increased individual commitment to change relates to overall stronger team performance, or “the extent to which a team accomplishes its goals or mission” (Bell, 2007, p. 595). Team performance is an emergent construct that “originates in the behaviors of individuals, is amplified by their interactions, and manifests as a high-level, collective phenomenon” (Kozlowski & Klein, 2000, p. 55). Bottom-up relationships can be “prominent in instances where higher-level phenomena have yet to fully crystallize or form ...[such as] following a major organizational intervention” (Mathieu & Chen, 2011, p. 616). We believe organizational change provides situations where emergent, bottom-up relationships can occur.

Commitment at the individual level is likely to affect team performance at the collective level through two pathways (Chen & Kanfer, 2006). First, individual commitment increases individual performance, which in turn increases team performance. Specifically, individual goal striving – ongoing processes in which individuals regulate their cognitions, affect, and actions to accomplish goals – can enhance individual performance (Marks, Mathieu, & Zaccaro, 2001). An individual committed to change will strive toward change-related goals, which in turn enhances individual performance. Furthermore, as many employees improve their individual performance, the results will aggregate to affect team performance. In line with this argument, Chen (2005) found that newcomers who felt more empowered showed a higher job performance, and their performance enhanced subsequent team performance.

In the second pathway, individual commitment affects team performance through team motivation, such that individually felt commitment fuels team-level goal-striving processes (also called *team action processes*; Marks et al., 2001). Team-level goal striving involves “collective regulation of team activities during goal pursuit” (Chen & Kanfer, 2006, p. 232) such as coordination of tasks among team members, monitoring of goal progress, and supporting members who need assistance. Heightened levels of team goal striving should increase team performance levels. In sum, we expect that followers' commitment to change, through their individual efforts and interactions with each other, can increase individual performance and collective team motivation. Therefore, individual commitment to change is likely to be associated with overall team performance.

**Hypothesis 3.** Followers' commitment to change will be positively associated with team performance.

### 2.4. Multilevel mediation through perceived charisma and commitment to change

**Hypothesis 1** predicts a positive relationship of leaders' change-promoting behaviors with followers' perceived charisma, **Hypothesis 2** predicts a positive relationship of perceived charisma with commitment to change, and **Hypothesis 3** predicts a positive relationship of commitment to change with team performance. In joining those links, we examine what makes followers perceive leaders as charismatic in times of change, and connect perceptions of leader charisma to team performance. Specifically, we expect that leaders' change-promoting behaviors are associated with followers' perceptions of charisma, and that those perceptions and the resulting commitment to change sequentially mediate the relationship between a leader's change-promoting behaviors and team performance, as depicted in Fig. 1. Based on Krull and MacKinnon's (2001) typology, this model can be labeled as a 2–1–1–2 model in which the influence of an upper-level variable (i.e., leaders' change-promoting behaviors) on an upper-level criterion (i.e., team performance) is transmitted by a sequence of two lower-level variables (i.e., perceived leader charisma and follower commitment to change). Therefore, we suggest:

**Hypothesis 4.** Leaders' change-promoting behaviors will significantly and indirectly relate to team performance through (sequentially) followers' perceptions of leader charisma and commitment to change.

We address both top-down and bottom-up relationships among leaders, followers, and collective team outcomes. Existing studies addressing the mechanisms through which team leadership affects team outcomes have mainly focused on processes at the team level (e.g., Schaubroeck, Lam, & Cha, 2007; Wu et al., 2010). We respond to the neglect of the “role of lower-level phenomena in the emergence, change, or behavior of the units within which they are nested” (Bamberger, 2008, p. 841). Using team performance as an upper-level outcome variable, we take a unique multilevel approach that directly models bottom-up associations between individual followers' commitment to change and team performance. Examining such associations provides an effective tool for researchers to develop and test theories that directly link lower-level mechanisms and processes with upper-level outcomes (Kozlowski & Klein, 2000).

Although bottom-up relationships are theoretically meaningful (e.g., Chen, Thomas, & Wallace, 2005; Griffin, 1997; Liao & Chuang, 2004; Vandenburg, Richardson, & Eastman, 1999), available analytical methods have constrained statistical tests of such relationships (Croon & van Veldhoven, 2007; Lüdtke et al., 2008). Recent advances in multilevel latent variable modeling techniques have made such tests feasible (e.g., Croon & van Veldhoven, 2007; Muthén & Muthén, 1998–2010; Preacher, Zyphur, & Zhang, 2010). In particular, procedures have been proposed to predict group-level outcome variables from individual-level variables (Croon & van Veldhoven, 2007) and have been subsequently extended with a multilevel latent variable model (Lüdtke et al., 2008). Recently, Zhang, Waldman, and Wang (2012) used Lüdtke et al.'s (2008) analytical approach and found that informal leader emergence (i.e., a lower-level antecedent) positively influences team performance (i.e., an upper-level outcome). We follow those prior studies to examine individual team members' commitment to change as an individual-level origin of team performance and therefore contribute to “more inclusive, extensive, and coherent explanations of collective phenomena” (Kozlowski & Klein, 2000, p. 54).



### 3. Methods

#### 3.1. Sample and procedures

We collected survey data from a large German company that was undergoing a major crisis and a company-wide restructuring process that affected all employees throughout the organizational hierarchy. The change process started about a year and a half prior to data collection. During the change, the company cut the number of managing departments from seven to five, redefined the responsibilities of middle- and lower-level managers, and confronted employees throughout the organization with new technologies. Within this setting, the company allowed us to invite 45 team leaders and 300 team members to participate in a survey. The teams worked within diverse organizational functions including controlling, production, operations, and human resources. In all teams, leaders and followers interacted directly and frequently.

We sent emails to all leaders and followers describing the purpose and procedures of our research project and inviting them to participate in the web-based survey. Thirty-six leaders and 145 followers completed the survey, for a response rate of 80% and 48%, respectively. The company's anonymity rule required us to delete data for three teams that had single respondents. Our final sample included 33 leaders and 142 followers. Leader demographics included 79% male, 24% 40 years or younger, 39% between 41 and 50, 33% between 51 and 60, and 3% 61 or older. Follower demographics included 82% male, 1% between 20 and 30, 26% between 31 and 40, 35% between 41 and 50, 35% between 51 and 60, and 3% 61 or older. Teams ranged between two and ten members, with an average of four members per team.

#### 3.2. Measures

All measures were translated into German following Brislin's (1980) translation-back-translation procedure, except for perceived leader charisma, for which a German version already exists. Before data collection, we checked the clarity of all items using semi-structured interviews with four members of the top management team.

##### 3.2.1. Leader's change-promoting behaviors

We assessed leader's change-promoting behaviors with a measure developed by Herold et al. (2008). We asked leaders to rate how extensively they engaged in six listed behaviors<sup>1</sup> that shared a stem: "Related to the specific change being studied, I..." Sample items were "built a broad coalition up front to support the change," "made a case for the urgency of this change prior to implementation," and "carefully monitored and communicated progress of the change implementation." The six items were rated on a Likert-type scale from 1 (*I do not agree at all*) to 5 (*I completely agree*). The internal consistency coefficient was .85.

##### 3.2.2. Perceptions of leader charisma

We used the German version of the Multifactor Leadership Questionnaire (MLQ) Form 5X-Short (Bass & Avolio, 1995; Felfe, 2006) to capture how extensively team members, as followers, perceive the team leader as charismatic. Following prior studies (e.g., Antonakis et al., 2011), we assessed perceptions of leader charisma with three items from the idealized influence attributed scale, such as "My leader acts in ways that build my respect." Team members were asked to assess how often the statements applied to their leader on a scale from 1 (*never*) to 5 (*almost always*). The internal consistency was .84.

##### 3.2.3. Commitment to change

We used four items from Herscovitch and Meyer's (2002) measure of affective commitment to change. Team members rated how extensively they felt affectively committed to the change on a scale from 1 (*I do not agree at all*) to 7 (*I completely agree*). Sample items are "This change serves an important purpose," and "This change is a good strategy for this organization." The internal consistency was .88.

##### 3.2.4. Team performance

We used four items developed by Conger, Kanungo, and Menon (2000) to assess team performance. On a scale from 1 (*I do not agree at all*) to 5 (*I completely agree*), we asked the team leaders to rate whether the team, for example, "has a high work performance," and "accomplishes most of their tasks quickly and efficiently." The internal consistency was .86.

##### 3.2.5. Controls

We considered several control variables that might bias our findings. First, we assessed followers' age (1 = 20–30; 2 = 31–40; 3 = 41–50; 4 = 51–60; 5 = 61 and older), because age might influence team performance (Blanchard-Fields, Mienaltowski, & Seay, 2007; Sturman, 2003). We included followers' gender as a second control variable (0 = male, 1 = female), because previous

<sup>1</sup> The use of self-reports to assess leaders' change-promoting behaviors may introduce the concern of self-serving bias. Evidence shows, however, that such a bias is unlikely to have distorted our data. The variation of leaders' change-promoting behaviors ( $SD = .57$ ) compares favorably with the variation observed in other studies where leadership behaviors were assessed through followers. For instance, for transformational leadership behaviors assessed through followers, previous studies have reported standard deviations of .44 (Fu, Tsui, Liu, & Li, 2010) and .51 (Wu et al., 2010). In addition, even if a self-serving bias affected ratings of leaders' change-promoting behaviors, it would result only in a conservative test of our model. A self-serving bias would become apparent in all leaders rating themselves as high on the respective behaviors. As a result, the variation on the scale would be reduced, making significant results less likely. In sum, the use of self-reports for assessing leaders' change-promoting behaviors is unlikely to have affected our findings.

research showed gender to be associated with organizational commitment, a construct related to commitment to change (e.g., Marsden, Kalleberg, & Cook, 1993). Finally, we included team size as a control variable, given that larger teams have greater information-processing capabilities and thus perform better in turbulent environments (Haleblian & Finkelstein, 1993).

### 3.3. Analysis

We used multilevel structural equation modeling (MSEM) to accommodate the multilevel nature of our study and the need to model both top-down and bottom-up relationships (Preacher et al., 2010). The MSEM models decompose the variance of a variable into its latent within-unit component (within-team variance) and a latent between-unit component (between-team variance; Lüdtke et al., 2008; Muthén & Asparouhov, 2009). Relationships between these variance components can be modeled independently at each level through the specification of structural and measurement models. At the within level, variables can be defined as having random intercepts and random slopes – that is, intercepts and slopes that vary across teams. At the between level, these random intercepts are latent variables with members of each team as indicators. By decomposing variance into components at the between and within levels, MSEM avoids potential problems of conflated within- and between-level relationships and can estimate indirect relationships more precisely than can the traditional multilevel approach (Preacher et al., 2010; Zhang, Zyphur, & Preacher, 2009).

Hypotheses 1 through 4 suggest an indirect relationship model in which leaders' change-promoting behaviors and team performance are sequentially linked through followers' charisma perceptions and their commitment to change. Using MSEM, we could simultaneously estimate (a) the top-down relationship between leaders' change-promoting behaviors and followers' charisma perceptions, (b) the individual-level relationship between followers' charisma perception and their commitment to change (partitioned into its within-group and between-group components), and (c) the bottom-up relationship between followers' commitment to change and team performance. The indirect relationship between leaders' change-promoting behaviors and team performance linked through two lower-level mediators (Hypothesis 4) was quantified using the product-of-coefficients method; the confidence intervals for these indirect relationships are reported.

In particular, when testing the top-down relationship (i.e., 2–1 relationship), we examined the coefficient for the structural relationship between the level-2 predictor (leader's change-promoting behavior) and the latent group mean of the level-1 outcome (follower-perceived leader charisma). As noted by Zhang and colleagues (Preacher et al., 2010; Zhang et al., 2009), a level-2 variable's top-down relationship with a level-1 outcome is in fact a between-group relationship because the level-2 variable cannot predict within-group variances among individual team members.

When testing the bottom-up relationship (i.e., 1–2 relationship), as noted before, Croon and van Veldhoven's (2007) approach is a two-stage, step-wise method using limited information maximum likelihood estimation. In contrast, Lüdtke et al. (2008) extended that method by proposing a one-step, full information maximum likelihood approach, which is a more efficient way of testing the bottom-up relationship. We implemented Lüdtke et al.'s (2008) approach in MSEM, and the bottom-up relationship is represented by the coefficient of the structural relationship between the latent group mean of follower commitment to change and the latent level-2 outcome variable (team performance).

In testing the 2–1–1–2 mediation relationship, we followed the recommendations of Zhang et al. (2009) and examined the chain relationships among the latent variables and latent group means at the between-group level. Any mediation effect that starts with a level-2 predictor occurs only at the between-group level (Zhang et al., 2009), so a conflation of the between- and within-group coefficients in the 1–1 part of our model could lead to incorrect estimates of the mediation effect. Therefore, we calculated the chain mediation effect by multiplying the three path coefficients among the latent predictor, latent group means of the two mediators, and the latent outcome variable. We obtained the point estimate and the confidence intervals for this mediation effect based on unstandardized coefficients.

We conducted all analyses using Mplus 6.0 (Muthén & Muthén, 1998–2010) with robust maximum likelihood (MLR) estimation. Model fit was assessed by means of the root-mean-square error of approximation (RMSEA), the Tucker–Lewis Index (TLI), and the comparative fit index (CFI), based on Hu and Bentler's (1999) recommendations. To compare multilevel models, we

**Table 1**  
Descriptive statistics, reliability coefficients, and correlations.

Variable	Mean	s.d.	1	2	3	4	5	6
1. Leader's change-promoting behaviors	4.04	.57	(.85)					
2. Perceived leader charisma	3.68	.87	.24**	(.84)				
3. Commitment to change	5.78	.97	.24**	.30**	(.88)			
4. Team performance	4.04	.60	.28	.20*	.24**	(.86)		
5. Team size	4.30	1.69	.03	-.10	-.07	-.05	–	
6. Follower age	3.12	.88	-.01	.03	-.04	.00	-.12	–
7. Follower gender	.18	.39	-.15	.11	-.11	.07	-.01	.06

Note.  $N = 142$  followers working with 33 leaders; for correlations between follower-data and leader-data, leader values were disaggregated to each follower. Internal consistency reliabilities are on the diagonal in parentheses. Gender was dummy-coded (0 = male, 1 = female). Follower age was categorically measured (1 = 20–30 years; 2 = 31–40 years; 3 = 41–50 years; 4 = 51–60 years; 5  $\geq 61$ ).

\*  $p < .05$ .

\*\*  $p < .01$ .

used a scaled chi-square difference test (Satorra, 2000), because chi-square difference testing in the regular way cannot be applied to models using the MLR estimator (cf. Muthén & Muthén, 1998–2010). In our model, we specified random intercepts for the indicators of perceived charisma and commitment to change. We did not need to specify random slopes between these variables, because our model did not include cross-level interactions.

## 4. Results

### 4.1. Descriptive statistics

Table 1 shows the summary statistics, and correlations for all variables. Notably, the control variables (age, gender, and team size) were unrelated to the substantive variables in the model. Following Becker's (2005) recommendations, we dropped those control variables from subsequent analysis. Becker recommended excluding control variables that are uncorrelated with the dependent variable to avoid reduced statistical power and increased Type II error (i.e., erroneously concluding that no relationship exists between the substantive variables and the dependent variable).

### 4.2. Discriminant validity of the constructs

We conducted a series of confirmatory factor analyses to examine the distinctiveness of the constructs. For leader-rated variables (leaders' change-promoting behaviors and team performance), we compared the fit of a single-factor model to the hypothesized two-factor model. To ensure a favorable indicator-to-sample-size ratio (cf. Chen et al., 2007), we used three randomly created parcels as indicators for leaders' change-promoting behaviors. Item parcels produce more reliable latent variables than do individual items (Little, Cunningham, Shahar, & Widaman, 2002) and are useful when many items measure one construct. Our measure of team performance had four items; thus, we used the original four items as indicators. Results indicated that the hypothesized two-factor model fit the data well ( $\chi^2(13) = 7.09$ ,  $N = 33$ , CFI = 1.00, TLI = 1.00, RMSEA = .00) and significantly better than the single-factor model did ( $\Delta\chi^2(1) = 30.25$ ,  $N = 33$ ,  $p < .01$ , CFI = .73, TLI = .60, RMSEA = .23).

Similarly, discriminant validity of follower-rated variables (perceived charisma and commitment to change) was assessed by comparing a single-factor model with the hypothesized two-factor model. For perceived charisma, we used the original three items as indicators, and for commitment to change two randomly created parcels. The hypothesized two-factor model fit the data well ( $\chi^2(4) = 1.17$ ,  $N = 142$ , CFI = .100, TLI = 1.00, RMSEA = .00). An alternative model in which perceived charisma and commitment to change indicators were loaded onto a single factor fit the data significantly worse ( $\Delta\chi^2(1) = 170.14$ ,  $p < .01$ ,  $N = 142$ , CFI = .57, TLI = .13, RMSEA = .48). Hence, results indicate that our measures captured distinct constructs.

### 4.3. Hypothesis testing

Using multilevel confirmatory factor analysis, we first tested a measurement model for the two substantive variables that had within and between variance (i.e., perceived charisma and commitment to change). Again, we used randomly created parcels as indicators for the two latent factors. At the between level, random intercepts of within-level indicators served as between-group indicators for perceived charisma and commitment to change (Lüdtke et al., 2008; Muthén & Asparouhov, 2009). The two variables at each level were allowed to freely co-vary with each other. This model fit the data well ( $\chi^2(13) = 8.61$ ,  $p = .48$ , CFI = 1.00, TLI = 1.00,

**Table 2**  
Tests of direct and indirect relationships (Hypotheses 1–4).

Path	Estimate	s.e.	Lower and upper 95% CI limits
<i>Test of direct relationships</i>			
Top-down direct path (2–1; Hypothesis 1)			
Leader's change-promoting behaviors → perceived charisma	.36**	.12	(.12, .59)
Direct path (1–1; Hypothesis 2)			
Perceived charisma → commitment to change			
Within-level relationship	.36*	.18	(.004, .72)
Between-level relationship	.77*	.41	(.09, 1.45) <sup>a</sup>
Bottom-up direct path (1–2; Hypothesis 3)			
Commitment to change → team performance	.74*	.37	(.02, 1.46)
<i>Test of indirect relationships</i>			
Complete indirect paths model (2–1–1–2; Hypothesis 4)			
Leader's change-promoting behaviors → perceived charisma → commitment to change → team performance	.20*	.09	(.03, .37)

Note. For direct relationships (upper panel) and indirect relationships (lower panel), unstandardized estimates are reported. 1 = level-1 variable; 2 = level-2 variable; CI = confidence interval.

<sup>a</sup> This CI is 90% to correspond to an one-tailed,  $\alpha = .05$  hypothesis test, which is appropriate for directional hypotheses. The standardized estimate is .76 (s.e. = .26) and its 95% CI is (.26, 1.26).

\*  $p < .05$ .

\*\*  $p < .01$ .

RMSEA = .00). In addition, all factor loadings at between-team (mean estimated standardized loading = .99) and within-team (mean estimated standardized loading = .81) levels were significant ( $ps < .01$ ). Next, variables with only between-group variance (leaders' change-promoting behaviors and team performance) were added to the between-level model and the structural model was specified. Leaders' change-promoting behaviors and team performance were modeled as latent factors with three and two randomly created parcels as indicators, respectively.

The multilevel structural model, in which leaders' change-promoting behaviors and team performance are associated through followers' perceptions of charisma and their commitment to change, showed a good fit ( $\chi^2(41) = 47.47, p = .23, CFI = .99, TLI = .99, RMSEA = .03$ ). All factor loadings in between-team and within-team measurement models were significant ( $ps < .01$ ). Next we inspected the results of all direct and indirect relationships in our structural model; shown in Table 2. First, leader's change-promoting behavior was positively associated with followers' charisma perceptions, as indicated by a significant unstandardized structural coefficient ( $\beta = .36, p < .01$ ). This finding supports Hypothesis 1. Charisma perceptions were significantly related to commitment to change at both the within-level of analysis ( $\beta = .36, p < .05$ ) and at the between-level of analysis ( $\beta = .77, p < .05$ , one-tailed), supporting Hypothesis 2. Individual followers' commitment to change was positively related to team performance, as indicated by a significant unstandardized structural coefficient ( $\beta = .74, p < .05$ ). This result supports Hypothesis 3.

Moreover, leaders' change-promoting behaviors had a positive and statistically significant indirect relationship with team performance, through the chain of followers' perceptions of charisma and their commitment to change (unstandardized estimate of the product of coefficients = .20,  $p < .05$ , 95% CI = .03, .37), thus supporting the mediation that Hypothesis 4 suggested. To further examine full versus partial mediation, we tested an alternative model with a direct path from leader's change-promoting behaviors to team performance (cf. Hom et al., 2009). The extra pathway was statistically nonsignificant and did not improve model fit ( $\chi^2(40) = 49.76, p = .14, CFI = .99, TLI = .98, RMSEA = .04$ ) as indicated by a nonsignificant scaled chi-square difference test ( $\Delta\chi^2_{\text{scaled}}(1) = 0.09, p = \text{n.s.}$ ). This provides evidence for a full mediation as Hypothesis 4 suggested.

## 5. Discussion

In this study, we investigate whether specific leadership behaviors explain why followers view some leaders as charismatic in times of change. In addition, we investigate the multilevel mechanisms through which team leader's behaviors are associated with team performance. We find support for the hypothesized model depicted in Fig. 1. Specifically, leader's change-promoting behaviors are positively associated with followers' perceptions that the leader has charisma. A follower's perception of leader charisma is positively related to his or her commitment to change that, in turn, is positively associated with team performance. Additionally, the association between leaders' change-promoting behaviors and team performance occurs because followers individually perceive their leaders as charismatic and thus become more committed to change.

### 5.1. Theoretical implications

Our study makes several important contributions to the leadership literature. First, we combine varying theoretical perspectives for an etiology of perceived leader charisma (Conger & Kanungo, 1987; Weber, 1947). We identify that leadership behaviors that promote change are associated with an individual follower's perceptions of leader charisma in times of organizational change. This insight fills an important gap in the leadership literature (Walter & Bruch, 2009) and contributes to the quest for determinants of the elusive quality that has been called *charisma* since Max Weber's time. In addition, our study explains why perceived leader charisma is associated with better performing teams (cf. DeGroot et al., 2000), by identifying individual commitment to change as an intervening mechanism. We show that charisma functions through a complex assortment of associations between the leader, individual followers, and the team as a whole. Our multilevel model thus emphasizes and empirically supports both the top-down associations between the leader and individual followers, and the bottom-up associations between individual followers and collective team performance (cf. Chen & Kanfer, 2006).

This study also contributes importantly to understanding the dynamic relationship between individual team members and the team as a whole (cf. Kark & Shamir, 2002; Wang & Howell, 2010; Wang & Howell, 2012), which is likely to be greatly valuable for future studies seeking to address the relationships between individuals (or other lower-level units) and collectives (higher-level units; Aguinis et al., 2011; Bamberger, 2008; Chen et al., 2007; Mathieu & Chen, 2011). Specifically, we examine not only how group-level variables are associated with individuals' functioning in teams (top-down associations) but also how individual-level variables are associated with group-level outcomes (bottom-up associations). The very few studies that considered such bottom-up relationships (e.g., Chen et al., 2005; Griffin, 1997; Liao & Chuang, 2004; Vandenburg et al., 1999) were severely constrained by available analytical methods (Croon & van Veldhoven, 2007). We are aware of only one study (Zhang et al., 2012) that used recent methodological developments in modeling bottom-up relationships. Taken together, results of that prior study and our study show that informal leader emergence (Zhang et al., 2012) and commitment to change are positively associated with team performance.

We drew from recent developments in modeling bottom-up relationships (Croon & van Veldhoven, 2007; Lüdtke et al., 2008; Preacher et al., 2010) to answer calls "to generate and test bottom-up theories that truly break paradigmatic boundaries" (Bamberger, 2008, p. 842). Notably, our findings are consistent with available theories on bottom-up relationships. Chen and Kanfer's (2006) integrative model of individual and team motivation suggests that discretionary and ambient stimuli synergistically shape both team and individual motivation, which in turn synergistically affect team performance. This model is in line with our observation that an ambient stimulus (i.e., a team leader's change promoting behavior) is associated with team members' individual commitment to



change (through perceived charisma) and that individual team members' commitment to change is associated with team performance.

Our research has several connections with other scholarly areas such as the literature on organizational change. Researchers have paid significant attention to how leaders manage and involve their followers during change (e.g., Battilana, Gilmartin, Sengul, Pache, & Alexander, 2010; Carter, Armenakis, Feild, & Mossholder, in press; Kotter, 1996; Kotter & Cohen, 2002; Lind & Tyler, 1988), and have found that leadership behavior strongly drives employees' reactions to change (e.g., Beer, 1980; Herold et al., 2008; Lind & Tyler, 1988). Somewhat surprisingly, those studies have neglected our focus on an interesting interconnection between leaders' behaviors during change, perceptions of charisma, and performance. Also, our research should interest researchers investigating groups and teams, because we essentially examine two team-level phenomena that are linked through an individual-level mechanism. Team researchers have been urged to “consider both *top-down effects* of team characteristics and processes on individual cognition and behavior as well as *bottom-up effects* of individual cognition and behavior on team processes” (Chen & Kanfer, 2006, p. 225) to better understand, “the dynamic interplay between the individuals within a team and the team as a whole” (Chen et al., 2007, p. 331). Our study suggests that such research endeavors are possible and, indeed, worthwhile.

### 5.2. Directions for research and practice

The current study provides fruitful avenues for future research, which could investigate other multilevel mediation designs such as 2–1–2 or 1–1–2–2 models (see Preacher et al., 2010). Our 2–1–1–2 model provides an encouraging step in treating upper-level variables as outcomes within the framework of multilevel structural equation modeling. It is open for including additional paths and levels. For example, future studies may investigate not only individual processes within teams, but also individual processes within teams within organizations. Such studies would introduce organizations as a third level of analysis, in addition to the teams and individuals nested within organizations (cf. Menges, Walter, Vogel, & Bruch, 2011). Although complex, such studies would offer further valuable insights into the dynamic interplay between levels within organizations.

Additionally, future studies could further explore the interplay between change or crises and perceptions of charisma. The mixed findings on how crises and charisma are related highlight the need to address potential moderators of the relationship, such as crises attributions. If followers attribute crises to poor leadership, then crises should be negatively related to perceived charisma. In contrast, if followers believe that the leader is not responsible for the crisis, and the leader demonstrates strong conviction and confidence in overcoming the challenge, then crisis should be positively related to charisma. Although we cannot test the former case, our results are in line with the latter case. In our specific study context, upper-level decision makers, not team leaders, introduced the change. Therefore, team leaders could not be blamed for causing the crisis. Our results show that when followers believe that the leader is not responsible for the crisis, and the leader demonstrates behaviors to confront the challenge, then crisis or change is positively associated with perceived charisma.

Moreover, our study offers several practical implications. Most important, leaders who fail to display behaviors that support change will fail to be seen as charismatic and therefore potentially will achieve lower team performance. Organizations facing changes should therefore ensure that leaders are well-trained in change-promoting behaviors (Kotter, 1996), ideally before the change occurs. Furthermore, organizations should provide opportunity for leaders to display those behaviors, especially in ways that followers may observe. Even in calm and stable periods, organizations wishing to benefit from charismatic leadership during future change should seek to recruit and retain leaders who are able to engage in charismatic leadership and change-promoting behaviors.

### 5.3. Strengths and limitations

Among the methodological strengths of this study are data from two sources and the use of multilevel structural equation modeling. However, some limitations deserve discussion. First, the cross-sectional nature of the design prevents statements about causal directions. Although the directions of relationships assumed in our model are theoretically derived, teams could also impact team leadership; that is, team leadership could also be an outcome variable rather than an input variable (cf. Ilgen, Hollenbeck, Johnson, & Jundt, 2005). For example, teams' network structure can result in higher perceived charisma on the part of the formal leaders (Balkundi, Kilduff, & Harrison, 2011). Due to our cross-sectional design we are unable to conclude on causal directions. Therefore, we encourage future research to address the important issue of causality through (quasi-) experimental or longitudinal study designs.

Second, common method bias may have inflated the observed relationships, which we tried to minimize by following recommendations from Podsakoff, MacKenzie, Lee, and Podsakoff (2003). First, we assured participants that their answers were anonymous and were neither right nor wrong. We also encouraged them to respond as honestly as possible. Second, we collected data from two different sources (i.e., leaders and followers), further minimizing common method bias concerns. Nevertheless, common method bias may have affected variables collected from leaders (i.e., leaders' change promoting behaviors and team performance) and variables collected from followers (i.e., perceived leader charisma and commitment to change). However, factor analytical results revealed that the hypothesized two-factor model for leader data fit the data better than a single-factor model. We found a similar pattern of factor analytical results for follower data. If common method variance were substantial, a single-factor model would fit the data better than the hypothesized two-factor model. Although common method variance is unlikely to be a major concern in this study, future studies could use multiple measurement points in time and other assessment methods in addition to self-reports, such as objective performance data (cf. Podsakoff et al., 2003).

As a third limitation, we gathered our data from a specific cultural and industrial setting, a German railway company, which introduces the question of whether the results can be generalized to other populations. Although researchers have found positive relationships between charisma and desirable outcomes in Western (e.g., team performance; Zhang & Peterson, 2011) and non-Western cultures (e.g., creativity; Shin & Zhou, 2003), some attributes of charisma are not universally recognized (Den Hartog et al., 1999). Thus, the results could unfold differently if the study were conducted in a different culture. Therefore, we encourage researchers to replicate and extend our findings. Finally, the low follower response rate may be a potential concern although our follower response rate of 48% compares favorably with those reported in prior studies (e.g., Jung, Yammarino, & Lee, 2009; Rodell & Colquitt, 2009).

#### 5.4. Conclusion

Leaders play an important role in successfully managing organizational change. At the same time, organizational change gives leaders an opportunity to demonstrate behaviors that followers may perceive as charisma. Our study shows that in times of change, change-promoting leadership behaviors are positively related to followers' perceptions of leader charisma which, in turn, can have performance consequences. We now return to the two questions we posed earlier. What makes followers perceive that leaders are charismatic? How does perceived charisma boost team performance? First, followers perceive leaders as charismatic when the leaders engage in change-promoting behaviors. Second, followers' perceptions of charisma are related to team performance through followers' commitment to change. Hence our study contributes an etiology of perceived charisma in times of planned organizational change and an understanding of how top-down and bottom-up relationships combine to shape team outcomes. We hope this new knowledge will help future leadership scholars better address the inherent complexities of the enchanting powers of those leaders that Max Weber called *charismatic*.

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