The Leadership Quarterly 22 (2011) 383–398

Contents lists available at ScienceDirect

The Leadership Quarterly

journal homepage: www.elsevier.com/locate/leaqua

Linking leader behavior and leadership consensus to team performance: Integrating direct consensus and dispersion models of group composition

Michael S. Cole [a,*], Arthur G. Bedeian [b], Heike Bruch [c]

[a] Texas Christian University, M. J. Neeley School of Business, Department of Management, Fort Worth, TX 76109, United States
[b] Louisiana State University, LA, United States
[c] University of St. Gallen, Switzerland

ARTICLE INFO

Available online 15 March 2011

Keywords:
Transformational and contingent-reward leadership
Dispersion model of leadership
Consensus constructs
Team performance
Team empowerment

ABSTRACT

We sought to establish whether mean level within-team assessments of a leader's transformational behavior and the extent of perceived variability (i.e., consensus) among team members' ratings around this mean level are separate yet related indicators of leader quality. To this end, using data from 108 work teams in a multinational field setting, we explored the relationship between managers' transformational leadership behavior and team performance as moderated by the extent of variability among team members' leadership behavior ratings. Recognizing that the relationship between leader behavior and team performance is indirect, we further examined whether team empowerment served as a mediating mechanism through which transformational leadership is evoked. Study results, based on ordinary least squares (OLS) regression analyses and bootstrapped estimates, were consistent with the hypothesized conceptual scheme of moderated mediation, in that the joint effects of transformational leadership behavior and consensus about transformational leadership were found to have an indirect effect on team performance through team empowerment. These findings broaden the focus of transformational leadership theory by illustrating that, within a team context, the transformational leadership–performance linkage is more nuanced than previously believed.

In an effort to understand the antecedents of job performance, leadership research has traditionally emphasized the relationship between managers and subordinates as *individuals* (Day, Gronn, & Salas 2004). With the widespread shift to team-based organizations, however, there is mounting evidence that a manager's leadership behavior in supervising subordinates *as a group* influences the performance in and of teams (Kozlowski & Ilgen 2006; Mathieu, Maynard, Rapp, & Gilson 2008). Recognizing this shift in emphasis, Chen, Kirkman, Kanfer, Allen, and Rosen (2007), among others, have observed that a focus on group methods of leadership raises a series of yet unanswered questions. For example, what compromises may occur when managing both individuals and teams as a whole? Do efforts to lead and motivate teams affect individual leader–follower interactions, and what are the likely consequences for one-on-one relationships between team members? Are the behaviors necessary for building and leading high performing teams the same as for motivating performance at the individual level? Such questions have prompted leadership researchers (e.g., Chen & Kanfer 2006) to explore the interplay between simultaneously managing team members as individuals and as a group *in toto*.

Illustrative of these researchers' efforts are studies investigating leadership behavior as a group-level phenomenon. Bass, Avolio, Jung, and Berson (2003), for instance, were interested in examining how leader behaviors directed at teams as a whole relate to unit performance. In doing so, they relied on a *direct consensus model of composition* (Chan 1998). Consistent with the direct consensus model, individual and team effects are partitioned using group mean scores to measure the *absolute level* of a

* Corresponding author. Tel.: +1 817 257 6796.
E-mail address: m.s.cole@tcu.edu (M.S. Cole).

1048-9843/$ – see front matter © 2011 Elsevier Inc. All rights reserved.
doi:10.1016/j.leaqua.2011.02.012

leader's behavior. Tests of within-group agreement (e.g., r_{wg}; James, Demaree, & Wolf 1984) are typically then computed to determine whether creating aggregate scores from individual level data is empirically justifiable; unexplained variance is regarded as noise or measurement error (Kozlowski & Klein 2000).

In contrast to this view, it has been increasingly argued that unexplained variance among team members' assessments may convey relevant unit-level information rather than simply reflect error variance (Chan 1998; Harrison & Klein 2007). Exploring this possibility, leadership researchers have recently considered what are termed *dispersion models of group composition*. In a dispersion composition model, within-group variance (or, alternatively, within-group agreement or consensus) is treated as a meaningful higher level construct rather than a statistical prerequisite for aggregation (Chan 1998). Within the leadership domain, the extent to which team members agree about the quality of their managers' leadership behavior has been dubbed *leadership consensus* (Feinberg, Ostroff, & Burke 2005; see also Lindell & Brandt 2000). In a dispersion composition model, leadership consensus is considered high when team members' perceptions of a leader's behavior are homogenous. Conversely, leadership consensus is considered low when team members' perceptions of a leader's behavior are heterogonous or dissimilar. In either instance, the degree of consensus is, by definition, a group-level measure of the amount of variability in team members' perceptions of the quality of their managers' leadership behavior. As discussed below, evidence from a handful of studies suggests that team members' consensual perceptions about the quality of their managers' leadership behavior may be an important explanatory variable for understanding the influence of leadership within teams.

The primary aim of the present study was to extend transformational leadership research by integrating a direct consensus model of composition and a dispersion model of group composition within a single framework. To this end, the present study contributes to the leadership literature in two ways. First, it answers recent calls for research exploring whether differences in leadership consensus moderate the relationship between the general (i.e., average) behavior exhibited by a leader and team performance (e.g., Cole & Bedeian 2007; Dawson, González-Romá, Davis, & West 2008). The current investigation focuses on transformational leader behaviors for two principal reasons: (a) they "dominate" current thinking about leadership research and (b) they are at the core of contemporary leadership theory (Judge & Piccolo 2004, p. 762). Second, recognizing that the relationship between leaders' transformational behavior and team performance may not be direct, we cast team empowerment as a mediating mechanism in an attempt to replicate prior research (e.g., Chen et al. 2007). In doing so, the present study responds to Schaubroeck, Lam, and Cha's (2007) challenge that leadership researchers go beyond investigating transformational leadership's main effects (at the team level) and to examine not only the boundary conditions under which transformational leadership is most likely to be effective, but also the mediating processes by which transformational leadership exerts its effect on workplace outcomes. Thus, by simultaneously considering leadership consensus and team empowerment in a hypothesized model, we broaden the focus of transformational leadership theory by illustrating that the transformational leadership–team performance linkage is more nuanced than previously believed.

1. A follower-centric approach to leadership: Conceptual issues and empirical findings

Leadership researchers have long acknowledged the importance of a manager's leadership behavior in shaping team members' psychological and work group climate perceptions (e.g., González-Romá, Peiró, & Tordera 2002; Kozlowski & Doherty 1989; Zohar & Tenne-Gazit 2008). Dragoni (2005) asserted that, as leaders, managers transmit their belief systems to team members through role modeling, providing guidance in the form of direct and indirect feedback, and by reinforcing behavior that supports a leader's favored achievement orientation. Following research that casts leaders as "climate engineers" (Naumann & Bennett 2000) and "meaning managers" (Rentsch 1990), we view leaders' behaviors and group interactions as contributing to team members' shared perceptions. Thus, recognizing that leadership is a socially constructed phenomenon heavily influenced by intra-team factors and relationships (Meindl 1995), we approached leadership from a follower's point of view.

Taking this a step further, and consistent with a dispersion model of group composition, we also recognize, to the extent a leader "creates consensus and a similarity of perceptions" among team members, "the degree of consensus within a particular constituency of a leader can be interpreted as an additional parameter" with which to assess leader effectiveness (Feinberg et al. 2005, p. 472). Based on this reasoning, it is logical to distinguish between within-team member perceptions of a leader's average behavior and the extent of perceived variability (i.e., dispersion) among team members' ratings around this mean (Meade & Eby 2007). Thus, in keeping with Chan's (1998) composition typology, we expected that the degree of agreement among a team's members about the quality of their manager's leadership behavior would contain meaningful information (see also, Harrison & Klein 2007).

Of particular relevance to the present investigation, Chan (1998) has suggested that different composition models can be "applied to the same data in a study" (p. 244). Further, Harrison and Klein (2007) have argued that a mean-by-variability interaction is implicit when specifying a consensus variable. Building from this base, we speculated that leadership consensus functions as a boundary condition influencing the impact of a manager's transformational leadership behavior on team performance. As such, a team's effectiveness may *hinge* on a manager's ability to create a consensus in members' perceptions of the manager's leader behavior.

2. Consensus among team members' leadership perceptions

Klein and House (1995) were among the first to suggest that a consideration of the consensus among team members' leadership perceptions would refine and clarify the leadership domain by offering new insights into motivating team members as both individuals and *en masse* as a group. They reasoned that intragroup consensus vis-à-vis team members' leadership

perceptions would enhance leader effectiveness and, in turn, team performance. Klein and House also noted, however, that in a group context, team members would individually perceive a leader's behavior and, consequently, each react differently (cf. Howell & Shamir 2005). All the same, as Newman, Hanges, Duan, and Ramesh (2008) contend, team members interact with one another to understand and maintain a consensus or shared perception of a leaders' behavior. Further, in settings where there is no consensus regarding a leader's behavior, team members will be less likely to experience the same reality. As argued by Ford and Seers (2006), low consensus (high levels of perceptual dispersion) about a manager's leadership behavior reflects an incoherent and weakly coordinated system of policies and procedures that, in turn, result in inconsistent cues being sent to a team's members. Thus, in situations where team members' perceptions only partially overlap, they must negotiate the meaning of a leader's behavior to affirm their shared reality. Low consensus should also increase experiences of situational ambiguity, which can adversely impact members' cognitive appraisal processes and lead to negative affective responses. In this connection, research has shown that informational diversity and lower levels of information sharing increase conflict and encourage subgroup formation among team members (Zellmer-Bruhn, Maloney, Bhappu, & Salvador 2008).

Hence, it only follows that in teams with higher perceptual dispersion regarding leader behavior, conflicts among and between members are likely to increase as members struggle to establish a shared consensus about their leader's behavior (Boies & Howell 2006). This logic is consistent with the argument put forward by Lindell and Brandt (2000), who contend that an absence of agreement, especially with respect to team members' leadership attributions, has the potential to harm team processes, including coordination, communication, and relationship building. Thus, it is not unusual for variance in team members' perceptions of leader behavior to increase animosity among and between team members (Jehn 1995; Rentsch & Klimoski 2001). On the positive side, and in contrast to their low consensus counterparts, high levels of leadership consensus should be psychologically comforting to a team's members; that is, there is no need for team members to challenge other members' leadership attributions because each of their positions is equivalent (Harrison & Klein 2007). In a similar vein, group diversity researchers have demonstrated that teams with greater perceptual consensus yield higher levels of within-team cooperation and lower rates of withdrawal (De Dreu & Weingart 2003).

3. Empirical research on leadership consensus

As the vast majority of research suggests, to the extent that team members' perceptions are consensual, they reflect shared representations that are an active part of group sensemaking and, thus, inform individual behavior (Zohar & Luria 2004). Extending this reasoning to transformational leadership theory, it seems reasonable to expect that consensus among team members about the quality of their managers' transformational behavior will enhance within-group relations (e.g., Zohar & Tenne-Gazit 2008). In comparison, high levels of dispersion in members' leadership perceptions suggest the absence of a shared reality and an increased likelihood of misunderstandings among and between team members (Newman et al. 2008). To date, only a handful of empirical studies have investigated whether consensus among team members' leader behavior perceptions may be an important variable in understanding the influence of leadership within teams and how it relates to job-relevant outcomes (viz., Bliese & Britt 2001; Bliese & Halverson 1998; Boies & Howell 2006; Cole & Bedeian 2007; Feinberg et al. 2005; Hooper & Martin, 2008; Liden, Erdogan, Wayne, & Sparrowe 2006). Of these, however, Cole and Bedeian (2007) is the sole study to explore team members' consensual perceptions about their managers' transformational leadership behavior.

Several of the above studies (viz., Bliese & Britt 2001; Bliese & Halverson 1998; Cole & Bedeian 2007) have drawn on Festinger's (1950) theory of social influence to develop a conceptual framework linking leadership consensus to work group climate. In brief, social influence theory asserts that (a) the need for consensus is strong when social facets of a the team's environment are considered, and (b) there is strong within-team pressure to maintain consensus when members perceive that team effectiveness would be facilitated by a shared representation of key elements within a team's environment. It further holds that, as team members perform their work, they focus on maintenance functions such as socialization, cohesion building, and team/individual performance feedback to reinforce within-group consensus with regard to their shared reality (Levine & Moreland 1990). From a social influence theory viewpoint, consensus about leadership behavior is believed to assess a unique aspect of team functioning that reflects a positive social environment. In grounding leadership consensus within the social influence perspective, these researchers have contributed to the literature by providing a conceptual framework that may be used to guide future leadership consensus research. Importantly, the study conducted by Bliese and Halverson (1998) corroborates the belief that leadership consensus is an indicator of a team's social environment. Bliese and Halverson found team members' consensus about their leaders' behavior to be positively associated with average team (i.e., unit) psychological well-being. Follow-up research by Bliese and Britt (2001) and Feinberg et al. (2005) supports this finding. More recently, Cole and Bedeian (2007) have further underscored this finding by showing that consensual leadership perceptions are indicative of a positive social environment in situations of effective (i.e., transformational) and ineffective (i.e., laissez-faire) leadership. That is, agreement in leadership perceptions prompts a positive social climate among team members despite the perceived quality (i.e., ineffective to effective) of their leaders' behavior. On balance, both theory and empirical research suggest that increased consensus (or alternatively lower dispersion) among team members reflects a positive as opposed to a negative (aversive) workplace climate.

4. Theoretical model and hypotheses

Leadership researchers (viz., Kearney & Gebert 2009; Schaubroeck et al. 2007) have recently called for more inclusive and, thus, more theoretically and practically useful models of the relationship between transformational leadership and team performance. Accordingly, we build on previous transformational leadership research and team effectiveness theory to advance a model that

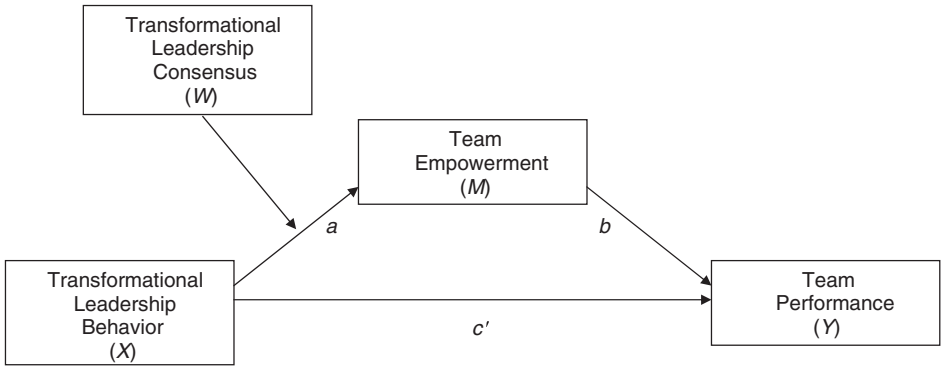

Fig. 1. Path diagram of hypothesized model.

depicts team empowerment, a motivational concept, as an intervening mechanism linking team inputs and performance in an expanded *i*nput–*m*ediator–*o*utput (IMO) framework (Mathieu et al. 2008). We focus on team empowerment as a mediating process because, over the last two decades, both researchers and practitioners have increasingly recognized its association with team performance (Chen et al. 2007). Indeed, as theorized by Kirkman and Rosen (1997), enhancing team empowerment increases team performance by increasing team level motivation (see also Chen & Kanfer 2006; Kirkman & Rosen 1999; 2000).

More recently, the IMO framework has been adapted to include the larger context in which teams operate. For example, Ilgen, Hollenbeck, Johnson, and Jundt (2005) and Mathieu et al. (2008) have both commented on the potential for boundary conditions to influence the behaviors, practices, and performance of teams; yet, there has been surprisingly little empirical work on integrating boundary conditions into the IMO framework. Thus—following Ilgen et al.'s (2005) recommendations to (a) place greater attention on the boundary conditions of IMO models and (b) highlight under what conditions team performance improvements may be realized—we theorized that transformational leadership behavior exerts its influence on team performance indirectly through team empowerment, but that this indirect effect will be larger among teams whose members agree about the quality of their managers' leadership behavior. Our hypothesized model is depicted in Fig. 1.[1]

5. The mediating role of team empowerment

Transformational leadership is essentially leadership that sets high expectations, focuses on higher order follower needs, and generates a greater willingness to adopt challenging goals, thereby increasing follower motivation and elevating performance to higher levels of accomplishment (Bass et al. 2003). Further, researchers have consistently emphasized that transformational leadership influences team performance through the mediating effects of team empowerment. As generally conceived, empowerment is defined as the extent to which team members have the freedom to choose how they perform their tasks, are competent to perform their tasks well, sense that their work is meaningful, and believe that their work will impact the effectiveness of their employing organization (e.g., Hyatt & Ruddy 1997; Spreitzer 1995). Kark, Shamir, and Chen (2003) observed that the empowerment of followers is one of the main differentiators between transformational leadership and transactional leadership, because the latter does not seek to empower, but merely influence team members' behavior through exchange-based relationships.

Empowerment is believed to unleash a team's potential, enhance its motivation, and allow it to be more adaptive to its working environment (Kirkman & Rosen 1999). To achieve these ends, transformational leaders employ empowering behaviors such as delegating responsibilities to team members, encouraging team members to question traditional ways of doing things, while challenging them to try creative approaches to performing work, and enhancing team members' capacity to think (Dvir, Eden, Avolio, & Shamir 2002; Kark et al. 2003). Previous research has demonstrated that team members working with empowering leaders feel more comfortable and able to perform activities required for task accomplishment (Mathieu, Gilson, & Ruddy 2006). Further, Kirkman and colleagues have documented the positive influence of team empowerment on team performance (Chen et al. 2007; Kirkman & Rosen 1999).

Hypothesis 1. Team empowerment will mediate the relationship between transformational leadership and team performance.

6. The moderating role of consensus about transformational leadership

Until this point, we have argued that transformational leadership behavior indirectly influences team performance through team empowerment. Yet, leadership researchers have emphasized that such leader behavior may interact with teams' leadership consensus to predict team outcomes. Drawing on social influence theory (Festinger 1950) and research on leadership consensus (e.g., Bliese & Halverson 1998; Cole & Bedeian 2007), we build on the twin beliefs that (a) consensus constructs reflect systematic

[1] In line with scholarly explanations (Mathieu et al., 2008), we adopt the theoretical position that teams exist in context as they perform across time. Thus, we view team performance as an output at time t_n, but recognize that team performance is also an input leading to further performance output at t_{n+1} (see also Ilgen et al., 2005).

variation among team members' perceptions of shared phenomena and (b) within-team consensus in perceptions of a leader's transformational behavior is indicative of a well-functioning unit characterized by a positive social environment and low levels of stress (see also Zohar & Luria 2004). Taking a social influence theory perspective, Feinberg et al. (2005) have shown that followers' attributions of transformational leadership depend on both the extent to which a leader engages in the appropriate behaviors and follower consensus concerning those behaviors. In discussing the importance of consensus, Feinberg et al. reasoned in work environments where there is agreement that leaders exhibit consistent levels of transformational leadership behavior across group members, interpersonal rivalries and differences in opinion should be less likely to occur and performance be more likely to increase. Conversely, in situations where leaders fail to achieve a consensus regarding their leadership behavior, they may not only be perceived as developing idiosyncratic follower relationships, but their actions may also produce friction and tension among subordinates. In support of this reasoning, research demonstrates that when team members disagree significantly, even a "healthy dialogue" can have counterproductive effects (De Dreu & Weingart 2003).

Hence, when absolute levels of transformational leader behavior are high and consensus is present, we predicted that the benefits of this leadership style are augmented and intensified. In keeping with this prediction, Feinberg et al. (2005) have argued that leaders who exhibit transformational leadership behavior and create consensus among team members will be perceived as being the most transformational. Under such circumstances, we expected team empowerment beliefs to be especially beneficial because a team's leader is widely regarded as motivating and its members are excited, energized, and dedicated (Klein & House 1995). Further, because prior theory and research suggest that despite leaders being rated moderate to high in transformational leadership, in teams where consensus is lacking and interpersonal conflict is common, we expected team members to perceive a social environment that would adversely influence the association between transformational leadership and team empowerment (Harrison & Klein 2007; Klein & House 1995). We thus anticipated that the effect of low consensus about transformational leadership would be particularly upsetting to teams reporting moderate to high levels of transformational leadership behavior (on average).

Hypothesis 2. Team members' consensus about transformational leadership will moderate the positive relationship between absolute levels of transformational leadership behavior and team empowerment, such that when consensus is high, the relationship between the transformational leadership and team empowerment will be positive, and when consensus is low, this relationship will be weakened (and possibly negative).

Further, as reasoned above, we expected absolute levels of transformational leadership behavior and transformational leadership consensus to be related to team empowerment in a nonlinear fashion (i.e., a moderating relationship), and some or all of the effects of both factors on team performance to be transmitted through team empowerment (i.e., a mediating relationship). Reflecting what has been labeled a moderated mediation effect (Preacher, Rucker, & Hayes 2007), it seems likely that consensus about transformational leadership will conditionally influence the strength of the indirect effect between absolute levels of transformational leadership behavior and team performance as depicted in Fig. 1.

Hypothesis 3. Consensus about transformational leadership will moderate the indirect effect of transformational leadership behavior on team performance (through team empowerment). Specifically, we anticipate a positive (negative) indirect effect between absolute levels of transformational leader behavior and team performance when consensus is high (low).

7. Method

7.1. Participants and procedure

Targeted participants were drawn from work teams employed by an international automotive component manufacturing company headquartered in Germany. A work team was defined as a distinguishable set of two or more people who shared a common objective, performed interdependent tasks, and held joint accountability for one or more team outcomes (Kozlowski & Ilgen 2006). Our discussions with company representatives indicated that the focal work teams were directed by a formal supervisor (i.e., manager), well defined, and relatively stable in membership (cf. Mathieu et al. 2008).

Human resource (HR) representatives from the company's headquarters selected work teams ($N = 200$) from Germany and other countries to participate in the present study; the majority of teams were located in Germany ($n = 90$) and the United States ($n = 32$). Once identified, the Vice President of Human Resources sent an e-mail to each team manager. The e-mail briefly described the study's purpose, explained that the members of the manager's team had been chosen to voluntarily participate, and requested that the e-mail, which contained a link to a web-based survey, be forwarded to five or more team members with whom the manager worked and interacted closely. This approach for contacting team members was modeled after previous research (e.g., Chen 2005; Srivastava, Bartol, & Locke 2006), including studies of team level diversity (e.g., Simons, Pelled, & Smith 1999; Van der Vegt & Bunderson 2005). To minimize selection bias, managers were only given general information about the study's purpose (Morrison & Phelps 1999). At the web-link portal, targeted participants were asked to choose between either English or German language versions of the survey items. Professional linguists following a double-blind back-translation procedure converted the items from English into German. As a final quality check, HR representatives reviewed both language versions for word usage and company-specific language (cf. Van de Vijer & Hambleton 1996).

The study sample was composed of 108 teams and 460 team members, for a team level response rate of 54%. On average, four team members ($SD = 2.2$) completed the study survey. Given that the average team size was seven, the within-team response rate

was estimated to be approximately 57%. A representative team member was male, between the ages of 36 and 45, and with average company tenure of 5–10 years. A more complete description of the study sample, including a breakdown of home country, is presented in Table 1.

7.2. Measures

7.2.1. Transformational leadership behavior

Team members were asked to indicate, using a 5-point frequency scale ranging from 1 (*not at all*) to 5 (*frequently, if not always*), how often their managers exhibited 20 leadership behaviors that comprise the Multifactor Leadership Questionnaire's (MLQ-5X; Bass & Avolio 2000) transformational leadership components. Because we focused on overall transformational leadership, and in line with previous research (e.g., Nemanich & Keller 2007), the 20 items were averaged to form an overall, team level score ($\alpha_{team} = .96$, with a 95% confidence interval [95 CI] = .95 to .97; Duhachek & Iacobucci 2004).

7.2.2. Transformational leadership consensus

A number of indices have been used to measure within-team consensus or agreement (e.g., r_{wg}, r^*_{wg}, a_{wg}, and standard deviation). Roberson, Sturman, and Simons (2007) report, however, despite being very similar, with an average correlation of |.943|, the aforementioned consensus indices performed differently when used as independent variables. They found that when one is interested in detecting interaction effects (as in the present study), the standard deviation is the most effective index for assessing within-group consensus. Accordingly, we computed leadership consensus scores for transformational leadership based on the square root of the variance for each set of team scores, with low scores representing high consensus or agreement.

7.2.3. Team empowerment

We calculated team empowerment scores using team member responses to a 12-item measure developed by Spreitzer (1995). Given that we focused on overall team empowerment, and in line with previous research (e.g., Chen et al. 2007; Spreitzer 1995),

Table 1
Sample characteristics.

	Percent	Team country [a]	n [b]	Percent [c]
Gender				
Male	72.3	Germany (90)	52	48.6
Female	19.8	USA (32)	19	17.8
No response	7.9	Belgium (9)	3	2.8
Age		Brazil (1)	1	0.9
Under 25	1.8	China (3)	1	0.9
25–30	9.2	Czech Republic (5)	2	1.9
31–35	14.5	Denmark (1)	1	0.9
36–40	20.0	Finland (1)	1	0.9
41–45	19.6	France (10)	3	2.8
46–50	9.2	Hungary (6)	3	2.8
51–55	7.5	Italy (4)	1	0.9
56–60	5.5	Japan (6)	1	0.9
Over 60	1.3	Mexico (6)	3	2.8
No response	11.4	Norway (2)	2	1.9
Years with current company		Philippines (3)	1	0.9
Less than 1 year	3.7	Poland (2)	1	0.9
Less than 5	19.8	Portugal (1)	1	0.9
5–10	26.2	Romania (3)	2	1.9
11–15	16.7	Slovakia (2)	2	1.9
16–20	13.2	South Africa (1)	1	0.9
21–25	5.1	Spain (4)	3	2.8
26–30	2.9	Sweden (1)	1	0.9
31–35	1.3	Switzerland (1)	1	0.9
Over 35	2.6	United Kingdom (2)	1	0.9
No response	8.6	Austria (2)	1	0.9
		Canada (2)	–	–
Months with current team leader				
Less than 1	2.9			
1–2	2.6			
2–3	2.0			
3–6	4.0			
6–12	10.5			
12 or more	71.6			
No response	6.4			

[a] Total number of teams sampled is reported in parentheses.
[b] Number of teams providing usable data.
[c] Between country response rate (number of teams providing useable data / total number of teams = 108).

the four empowerment dimensions of meaning, competence, autonomy, and impact were summed and averaged to yield an overall, team level score. Our approach to aggregation followed a direct consensus model, as it is "the most familiar and popular form of composition" among researchers (Chan 1998, p. 237). Hence, team empowerment is functionally isomorphic to individual members' empowerment, except that team empowerment refers to the shared perceptions among work team members (Chan 1998). Items were anchored using a 5-point response continuum (1 = *strongly disagree*; 5 = *strongly agree*), with a higher score indicating a high level of team empowerment. The reliability estimate (α_{team}) for this measure was .88, with a 95 CI = .86 to .89.

7.2.4. Team performance

For the sole purpose of the present study, team members provided a self-ascriptive rating of their performance using a slightly modified version of Conger, Kanungo, and Menon's (2000) 5-item measure of effective performance. This measure was chosen because its constituent items were developed to assess on-going performance, broadly defined, rather than performance based on future expectations regarding specific tasks. Whereas all self-reports are subject to potential bias, research conducted by Heidemeier and Moser (2009) has shown that research-based ratings yield the lowest level of distortions, and self-ratings of task performance yield lower levels of self-enhancement as compared to self-ratings of contextual performance. Such findings are consistent with those obtained by LeBreton, Burgess, Kaiser, Atchley, and James (2003). A Monte-Carlo simulation and two field studies on performance assessment led these researchers to conclude, "it appears the magnitude and pervasiveness of rating source discrepancies may be largely overstated." (p. 117).

Consistent with the aggregation methods described earlier, we created a team level measure of performance by using a direct consensus composition model (Chan 1998). Accordingly, team members' scores were summed and averaged to yield an overall team performance score. Items were anchored using a 5-point response continuum, with a higher score indicating a high level of performance (1 = *strongly disagree*; 5 = *strongly agree*). The reliability estimate (α_{team}) for this measure was .84, with a 95 CI = .81 to .86.

7.2.5. Controls

Data relating to five potential covariates were collected as possible control variables. The first potential study covariate assessed was managers' *contingent-reward behavior*. Contingent-reward leader behavior focuses on an appropriate exchange of resources; in effect, contingent-reward is the timely positive reinforcement of desired behavior (Avolio 1999). From a conceptual viewpoint, it has been theorized that contingent-reward provides the foundation upon which transformational leadership behavior is performed (Bass et al. 2003; Yammarino, Spangler, & Dubinsky 1998) and, by extension, these two forms of leader behavior are connected (Avolio 1999; Walumbwa, Wu, & Orwa 2008). Indeed, a fundamental assumption of transformational leadership theory that is often discussed but rarely tested is the *augmentation effect* (Bass 1985), which suggests that transformational leadership should account for unique variance in team performance when controlling for contingent-reward behavior (Bass & Riggio 2006). Contingent-reward (α_{team} = .84, with 95 CI = .79 to .89) was measured with four items (MLQ-5X; Bass & Avolio 2000), using a 5-point frequency scale ranging from 1 (*not at all*) to 5 (*frequently, if not always*).

Positive team-affective tone (α_{team} = .85, with a 95 CI = .83 to .87) was assessed with Van Katwyk, Fox, Spector, and Kelloway's (2000) 10-item measure, using a 5-point frequency ramp (1 = *never* to 5 = *extremely often or always*). Members' responses were averaged, with a higher score indicating a higher level of agreement. Positive team-affective tone was of interest for two reasons. First, research suggests that members will communicate more frequently and share their interpretations of environmental stimuli when a team, as a whole, enjoys a positive affective tone (George 1990). Second, team level affect is known to play a central role in various leadership processes (Erez, Misangyi, Johnson, LePine, & Halverson 2008; Sy, Côté, & Saavedra 2005; Van Kleef et al. 2009); for example, research has shown that the leadership-team performance linkage is mediated by positive team-affective tone (Pirola-Merlo, Härtel, Mann, & Hirst 2002). We thus reasoned that controlling for positive team-affective tone would yield a more accurate (and conservative) assessment of team empowerment as a possible generative mechanism linking leader behavior and team performance. *Gender composition* was considered as a potential covariate because gender diversity among team members can exert negative effects (e.g., increased team conflict) on team outcomes (e.g., Van Knippenberg, De Dreu, & Homan 2004). Following Harrison and Klein (2007), we operationalized gender composition using Blau's (1977) index of variability. We assessed *team tenure* (1 = *less than 1 month*; 6 = *greater than 12 months*) because of the possibility that variations in date of entry might affect within-group relationships and overall levels of job performance (Keller 2006). Finally, because cultural differences might influence communication and information sharing, we captured the *proportion of each team's surveys completed in English*, with "1" = team member completed English survey; "0" = team member completed German survey (M = .72, SD = .35).

7.3. Data analyses

Collectively, Hypotheses 1, 2, and 3 suggest a moderated mediation model (Preacher et al. 2007), whereby the strength of the relationship between absolute levels of transformational leadership on team performance through team empowerment is conditional on the value of a moderator (viz., consensus about transformational leadership). To avoid conceptual and mathematical limitations associated with traditional approaches for assessing moderated mediation (Hayes 2009), we employed statistical methods and SPSS syntax presented in Preacher et al. (2007) to estimate two equations:

$$M = a_0 + a_1X + a_2W + a_3XW + r \quad (1)$$

$$Y = b_0 + b_1M + c'_1X + (c'_2 + c'_3X)W + r \quad (2)$$

where X is the independent variable, Y is the dependent variable, M is the mediating variable, and W is the moderating variable. The coefficients a_0 and b_0 are intercept terms, a_1 represents the strength of the path from transformational leadership behavior (X) to team empowerment (M), a_2 represents the strength of the path from transformational leadership consensus (W) to M, a_3 represents the strength of the cross-product of transformational leadership behavior and transformational leadership consensus (XW) to team empowerment, b_1 represents the strength of the path from M to team performance (Y) while controlling for X, c'_1 represents the strength of the path from X to Y while controlling for M, c'_2 represents the strength of the path from W to Y, c'_3 refers to the path from the cross-product of X and W to Y, and r is the regression residual. The point estimate of the indirect effect of X on Y through M can be expressed as $f(\Theta|W) = b_1(a_1 + a_3W)$ where Θ is a vector containing the relevant random variables (here the sample regression coefficients a_1, a_3, and b_1). As Eq. (2) indicates (and shown in Fig. 1), the strength of the indirect effect of X on Y through M is conditional on the value of W. Confidence intervals for the population value of the conditional indirect effect were derived using bias corrected and accelerated (BCa) bootstrapping methods (Efron & Tibshirani 1993). Through the application of bootstrapped confidence intervals, it is possible to avoid power problems introduced by asymmetric and other nonnormal sampling distributions of an indirect effect (MacKinnon, Lockwood, & Williams 2004).

7.3.1. Data aggregation and confirmatory factor analyses

Rather than simply assume team members' perceptions reflect a shared reality, we tested this expectation by inspecting the corresponding analysis of variance (ANOVA) F-statistic and the associated intraclass correlation coefficients (ICC; Bliese 2000). ICC(1) provides an indication of whether there is a team level effect on the variable of interest and ICC(2) provides an estimate of the reliability of the team level mean (Bliese 2000). Analysis of variance tests (ANOVAs) using team as the independent factor demonstrated that members' ratings on transformational leadership, team empowerment, team performance, contingent-reward leadership, and positive team-affective tone all differed significantly ($p<.001$) across teams. The ICC(1) values exceeded established thresholds (Bliese 2000), with values of .28 for transformational leadership, .22 for team empowerment, .14 for team performance, .21 for contingent-reward, and .19 for positive team-affective tone. The reliability of the team level means, despite small team sizes (Bliese 2000), as reflected by ICC(2) values, was .62 for transformational leadership, .55 for team empowerment, .40 for team performance, .53 for contingent-reward, and .50 for positive team-affective tone.

Prior to hypothesis testing, we conducted a series of confirmatory factor analyses (CFA) to examine the distinctiveness of our focal variables. The baseline measurement model included: transformational leadership, contingent-reward leadership, team empowerment, and team performance. We included contingent-reward leadership is these analyses because prior evidence suggests transformational leadership and contingent-reward tend to be strongly correlated (Judge & Piccolo 2004). We determined goodness of fit using the root-mean-square error of approximation (RMSEA) and the comparative fit index (CFI), and we applied commonly used threshold values (RMSEA $\geq$ .08 and CFI $\leq$ .90) as indicative of poor fit. The first CFA tested was a four-factor measurement model that allowed the latent first-order factors to freely correlate (i.e., baseline model), with all items loading on their respective factors and no item cross-loadings permitted.[2] Results suggested this model was a good fit to the observed data, $\chi^2 = 435.59$, $df = 129$, RMSEA = .072 and its 90 percent confidence interval (.065, .079) and CFI = .92. We then compared the four-factor model with a series of restricted models that each constrained the correlation of one pair of constructs to 1.0. As anticipated (based on prior meta-analytic research; Judge & Piccolo 2004), the correlation between the leadership constructs was large ($r = .84$). The first alternative model forced the transformational leadership and contingent-reward items to load on a single latent variable. A chi-square difference test indicated that this alternative model with a unity constraint was a significantly worse fitting model to the observed data (as compared to the baseline model). An inspection of intercorrelations among study variables revealed a moderately strong correlation between team empowerment and team performance ($r = .50$). Thus, we compared the fit of the baseline model to a restricted measurement model that forced the team empowerment and performance items to load on a single latent variable. The chi-square difference test demonstrated that the baseline model was a significantly better fit to the observed data. In sum, measurement model results supported the convergent (i.e., each indicator's estimated pattern coefficient on its posited underlying construct factor is significant) and discriminant (i.e., latent construct correlations are not perfectly correlated) validity of our measures (Anderson & Gerbing 1988).

Following procedures outlined by Williams, Cote, and Buckley (1989), we also used CFA to ascertain the likelihood of common-method variance in our data. By adding a latent common methods factor to the four-factor measurement model, we examined the potential increase in model fit when taking into account the common methods factor (Williams et al. 1989) and determined the variance extracted by this factor (see, e.g., Dulac, Coyle-Shapiro, Henderson, & Wayne 2008). Results showed that adding a method factor to the four construct factors did improve model fit, $\Delta\chi^2(18) = 192.6$, $p<.01$. Yet, the variance extracted by this common methods factor was only .24, falling well below the .50 threshold that is suggested to indicate the presence of a substantive influence (Fornell & Larker 1981). Thus, although we acknowledge that common-method variance may be present in our data, it is unlikely to have been a serious enough problem to disparage our hypotheses testing.

[2] The items within transformational leadership's and team empowerment's subscales were parceled (a total aggregation model) prior to model estimation. No other constructs were parceled.

Table 2
Descriptive statistics and correlations.

Variable	*Mean*	*SD*	*r*					
			1	2	3	4	5	6
1. Transformational leadership (TFL)	3.65	0.50	—					
2. TFL consensus	0.55	0.44	−.27**	—				
3. Team empowerment	4.07	0.34	.34**	−.05	—			
4. Team performance	3.98	0.34	.15	.14	.50**	—		
5. Contingent-reward (CR)	3.53	0.58	.84**	−.22*	.32**	.18	—	
6. Positive team-affective tone	3.34	0.35	.59**	−.11	.36**	.11	.51**	—
7. Gender composition	0.18	0.21	.01	−.13	−.32**	−.02	.02	−.11
8. Team tenure	5.51	0.94	.04	−.05	.04	.04	.02	.05
9. Team language ratio [a]	0.72	0.35	.09	.14	.13	.05	.18	.00

Note. $n = 108$ work teams. Consensus is measured by the standard deviation, so smaller scores imply greater agreement.
[a] Language is coded 1 = English, 0 = German.

8. Results

Table 2 presents the descriptive statistics and intercorrelations among all study variables.[3] The intercorrelations reveal a relative absence of effects between team tenure and team language ratio as baseline covariates in the primary analysis. This result suggests that the study variables are not confounded by differences in average levels of team member tenure and cultural differences that might influence communication and information sharing. Consequently, these two factors were excluded from further analyses, not only to reduce the number of parameters to be estimated and, thus, provide maximum power for the following statistical tests, but because analyses that include unnecessary control variables may yield biased parameter estimates (Becker 2005).

8.1. Preliminary tests

A methodological issue that must be addressed is the potential for statistical interdependence between absolute levels of transformational leader behavior and leadership consensus (Cole, Bedeian, Hirschfeld, & Vogel, in press). Because these variables are deterministically related, floor and ceiling constraints exist for leadership behavior scores as consensus increases (Lindell & Brandt 2000). We explored this possibility by inspecting the correlation between the transformational leaderships' absolute mean and consensus score. The correlation reveals some range restriction ($r = -.27$); this finding, however, is not atypical (Lindell & Brandt 2000). For example, Dineen, Noe, Shaw, Duffy, and Wiethoff (2007) reported that the absolute mean and *SD* of team satisfaction were related in an inverse-U shaped fashion with a correlation of −.55 (i.e., nonsymmetrical curvilinear relationship). Further, they conducted a Monte-Carlo study to explore the potential consequences of such statistical interdependence. Simulation results demonstrated that this interdependence increased the difficulty of detecting interaction effects. As such, Dineen et al.'s (2007) simulation findings suggest that our results are likely somewhat conservative.

The statistical interdependence between absolute mean levels and consensus also suggests possible curvilinearity in the relationships of level and consensus about transformational leadership with both team empowerment and team performance. To investigate this possibility, higher order effects (i.e., squared component terms) were entered into a set of moderated multiple regression analyses; results for the interaction terms remained unchanged, whereas both squared terms were not significantly associated with either team empowerment or team performance and, thus, are not reported.[4]

8.2. Integrated test of the study's hypotheses

Our hypothesized conceptual model posited that teams' consensus about their managers' transformational leadership behavior would moderate the indirect relationship of transformational leadership on team performance through team empowerment. Because of the strong association between transformational leadership and the leadership covariate (i.e., contingent-reward behavior), we checked for multicollinearity. Results showed that the largest variance inflation factor was 4.3, well below the value of 10 that is seen as problematic (Neter, Wasserman, & Kutner 1990). Nevertheless, given possible concerns of unstable estimators due to multicollinearity, we estimated our models with and without contingent-reward as a study covariate. Although not reported in an accompanying table, when we exclude contingent-reward from the analyses, the results (available from Michael S. Cole) are even stronger in magnitude.

[3] Prior to conducting substantive tests, we assessed the extent to which cross-language differences impacted our measures. We first examined cross-language equivalence, defined as invariant factor loadings (metric equivalence; Cole, Bedeian, & Feild, 2006), of the study measures using multigroup confirmatory factor analysis (MGCFA). Results demonstrated that the measures were metrically equivalent across the two language groups. Multinational research has also found that internal consistency estimates can decline with translation (Spector, Cooper, Sanchez, O'Driscoll, Sparks et al., 2002); therefore, we computed Cronbach's alpha estimates for each measure across the English and German language versions. There were no significant differences in terms of the coefficient alpha estimates for any of the study variables (Duhachek & Iacobucci, 2004), suggesting that measurement reliability was not confounded by translation.
[4] Contact Michael S. Cole for the regression analyses that included the higher order effects.

Table 3
Team-level moderated multiple regression (MMR) models.

	Team empowerment			Team performance		
Predictor	Value	b	SE	Value	b	SE
1. Contingent-reward (CR) behavior		.05	.08		.06	.09
2. Positive team-affective tone		.22 *	.09		−.09	.10
3. Gender composition		−.48-	.12		.28	.14
ΔR^2 after Step 1	.24			.03		
4. Transformational leadership (TFL) behavior		.16	.11		.00	.12
5. TFL consensus		−.05	.06		.15 *	.07
ΔR^2 after Step 2	.00			.04		
6. TFL behavior × TFL consensus		−.93 **	.18		−.14	.22
ΔR^2 after Step 3	.16			.08		
7. Team empowerment					.55 **	.11
ΔR^2 after Step 4				.18		
Overall F	11.6 **			6.7 **		
Overall R^2	.41			.32		
Adjusted R^2	.37			.27		

Note. $n = 108$ work teams. Final model results are reported. Consensus is measured by the standard deviation, so smaller scores imply greater agreement.
* $p < .05$.
** $p. < .01$.

As shown in Table 3, the cross-product between transformational leadership behavior *X* consensus was related to team empowerment (coefficient = −.93, $p < .01$, $\Delta R^2 = .16$). Fig. 2 illustrates the form of this interaction, with "high consensus" corresponding to one standard deviation below the mean *SD*, and "low consensus" corresponding to one standard deviation above the mean *SD*. Consistent with expectations, the slope of the relationship between transformational leadership and empowerment was relatively strong (and positive) for teams with high consensus, whereas the slope was negative for teams with low consensus. Accordingly, team empowerment was lowest when a team's perceptions of their manager's transformational leadership are aligned and the absolute mean level is low; whereas team empowerment is highest when a team's perceptions about transformational leadership are aligned and the absolute mean level is high. This result suggests, as predicted (*H2*), that to be perceived as transformational, leaders must exhibit transformational behavior, as well as foster agreement among their followers that they do so consistently. Further, as also shown in Table 3, team empowerment was positively associated with team performance (coefficient = .55, $p < .01$, $\Delta R^2 = .18$) when controlling for transformational leadership behavior and consensus. Finally, as likewise shown in Table 3, the cross-product term between transformational leadership behavior *X* consensus was not related to team performance when team empowerment was included in the regression model.

Although these results are supportive of a moderated mediation process (*H3*), we examined bootstrapping results as a means to further verify our results. We examined the conditional indirect effect—the value of the indirect effect conditioned on values of the moderator—of transformational leadership behavior on team performance (through team empowerment) at three values of transformational leadership consensus: the mean (.00), one standard deviation above the mean (.27), and one standard deviation below the mean (−.27). As shown in Table 4, bootstrap confidence intervals (bias corrected and accelerated) indicated the indirect and positive effect of transformational leadership on team performance through team empowerment was observed when levels of consensus were moderate to high, but not low.

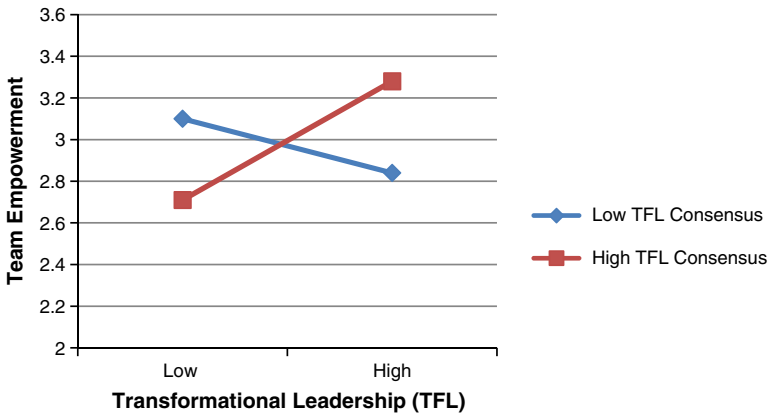

Fig. 2. Plot of interaction between transformational leadership behavior (absolute levels) and leadership consensus in predicting team empowerment. Low = −1 standard deviation below the mean. High = +1 standard deviation above the mean.

Table 4
Conditional indirect effects model predicting team performance [a].

Moderator value	Conditional indirect effect at mean and ± 1*SD* [b]			
	Boot indirect effect	Boot *SE*	BCaL95	BCaU95
High consensus, −1 SD (−.27)	.21	.09	.07	.42
Average consensus (.00)	.11	.06	.00	.25
Low consensus, +1 SD (.27)	−.00	.05	−.10	.11
	Conditional indirect effect at range of values of consensus about transformational leadership			
Consensus about transformational leadership [c]	Boot indirect effect	Boot *SE*	Boot *z*	Boot *p*
−.44	.28	.11	2.48	.01
−.37	.25	.10	2.43	.02
−.30	.22	.09	2.36	.02
−.22	.20	.09	2.27	.02
−.15	.17	.08	2.13	.03
−.08	.14	.07	1.95	.05
−.00	.11	.06	1.69	.09
.07	.08	.06	1.34	.18
.14	.05	.06	0.90	.37
.22	.02	.05	0.38	.70
.29	−.01	.06	−0.15	.88
.36	−.04	.06	−0.63	.52
.51	−.10	.07	−1.37	.17
.66	−.15	.09	−1.81	.07
.81	−.22	.10	−2.06	.04
.88	−.24	.11	−2.14	.03
.95	−.27	.12	−2.21	.03
1.02	−.30	.13	−2.26	.02

Note. $n = 108$ teams. Bootstrap $N = 10{,}000$. Unstandardized coefficients are shown. BCaL95 = 95% confidence interval lower limit. BCaU95 = 95% confidence interval upper limit.
[a] Controlling for contingent-reward behavior, positive team-affective tone, and gender composition.
[b] Bias corrected and accelerated (BCa) confidence intervals are reported.
[c] Values represent selected output provided by the Preacher et al. (2007) macro.

In the lower half of Table 4, we report the conditional indirect effect at multiple values of the moderator (i.e., consensus about transformational leadership). This analysis complements the disordinal interaction displayed in Fig. 2, and it allowed us to identify the values of consensus about transformational leadership for which the conditional indirect effect was *just* statistically significant at $p = .05$ (termed the *regions of significance*). Results demonstrated that the conditional indirect effect was positive and significant at alpha = .05 for any value of consensus less than or equal to −0.08 on this standardized scale (i.e., $M = 0.0$, $SD = 1.0$). Further, the results also show that the conditional indirect effect was negative and significant at alpha = .05 for any value of low consensus greater than or equal to 0.81 on this standardized scale.[5]

8.3. Possibility of alternative models

Because of the study's cross-sectional nature, alternative model paths may exist. For example, strong performances by a team's members may lead to an increase in attributions regarding their managers' transformational leadership behavior and, in turn, these leadership attributions might increase team members' beliefs of empowerment. To investigate this possibility, we estimated a simple indirect effects model. Results showed that the indirect effect from team performance to team empowerment (through absolute levels of transformational leadership) was not different from zero (indirect effect, $ab = .00$; 95% bootstrap CI = −.03 to .02). In a second alternative model, results indicated that the indirect effect from team performance to transformational leadership (through team empowerment) was also nonsignificant ($ab = .09$; 95% bootstrap CI = −.03 to .20). In fact, we explored all possible combinations among transformational leadership behavior, team empowerment, and team performance (in total, five alternative models)—none of which yielded a significant indirect effect (*ab*). Consequently, reversing the order cannot fully explain the observed conditional indirect effect, and our study thus provides tentative evidence for the suggested conceptual scheme.

9. Discussion

Because leaders direct many of their behaviors to team members *en bloc* rather than to individual team members, researchers have increasingly settled on conceptualizing leadership phenomenon as shared, unit-level variables (i.e., a direct consensus

[5] To examine the robustness of the study findings, we conducted a series of sensitivity analyses on "restricted" samples. For example, we excluded all teams with only two team member responses and re-estimated the regression models. We also re-estimated the model on samples omitting teams with: (a) two or three member responses per team; (b) more than five member responses per team, and; (c) two member responses and more than five member responses per team. The pattern of results did not change in any of these analyses.

approach). In doing so, they have neglected the possibility that effective leadership may also depend on a leader's ability to create a consensus or a shared reality among a team's members (Feinberg et al. 2005). This possibility suggests an alternative to predominate conceptual and analytic methods in mainstream leadership research. Marion and Uhl-Bien (2001) see this predominance as creating a classical problem of reductionism, wherein researchers offer a simpler explanation for a complex phenomenon. They argue that by overemphasizing managers as leaders and by underemphasizing the larger social system (e.g., interactions among team members) in which leadership occurs, researchers risk providing incomplete explanations for their findings (also see Uhl-Bien & Marion 2009). Marion and Uhl-Bien are essentially suggesting that this imbalance in emphasis is undermining that which we seek to understand most. Stated differently, because leadership researchers have opted to treat followers' (i.e., subordinates') response variability as measurement error rather than conveying meaningful information, contemporary research (especially that employing transformational leadership theory) tends to study a component of leadership (i.e., managers' behavior) while ignoring the contextual factors necessary for the emergence of effective leadership. This raises the question of whether traditional leadership models are too simplistic and, thereby, inadequate for understanding the dynamic and emergent nature of leadership in and of teams.

In response to concerns that current leadership thinking is inadequate, we suggest that the exchange between leaders and their team members *in toto* may shape members' leadership attributions. In this regard, we investigated whether within-team mean level assessments of a leader's behavior and the extent of perceived variability among team members' ratings around this mean level are separate yet related indicators of leadership effectiveness. We recognize that even though team members may hold similar perceptions about the quality of their manager's leadership behavior, variance among their perceptions may exist and, as our results suggest, this variance is of theoretical interest. Indeed, our results are noteworthy, in that, the alternative perspective they support more accurately reflects the transformational leadership process; that is, a social influence process that is characterized by a complex interplay between the absolute level of leader behavior and team members' consensus regarding leadership within teams.

For instance, on initial impression the finding related to the negative slope for the low consensus condition (see Fig. 2) may appear inconsistent with received theory. This result, however, makes a unique contribution by expanding recent theoretical advancements on leadership consensus. More specifically, from a theoretical perspective, social influence theory posits that consensus only matters on issues of relevance (Bliese & Halverson 1998; Festinger 1950). Therefore, when absolute levels of transformational leadership are low, dissensus (i.e., low consensus) among team members is less likely to impact team functioning because the leadership behaviors in question are infrequently exhibited and, thus, less salient to team members. It moreover suggests that leaders may be capable of encouraging empowerment beliefs if they develop high quality relationships with at least some team members (Liden et al. 2006). On the other hand, low consensus is more likely to negatively influence a team's functioning as the frequency of exhibited leadership behavior increases from low to moderate to high. Leaders that are rated moderate to high in their transformational behavior, but who fail in creating aligned perceptions within their teams, may be perceived by members as developing idiosyncratic individual relationships (e.g., "we–they" distinctions and subgroup categorizations); hence, to the extent that leadership consensus is low and absolute levels of transformational behavior are high (increased salience), a team's empowerment is shown to decrease in magnitude as members struggle with interpersonal tensions and conflict.

Our results make a further meaningful contribution by illustrating that the effects of transformational leadership are more subtle than previously believed. Our data demonstrate the extent to which team empowerment translates the effect of transformational leadership on team performance is contingent on team members' consensus about their managers' transformational leadership behavior—thereby yielding a pattern of moderated mediation. This finding broadens the focus of transformational leadership research; it also presents a more elaborate view of how managers' transformational behavior influences performance in team contexts. On the basis of the current results, for example, one may conclude that "the attribution of transformational leadership to an individual depends on both the leader exhibiting a set of positive behaviors as well as also fostering consensus among subordinates in their perceptions of the leader" (Feinberg et al. 2005, p. 483).

9.1. Limitations and future research

As in all research, the current study is not without potential limitations. Given that we measured the focal leadership variables, team empowerment, and team performance in the same survey, concerns for common-method variance should be considered when interpreting our results. The controls employed (e.g., positive team-affective tone and contingent-reward) should help to minimize this concern. Further, research has demonstrated that artifactual interactions cannot be created, although true interactions can be attenuated (Evans 1985). Taken together with our CFA results (Williams et al. 1989), in which we demonstrated that common-method variance did not significantly affect our ability to test study hypotheses, we believe that any concerns relating to common-method bias are lessened. Finally, method effects were further minimized in that we varied item response anchors and formats and collected data for each focal variable from multiple informants (Podsakoff, MacKenzie, Lee, & Podsakoff 2003). The cross-sectional design with which data were collected also limits us from drawing strong causal inferences. Whereas prevailing theory and published results indicate that the order of relationships tested is plausible, we nevertheless acknowledge that alternative relationship patterns may exist and should be explored in future research, including field experiments. Despite the inclusion of robust study covariates, a further limitation is that other controls were not considered (e.g., length of exposure to a leader).

We also note that there is potential for bias in the current study's performance ratings. Because we cannot demonstrate that our perceptual measure is a valid predictor of more "objective" performance, one could argue that different results might be obtained for other performance measures (e.g., peer or supervisor ratings). Whereas the use of self-ascriptive ratings does not invalidate our findings (see, e.g., Heidemeier & Moser 2009; LeBreton et al. 2003), future studies that include additional, more objective performance measures would provide confidence in their robustness. A remaining limitation is that when within-team response rates fall below 100% (as in the present case), the estimation of team level properties is complicated by missing data (Allen, Stanley, Williams, & Ross 2007; Newman & Sin 2009). Timmerman (2005) and Allen et al. (2007), however, have examined relationships between team level (i.e., absolute means based on aggregated data and consensus scores based on *SD*) variables with various patterns of member nonresponse. Results from both studies demonstrate that random and not-at-random missing data attenuated team level relationships. These findings intimate that our results may actually *underestimate* the magnitude of the observed correlations between leadership behavior, leadership consensus, and performance.

Beyond addressing study limitations, the present analysis suggests other interesting directions for future research. For example, our conceptual scheme is not exhaustive in considering all possible moderator variables. We focused on team members' perceptual agreement about their managers' leadership behavior, but did not consider consensus about team empowerment as a second moderator. Future research that expands our conceptual scheme to include moderated effects from team empowerment to team performance would be a further contribution. In a similar fashion, it would also be interesting to explore the within-team factors that predict the dispersion in team members' performance judgments.

It might also be worthwhile to consider alternative intervening variables as generative mechanisms between the joint effect of transformational leadership behavior and consensus on team performance. Research suggests that team identification and potency may be relevant in this respect (Kearney & Gebert 2009; Schaubroeck et al. 2007). By simultaneously investigating multiple mediators (cf. Preacher & Hayes 2008), scholars could provide a more detailed picture of team leadership processes and thus contribute to an improved explanation of work team performance.

9.2. Contributions to the literature and unanswered questions about leadership consensus

To our knowledge, this is the first study to apply transformational leadership theory in an attempt to determine whether leaders' behavior and leadership consensus variables interact in the prediction of team empowerment and performance. We developed an integrated conceptual scheme that is more elaborate than prior research has indicated and tested our hypotheses using a relatively large number of real teams in a multinational field setting. Further, we entered contingent-reward behavior as a study covariate because it is a basic proposition of transformational leadership theory that whereas contingent-reward behavior provides a "foundation for effective leadership and performance at expected standards," transformational leadership provides "an enhancement engendering superlative leadership and performance beyond expectations" (Yammarino et al. 1998, p. 28). Including both forms of leadership behavior in our hypotheses tests (which is seldom done), thus, provides a more robust (and conservative) test of the proposed effects of transformational leadership (Judge & Piccolo 2004). In doing so, our findings make a contribution to the transformational leadership literature by demonstrating *how* and *under what conditions* team performance improvements may be realized.

More broadly, our results also call into question the extent and magnitude of previously identified relationships between other team level leadership variables and outcomes. Such relationships may hinge on the extent of perceptual agreement among a team's members. This possibility builds upon the results obtained by Bliese and Britt (2001), Bliese and Halverson (1998), Cole and Bedeian (2007), and Feinberg et al. (2005), all of whom concluded that leadership consensus constructs are worthy of continued examination. Integrating our results with those of the aforementioned researchers, the mounting evidence provides broad support for Klein and House's (1995) assertion that the consideration of homogeneity or variability in team members' leadership perceptions may not only refine and clarify a meso-level leadership paradigm, but also suggest new topics for leadership research.

For example, a fundamental unanswered question is "What explains why some teams reach consensus about leadership behaviors and others do not?" A number of possible responses seem particularly promising. One such response focuses on implicit leadership theory (see, e.g., Howell & Shamir 2005). It has been specifically suggested, for example, that based on experiences with leaders and through socialization, followers develop cognitive structures or prototypes specifying the traits and abilities that characterize the ideal business leader. According to implicit leadership theory, managers are categorized as leaders on the basis of the perceived match between the attributes of a preexisting leader prototype that followers hold in memory and managers' actual behavior or character. This approach would suggest that implicit leadership theories are the benchmark followers use to form an impression of their managers and, therefore, future researchers may wish to investigate how these prototypes facilitate or hinder the emergence of transformational leadership consensus in teams.

A second response to this question may be that other team factors (e.g., composition, interdependence, task type) influence the emergence of consensus about leadership in teams. For instance, team interdependence increases the amount and intensity of interaction among members. Increased interaction and dependence among team members may strengthen perceptual agreement in high consensus teams, whereas in low consensus teams, it may cause existing intra-team conflicts to have an intensified effect on team and individual outcomes. One might also expect low consensus about a manager's transformational leadership behavior to have a greater effect on team performance in highly interdependent teams than in other types of work groups. Moreover, past research has shown that the type of task performed by a team can influence whether conflict helps, hinders, or has no impact on performance (Jehn 1995). Future research, therefore, may wish to account for the extent of team interdependence and type of tasks performed within and by teams.

9.3. Implications for research and practice

Whereas researchers have used a number of indexes to assess within-team consensus, Roberson et al. (2007) were the first to consider how the operationalization of consensus may affect a study's findings. For example, consistent with prior research (Bedeian & Mossholder 2000), Roberson and her colleagues' analyses demonstrated the weaknesses of coefficient of variation as an index of consensus. Further, r_{wg}-based indices were outperformed by standard deviation in detecting true interaction effects in the simulated data, leading Roberson et al. to conclude that researchers would be best served by using standard deviation as a consensus measure. Thus, because of the subtle differences in consensus indices, future researchers should carefully scrutinize the pros and cons of alternative consensus measures (e.g., coefficient of variation, r_{wg}-based indexes, and standard deviation) to identify the conditions under which a specific consensus index may be most effective (Roberson et al.).

From an applied perspective, researchers and practitioners have long attempted to address the question of what enables some teams to perform at a high level and others to fall short. Thus, one practical implication of considering variability in the real-world use of leadership surveys is that it provides practitioners with a secondary indicator of a leader's effectiveness. In other words, because team members will individually perceive a leader's behaviors, they may also react to them differently. As a result, the use of aggregated responses as a surrogate for a manager's leadership behavior is an insufficient basis for summarizing a team's shared perceptions—potentially affecting leadership training and development decisions. Further, unpacking the variance that resides across team members' perceptions may offer valuable insights in terms of intragroup dynamics. For example, a manager may receive a moderate to high rating on transformational behavior, but still fail to create aligned perceptions within a team (as indicated by a large standard deviation). In this scenario, a manager will likely be perceived by team members as developing idiosyncratic relationships, wherein "we–they" distinctions emerge and, thus, interpersonal tensions and conflict are likely.

In addition, membership changes may be particularly damaging to a team because the shaping of newcomers' expectations requires time and energy that might otherwise be directed towards activities such as task completion. As a worst-case scenario, the absence of consensus may lead to contentious interactions among team members, each seeking to optimize a personal point of view. Under such conditions, intra-team struggles may take their toll on a team's efficiency and effectiveness to the extent that a successful resolution of conflict consumes valuable resources (Levine & Moreland 1990) and is psychologically draining (Cole & Bedeian 2007). The successful handling of within-team dissent by team leaders appears to be a central factor in securing long-term team effectiveness. Actions such as sharing information, integrating new knowledge within team discussions, and constructively working through team member disagreements have been shown to be helpful in this regard (Behfar, Peterson, Mannix, & Trochim 2008).

10. Summary

In summary, we found that the joint effects of transformational leadership behavior and consensus about transformational leadership have an indirect effect on team performance (via team empowerment). Our results contribute to transformational leadership theory by illustrating how and under what conditions transformational leadership has an impact on team performance. Much work remains, however, in identifying other important outcomes that may be impacted by transformational behavior *X* consensus. It is thus hoped that leadership researchers will use our findings as a springboard to further explore the antecedents and outcomes associated with teams' perceptions of transformational leadership behavior and leadership consensus.

References

Allen, N. J., Stanley, D. J., Williams, H. M., & Ross, S. J. (2007). Assessing the impact of nonresponse on work group diversity effects. *Organizational Research Methods*, *10*, 262−286.

Anderson, J. C., & Gerbing, D. W. (1988). Structural equation modeling in practice: A review and recommended two-step approach. *Psychological Bulletin*, *103*, 411−423.

Avolio, B. J. (1999). *Full leadership development: Building the vital forces in organizations.* Thousand Oaks, CA: Sage.

Bass, B. M. (1985). *Leadership and performance beyond expectations.* New York: Free Press.

Bass, B. M., & Avolio, B. J. (2000). *Manual for the Multifactor Leadership Questionnaire (Form 5X).* Redwood City, CA: Mindgarden.

Bass, B. M., Avolio, B. J., Jung, D. I., & Berson, Y. (2003). Predicting unit performance by assessing transformational and transactional leadership. *Journal of Applied Psychology*, *88*, 207−218.

Bass, B. M., & Riggio, R. E. (2006). *Transformational leadership* (2nd Ed.). Mahwah, NJ: Lawrence Erlbaum Associates.

Becker, T. E. (2005). Potential problems in the statistical control of variables in organizational research: A qualitative analysis with recommendations. *Organizational Research Methods*, *8*, 274−289.

Bedeian, A. G., & Mossholder, K. W. (2000). On the use of the coefficient of variation as a measure of diversity. *Organizational Research Methods*, *3*, 285−297.

Behfar, K. J., Peterson, R. S., Mannix, E. A., & Trochim, W. M. K. (2008). The critical role of conflict resolution in teams: A close look at the links between conflict type, conflict management strategies, and team outcomes. *Journal of Applied Psychology*, *93*, 170−188.

Blau, P. M. (1977). *Inequality and heterogeneity.* New York: Free Press.

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

Bliese, P. D., & Britt, T. W. (2001). Social support, group consensus and stressor-strain relationships: Social context matters. *Journal of Organizational Behavior*, *22*, 425−436.

Bliese, P. D., & Halverson, R. R. (1998). Group consensus and psychological well-being: A large field study. *Journal of Applied Social Psychology*, *28*, 563−580.

Boies, K., & Howell, J. M. (2006). Leader-member exchange in teams: An examination of the interaction between relationship differentiation and mean LMX in explaining team-level outcomes. *The Leadership Quarterly*, *17*, 246−257.

Chan, D. (1998). Functional relations among constructs in the same content domain at different levels of analysis: A typology of composition models. *Journal of Applied Psychology*, *83*, 234−246.

Chen, G. (2005). Newcomer adaptation in teams: Multilevel antecedents and outcomes. *Academy of Management Journal*, *48*, 101−116.

Chen, G., & Kanfer, R. (2006). Towards a systems theory of motivated behavior in work teams. *Research in Organizational Behavior*, *27*, 223–267.
Chen, G., Kirkman, B. L., Kanfer, R., Allen, D., & Rosen, B. (2007). A multilevel study of leadership, empowerment, and performance in teams. *Journal of Applied Psychology*, *92*, 331–346.
Cole, M. S., & Bedeian, A. G. (2007). Leadership consensus as a cross-level contextual moderator of the emotional exhaustion–work commitment relationship. *The Leadership Quarterly*, *18*, 447–462.
Cole, M. S., Bedeian, A. G., & Feild, H. S. (2006). The measurement equivalence of web-based and paper-and-pencil measures of transformational leadership: A multinational test. *Organizational Research Methods*, *9*, 339–368.
Cole, M. S., Bedeian, A. G., Hirschfeld, R. R., & Vogel, B. (in press). Dispersion-composition models in multilevel research: A data-analytic framework. *Organizational Research Methods*. DOI:10.1177/1094428110389078
Conger, J. A., Kanungo, R. N., & Menon, S. T. (2000). Charismatic leadership and follower effects. *Journal of Organizational Behavior*, *21*, 747–767.
Dawson, J. F., González-Romá, V., Davis, A., & West, M. A. (2008). Organizational climate and climate strength in UK hospitals. *European Journal of Work and Organizational Psychology*, *17*, 89–111.
Day, D. V., Gronn, P., & Salas, E. (2004). Leadership capacity in teams. *The Leadership Quarterly*, *15*, 857–880.
De Dreu, C. K. W., & Weingart, L. R. (2003). Task versus relationship conflict, team performance, and team member satisfaction: A meta-analysis. *Journal of Applied Psychology*, *88*, 741–749.
Dineen, B. R., Noe, R. A., Shaw, J. D., Duffy, M. K., & Wiethoff, C. (2007). Level and dispersion of satisfaction in teams: Using foci and social context to explain the satisfaction-absenteeism relationship. *Academy of Management Journal*, *50*, 623–643.
Dragoni, L. (2005). Understanding the emergence of state goal orientation in organizational work groups: The role of leadership and multilevel climate perceptions. *Journal of Applied Psychology*, *90*, 1084–1095.
Duhachek, A., & Iacobucci, D. (2004). Alpha's standard error (ASE): An accurate and precise confidence interval estimate. *Journal of Applied Psychology*, *89*, 792–808.
Dulac, T., Coyle-Shapiro, J. A. -M., Henderson, D. J., & Wayne, S. J. (2008). Not all responses to breach are the same: The interconnection of social exchange and psychological contract processes in organizations. *Academy of Management Journal*, *51*, 1079–1096.
Dvir, T., Eden, D., Avolio, B. J., & Shamir, B. (2002). Impact of transformational leadership on follower development and performance: A field experiment. *Academy of Management Journal*, *45*, 735–744.
Efron, B., & Tibshirani, R. J. (1993). *An introduction to the bootstrap.* London: Chapman & Hall.
Erez, A., Misangyi, V. F., Johnson, D. E., LePine, M. A., & Halverson, K. C. (2008). Stirring the hearts of followers: Charismatic leadership as the transferal of affect. *Journal of Applied Psychology*, *93*, 602–615.
Evans, M. G. (1985). A Monte-Carlo study of the effects of correlated method variance in moderated multiple regression analysis. *Organizational Behavior and Human Decision Processes*, *36*, 305–323.
Feinberg, B. J., Ostroff, C., & Burke, W. W. (2005). The role of within-group agreement in understanding transformational leadership. *Journal of Occupational and Organizational Psychology*, *78*, 471–488.
Festinger, L. (1950). Informational social comparison. *Psychological Review*, *57*, 271–282.
Ford, L. R., & Seers, A. (2006). Relational leadership and team climates: Pitting differentiation versus agreement. *The Leadership Quarterly*, *17*, 258–270.
Fornell, C., & Larker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, *18*, 39–50.
George, J. M. (1990). Personality, affect, and behavior in groups. *Journal of Applied Psychology*, *75*, 107–116.
González-Romá, V., Peiró, J. M., & Tordera, N. (2002). An examination of the antecedents and moderator influences of climate strength. *Journal of Applied Psychology*, *87*, 465–473.
Harrison, D. A., & Klein, K. J. (2007). What's the difference? Diversity constructs as separation, variety, or disparity in organizations. *Academy of Management Review*, *32*, 1199–1228.
Hayes, A. F. (2009). Beyond Baron and Kenny: Statistical mediation analysis in the new millennium. *Communication Monographs*, *76*, 408–420.
Heidemeier, H., & Moser, K. (2009). Self-other agreement in job performance ratings: A meta-analytic test of a process model. *Journal of Applied Psychology*, *94*, 353–370.
Hooper, D., & Martin, R. (2008). Beyond personal Leader-Member Exchange (LMX) quality: The effects of perceived LMX variability on employee reactions. *The Leadership Quarterly*, *19*, 20–30.
Howell, J. M., & Shamir, B. (2005). The role of followers in the charismatic leadership process: Relationships and their consequences. *Academy of Management Review*, *30*, 96–112.
Hyatt, D. E., & Ruddy, T. M. (1997). An examination of the relationship between work group characteristics and performance: Once more into the breech. *Personnel Psychology*, *50*, 553–585.
Ilgen, D. R., Hollenbeck, J. R., Johnson, M., & Jundt, D. (2005). Teams in organizations: From input–process–output models to IMOI models. *Annual Review of Psychology*, *56*, 517–543.
James, L. R., Demaree, R. G., & Wolf, G. (1984). Estimating within-group interrater reliability with and without response bias. *Journal of Applied Psychology*, *69*, 85–98.
Jehn, K. A. (1995). A multimethod examination of the benefits and detriments of intragroup conflict. *Administrative Science Quarterly*, *40*, 256–282.
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.
Kark, R., Shamir, B., & Chen, G. (2003). The two faces of transformational leadership: Empowerment and dependency. *Journal of Applied Psychology*, *88*, 246–255.
Kearney, E., & Gebert, D. (2009). Managing diversity and enhancing team outcomes: The promise of transformational leadership. *Journal of Applied Psychology*, *94*, 77–89.
Keller, R. T. (2006). Transformational leadership, initiating structure, and substitutes for leadership: A longitudinal study of research and development project team performance. *Journal of Applied Psychology*, *91*, 202–210.
Kirkman, B. L., & Rosen, B. (1997). A model of work team empowerment. *Research in Organizational Change and Development*, *10*, 131–167.
Kirkman, B. L., & Rosen, B. (1999). Beyond self-management: Antecedents and consequences of team empowerment. *Academy of Management Journal*, *42*, 58–74.
Kirkman, B. L., & Rosen, B. (2000). Powering up teams. *Organizational Dynamics*, *28*(3), 48–66.
Klein, K. J., & House, R. J. (1995). On fire: Charismatic leadership and levels of analysis. *The Leadership Quarterly*, *6*, 183–198.
Kozlowski, S. W. J., & Doherty, M. L. (1989). Integration of climate and leadership: Examination of a neglected issue. *Journal of Applied Psychology*, *74*, 546–553.
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: Jossey Bass.
LeBreton, J. M., Burgess, J. R. D., Kaiser, R. B., Atchley, E. K., & James, L. R. (2003). The restriction of variance hypothesis and interrater reliability and agreement: Are ratings from multiple sources really dissimilar? *Organizational Research Methods*, *6*, 80–128.
Levine, J. M., & Moreland, R. L. (1990). Progress in small group research. *Annual Review of Psychology*, *41*, 585–634.
Liden, R. C., Erdogan, B., Wayne, S. J., & Sparrowe, R. T. (2006). Leader-member exchange, differentiation, and task interdependence: Implications for individual and group performance. *Journal of Organizational Behavior*, *27*, 1–24.
Lindell, M. K., & Brandt, C. J. (2000). Climate quality and climate consensus as mediators of the relationship between organizational antecedents and outcomes. *Journal of Applied Psychology*, *85*, 331–348.
MacKinnon, D. P., Lockwood, C. M., & Williams, J. (2004). Confidence limits for the indirect effect: Distribution of the produce and resampling methods. *Multivariate Behavioral Research*, *39*, 99–128.

Marion, R., & Uhl-Bien, M. K. (2001). Leadership in complex organizations. *The Leadership Quarterly*, *12*, 389−418.
Mathieu, J. E., Gilson, L. L., & Ruddy, T. M. (2006). Empowerment and team effectiveness: An empirical test of an integrated model. *Journal of Applied Psychology*, *91*, 97−108.
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.
Meade, A. W., & Eby, L. T. (2007). Using indices of group agreement in multilevel construct validation. *Organizational Research Methods*, *10*, 75−96.
Meindl, J. R. (1995). The romance of leadership as a follower-centric theory: A social constructionist approach. *The Leadership Quarterly*, *6*, 329−341.
Morrison, E. W., & Phelps, C. C. (1999). Taking charge at work: Extrarole efforts to indicate work-place change. *Academy of Management Journal*, *42*, 403−419.
Naumann, S. E., & Bennett, N. (2000). A case for procedural justice climate: Development and test of a multilevel model. *Academy of Management Journal*, *43*, 881−889.
Nemanich, L. A., & Keller, R. T. (2007). Transformational leadership in an acquisition: A field study of employees. *The Leadership Quarterly*, *18*, 49−68.
Neter, J., Wasserman, W., & Kutner, M. H. (1990). *Applied linear statistical models: Regression, analysis of variance, and experimental designs* (3 rd ed.). Boston: Irwin.
Newman, D. A., Hanges, P. J., Duan, L., & Ramesh, A. (2008). A network model of organizational climate: Friendship, clusters, subgroup agreement, and climate schemas. In D. B. Smith (Ed.), *The people make the place: Dynamic linkages between individuals and organizations* (pp. 101−126). Mahwah, NJ: Erlbaum.
Newman, D. A., & Sin, H. P. (2009). How do missing data bias estimates of within-group agreement? Sensitivity to SD_{wg}, CV_{wg}, $r_{wg(j)}$, $r_{wg(j)}{}^{*}$, and ICC to systematic nonresponse. *Organizational Research Methods*, *12*, 113−147.
Pirola-Merlo, A., Härtel, C., Mann, L., & Hirst, G. (2002). How leaders influence the impact of affective events on team climate and performance in R&D teams. *The Leadership Quarterly*, *13*, 561−581.
Podsakoff, P. M., MacKenzie, S. B., Lee, J. -Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, *88*, 879−903.
Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods*, *40*, 879−891.
Preacher, K. J., Rucker, D. D., & Hayes, A. F. (2007). Addressing moderated mediation hypotheses: Theory, methods, and prescriptions. *Multivariate Behavioral Research*, *42*, 185−227.
Rentsch, J. R. (1990). Climate and culture: Interaction and qualitative differences in organizational meaning. *Journal of Applied Psychology*, *75*, 668−681.
Rentsch, J. R., & Klimoski, R. J. (2001). Why do 'great minds' think alike? Antecedents of team member schema agreement. *Journal of Organizational Behavior*, *22*, 107−120.
Roberson, Q. M., Sturman, M. C., & Simons, T. L. (2007). Does the measure of dispersion matter in multilevel research? A comparison of the relative performance of dispersion indexes. *Organizational Research Methods*, *9*, 564−588.
Schaubroeck, J., Lam, S. S. K., & Cha, S. E. (2007). Embracing transformational leadership: Team values and the impact of leader behavior on team performance. *Journal of Applied Psychology*, *92*, 1020−1030.
Simons, T., Pelled, L. H., & Smith, K. A. (1999). Making use of difference: Diversity, debate, and decision comprehensiveness in top management teams. *Academy of Management Journal*, *42*, 662−673.
Spector, P. E., Cooper, C. L., Sanchez, J. I., O'Driscoll, M., Sparks, K., et al. (2002). Locus of control and well-being at work: How generalizable are western findings? *Academy of Management Journal*, *45*, 453−466.
Spreitzer, G. M. (1995). Psychological empowerment in the workplace: Dimensions, measurement, and validation. *Academy of Management Journal*, *38*, 1442−1465.
Srivastava, A., Bartol, K. M., & Locke, E. A. (2006). Empowering leadership in management teams: Effects on knowledge sharing, efficacy, and performance. *Academy of Management Journal*, *49*, 1239−1251.
Sy, T., Côté, S., & Saavedra, R. (2005). The contagious leader: Impact of the leader's mood on the mood of group members, group affective tone, and group processes. *Journal of Applied Psychology*, *90*, 295−305.
Timmerman, T. A. (2005). Missing persons in the study of groups. *Journal of Organizational Behavior*, *26*, 21−36.
Uhl-Bien, M. K., & Marion, R. (2009). Complexity leadership in bureaucratic forms of organizing: A meso model. *The Leadership Quarterly*, *20*, 631−650.
Van de Vijer, F., & Hambleton, R. K. (1996). Translating tests: Some practical guidelines. *European Psychologist*, *1*, 89−99.
Van der Vegt, G. S., & Bunderson, J. S. (2005). Learning and performance in multidisciplinary teams: The importance of collective team identification. *Academy of Management Journal*, *48*, 532−547.
Van Katwyk, P. T., Fox, S., Spector, P. E., & Kelloway, E. K. (2000). Using the job-related affective well-being scale (JAWS) to investigate affective responses to work stressors. *Journal of Occupational Health Psychology*, *5*, 219−230.
Van Kleef, G. A., Homan, A. C., Beersma, B., Van Knippenberg, D., Van Knippenberg, B., et al. (2009). Searing sentiment or cold calculation? The effects of leader emotional displays on team performance depend on follower epistemic motivation. *Academy of Management Journal*, *52*, 562−580.
Van Knippenberg, D., De Dreu, C. K. W., & Homan, A. C. (2004). Work group diversity and group performance: An integrative model and research agenda. *Journal of Applied Psychology*, *89*, 1008−1022.
Walumbwa, F. O., Wu, C., & Orwa, B. (2008). Contingent reward transactional leadership, work attitudes, and organizational citizenship behavior: The role of procedural justice climate perceptions and strength. *The Leadership Quarterly*, *19*, 251−265.
Williams, L. J., Cote, J. A., & Buckley, M. R. (1989). Lack of method variance in self-reported affect and perceptions at work: Reality or artifact? *Journal of Applied Psychology*, *74*, 462−468.
Yammarino, F. J., Spangler, W. D., & Dubinsky, A. J. (1998). Transformational and contingent reward leadership: Individual, dyad, and group levels of analysis. *The Leadership Quarterly*, *9*, 27−54.
Zellmer-Bruhn, M. E., Maloney, M. M., Bhappu, A. D., & Salvador, R. (2008). When and how do differences matter? An exploration of perceived similarity in teams. *Organizational Behavior and Human Decision Processes*, *107*, 41−59.
Zohar, D., & Luria, G. (2004). Climate as a social-cognitive construction of supervisory safety practices: Scripts as proxy of behavior patterns. *Journal of Applied Psychology*, *89*, 322−333.
Zohar, D., & Tenne-Gazit, O. (2008). Transformational leadership and group interaction as climate antecedents: A social network analysis. *Journal of Applied Psychology*, *93*, 744−757.