Transformational leadership in context: Face-to-face and virtual teams

Radostina K. Purvanova [a,*], Joyce E. Bono [b,c,1]

[a] College of Business and Public Administration, Drake University, 2507 University Ave, Des Moines, IA 50310, United States
[b] Industrial Relations Center, Carlson School of Management, University of Minnesota-Twin Cities, 321 19th Ave So, Minneapolis, MN 55455, United States
[c] Department of Psychology, University of Minnesota, United States

ARTICLE INFO

ABSTRACT

This experimental study examined transformational leadership in the context of traditional teams using face-to-face communication and virtual teams using computer-mediated communication. Thirty-nine leaders led both face-to-face and virtual teams. Repeated-measures analyses revealed similar mean levels of transformational leadership in both team types; however, leader rank order varied across team type. Post hoc analyses revealed that the most effective leaders where those who increased their transformational leadership in virtual teams. Furthermore, analyses at the team level revealed that the effect of transformational leadership on team performance was stronger in virtual than in face-to-face teams. Team-member ratings of transformational leadership were equally linked to project satisfaction in face-to-face and virtual teams. Considered as a whole, our results suggest that transformational leadership has a stronger effect in teams that use only computer-mediated communication, and that leaders who increase their transformational leadership behaviors in such teams achieve higher levels of team performance.

1. Introduction

The advancement of new communication technologies in the workplace has given rise to a rapidly spreading business practice — the virtual project team (Bell & Kozlowski, 2002; Driskell, Radtke, & Salas, 2003; Dundis & Benson, 2003). The typical virtual project team is characterized by temporary lifespan and membership (Avolio, Kahai, & Dodge, 2001; Bell & Kozlowski, 2002), spatial dispersion (Zaccaro & Bader, 2003; Zigurs, 2003), and the use of predominantly computer-mediated communication (Driskell et al., 2003). Leaders of such teams face a unique set of challenges, such as successfully influencing team members while relying on computer-mediated communication. Yet, little is known about "which technological developments […] have the potential to change radically what we know [about leadership]" (Zigurs, 2003, p. 339). For this reason, it is becoming increasingly important to study leadership in context (Antonakis, Avolio, & Sivasubramaniam, 2003; House & Aditya, 1997; Shamir & Howell, 1999), particularly in the electronic communication context of virtual teams.

Important theoretical and empirical research on virtual leadership has begun to appear in the literature. A prime example is Avolio and colleagues' theoretical work (Avolio et al., 2001; Avolio & Kahai, 2002, 2003), which coined the term "e-leadership" and employed adaptive structuation theory (DeSanctis & Poole, 1994) to explain how communication technologies may interact with team leaders and members to produce new team structures and cultures. Several lab studies examine the effects of transformational, transactional, participative, and directive leadership on various team outcomes, such as creativity, satisfaction with task and leader, communication, and team performance, in virtual teams (e.g., Kahai, Sosik, & Avolio, 2003; Sosik, 1997; Sosik, Avolio, & Kahai, 1998; Sosik, Kahai, & Avolio, 1999; Weisband, 2002). Qualitative studies provide information about the experiences of virtual leaders and team members with respect to issues such as effective and ineffective leadership behaviors, challenges

* Corresponding author. Tel.: +1 515 271 2737.
  E-mail addresses: ina.purvanova@drake.edu (R.K. Purvanova), jbono@umn.edu (J.E. Bono).
[1] Tel.: +1 612 625 1844.

virtual teams face, and practice-proven ideas for helping virtual teams function successfully (e.g., Hambley, O'Neill, & Kline, 2007; Hart & McLeod, 2003; Wiesenfeld, Raghuram, & Garud, 1999). Generally, the findings of this literature speak to the importance of effective leadership behaviors, such as those specified by transformational leadership theory (Bass & Avolio, 1994), in virtual communication contexts. Specifically, this literature suggests that transformational and participative leadership behaviors are of greater importance in teams where communication is constrained by technology.

Although the e-leadership literature makes an important contribution to our knowledge of virtual leadership, there have been few direct comparisons of leadership in virtual and face-to-face project teams. Thus, the primary purpose of our study is to provide such a comparison, with a focus on transformational leadership. In an experimental study, we address two questions related to whether and how leadership may differ in virtual and face-to-face teams. First, we use a within-person design to examine the extent to which leaders are consistent in their behaviors across settings. Do leaders alter their behavior to use more (or less) transformational leadership behaviors in virtual project teams, as compared to face-to-face project teams? Second, we compare the outcomes of transformational leadership in face-to-face and virtual teams. We test predictions from leadership and communication theories (e.g., Avolio et al.'s (2001) adaptive structuation theory and Reicher, Spears, & Postmes' (1995) social identity model of deindividuation effects), which suggest that transformational leadership behaviors may be associated more strongly with team effectiveness in virtual than in face-to-face project teams.

We focus on transformational leadership because of its documented effectiveness in the research literature (see Judge & Piccolo, 2004), and because theory highlights the importance of transformational leadership in virtual teams (Avolio et al., 2001; Bell & Kozlowski, 2002). Transformational leadership is comprised of idealized influence (also referred to as charisma), inspirational motivation, intellectual stimulation, and individualized consideration behaviors. Leaders are charismatic when they inspire devotion and loyalty, display a strong commitment to ideals, and emphasize the importance of a collective mission. Leaders are inspirational when they appeal to employees' feelings and emotions, transmit an enthusiastic vision of the future, and express confidence about successful completion of goals. Leaders are intellectually stimulating when they question assumptions, challenge their employees intellectually, and encourage re-thinking of ideas. Leaders are individually considerate when they recognize the unique needs and abilities of their employees, treat employees as individuals, and coach and develop their employees.

Substantial evidence has accrued that the four dimensions of transformational leadership are highly intercorrelated, and that their relations with outcome variables are similar (see Lowe, Kroeck, & Sivasubramaniam, 1996). However, there may be theoretical and practical value to studying the four transformational leadership dimensions separately in some settings (Antonakis et al., 2003), especially when these settings have not received much research attention. Because the empirical literature on leadership in virtual communication settings is still young, in this study we examine the broad transformational composite (e.g., Bono & Judge, 2003; Kark, Shamir, & Chen, 2003), as well as the transformational dimensions (e.g., Sosik et al., 1998). Further, leadership is a complex construct that could be described and measured in multiple ways. For example, transformational leadership theory (Bass, 1985) represents a clearly behavioral approach to leadership which specifies exactly what transformational leaders do. In contrast, attributional theories (e.g., Conger & Kanungo, 1987; Shamir, 1992) and categorization theories (e.g., Lord, 1985; Lord & Maher, 1991; Yukl, 1998) suggest that followers are likely to view leaders as charismatic if they fit a profile, and hence — that leadership is in the eye of the beholder. Rather than pitting these two philosophical approaches against each other, we take the position that both perspectives have merits as they assess different, yet equally valid, aspects of leadership. Hence, in this study, we examine both leadership behaviors (i.e., what leaders actually say and do as reported by independent observers) and leadership perceptions (i.e., what followers perceive leaders say and do).

1.1. Team type and leadership

Whereas Avolio & Kahai (2003, p. 327) expressed confidence that "leadership mediated by technology can exhibit exactly the same content and style as traditional face-to-face leadership," they agreed with Zigurs (2003) that we do not know how technology affects leadership or management. To better understand the impact of electronic communication technologies on leadership (both leadership behaviors and leadership perceptions), we draw from several communication theories, collectively known as technology-deterministic or cues-filtered-out approaches (e.g., Shannon & Weaver, 1949; Short, Williams, & Christie, 1976, Daft & Lengel, 1984, Sproull & Kiesler, 1986). These theories assert that face-to-face communication is superior to computer-mediated communication for the following reasons: 1) Face-to-face communication is richer in nonverbal (i.e., visual) and paraverbal (i.e., auditory) cues; 2) Face-to-face communication minimizes information loss due to the simultaneous usage of multiple communication channels; 3) Face-to-face communication maximizes feelings of social presence and conversational involvement; 4) Face-to-face communication transmits information about social standing and social context; and 5) Face-to-face communication is less physically and cognitively taxing than other communication media.

The differences between face-to-face and virtual communication highlighted by technology-deterministic theories suggest that one might find less transformational leadership in virtual teams. Because electronic communication tends to be lacking in visual and auditory cues — the main carriers of emotional communication — transformational behaviors that are emotional in nature may occur less frequently in virtual teams. Both charisma (idealized influence) and inspirational motivation employ nonverbal and paraverbal cues (Kirkpatrick & Locke, 1996); hence, it may be hard to display and perceive these transformational behaviors in electronically-mediated communication settings. Virtual communication is also more confusing (Thompson & Coovert, 2003), more laborious and more cognitively taxing than face-to-face communication. For example, it takes at least four times longer to type than to speak (Hancock, 2004; Walther, 1993). Hence, leaders may engage in less intellectual stimulation, because challenging