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EMPOWERING LEADERSHIP IN MANAGEMENT TEAMS: EFFECTS ON KNOWLEDGE SHARING, EFFICACY, AND PERFORMANCE

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We surveyed management teams in 102 hotel properties in the United States to examine the intervening roles of knowledge sharing and team efficacy in the relationship between empowering leadership and team performance. Team performance was measured through a time-lagged market-based source. Results showed that empowering leadership was positively related to both knowledge sharing and team efficacy, which, in turn, were both positively related to performance.

Considerable research has highlighted the importance of leader behaviors for team performance (e.g., Druskat & Wheeler, 2003; Durham, Knight, & Locke, 1997; Judge, Piccolo, & Ilies, 2004). Among the diverse leader behaviors that have been studied, empowering leader behaviors have assumed special importance, as is consistent with the trend toward providing increased autonomy to employees (Bennis & Townsend, 1997). Empowering leadership has been studied from two perspectives. The first focuses on leader actions—specifically, sharing power or giving more responsibility and autonomy to employees (Kirkman & Rosen, 1997; 1999; Strauss, 1963). The second perspective focuses on employees' response to empowerment, in particular looking at their motivation (Conger & Kanungo, 1988; Kirkman & Rosen, 1997, 1999; Spreitzer, 1995; Thomas & Velthouse, 1990). Our study builds on integration of these two perspectives in investigating mechanisms through which empowering leadership might influence the performance of management teams.

We had two specific purposes. First, although empowering leadership has been recognized as important for team performance (Cohen, Chang, & Ledford, 1997; Manz & Sims, 1987), few studies have examined mechanisms that link empowering leadership and team performance (Kirkman and Rosen [1999] is an exception), particularly in management teams. A critical question is whether it is enough for leaders to simply exhibit a certain number of behaviors to generate effective performance in teams. We argue that the relationship between leader behaviors and team performance is more complicated than simple enactment of behaviors. Rather, we propose two categories of intermediate mechanisms. We consider the role of knowledge sharing as a team process and team efficacy as an emergent state in the empowering leadership–performance relationship. Marks, Mathieu, and Zaccaro (2001) emphasized that team processes are different from emergent states, noting that "team processes are the means by which members work interdependently to utilize various resources," but emergent states refer to the "cognitive, motivational and affective states of teams" (Marks et al., 2001: 357). Knowledge sharing is a team process defined as team members sharing task-relevant ideas, information, and suggestions with each other. Team efficacy is an emergent state that represents the belief of team members in their joint capability of executing certain behaviors necessary to attain a desired level of performance on specific tasks (Bandura, 1997). Knowledge sharing and team efficacy are both important determinants of team performance (Argote, 1999; Gully, Incalcaterra, Joshi, & Beaubien, 2002).

In their attempt to examine the links between leader behavior and team outcomes, previous researchers have rarely included team process and emergent state concepts simultaneously in their models, though both categories of mediating con-

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cepts are important (Cohen & Bailey, 1997). Therefore, one purpose of our study was to examine two categories of mediators that tie empowering leadership to team performance: knowledge sharing as a team process and team efficacy as an emergent state. Our contribution is to increase understanding of these phenomena, not only to help scholars better understand the complex relationship between empowering leadership and team performance, but also to aid managers in tailoring their efforts to enhance team performance.

Second, empowering leadership has been studied mainly with respect to individual employees or nonmanagerial teams (Kirkman & Rosen, 1999; Spreitzer & Doneson, forthcoming). Our second purpose in this research was to expand the domain of empowering leadership research to management teams. As Cohen and Bailey wrote, "the management team is responsible for the overall performance of a business unit" (1997: 243). Despite the importance of management teams to organizational performance (Finkelstein & Hambrick, 1996), leadership, team processes, and emergent states have not been examined in as much detail in management teams as in other types of teams. Yet such investigations are critical because, unlike nonmanagerial teams, in which the focus is on a set of team tasks, management teams are effective only insofar as they are able to effect a high level of performance by a significant business unit or an entire firm. Thus, it is not clear which team processes and states "scale up" to facilitating major business unit outcomes. Moreover, the findings from research on other kinds of teams may not necessarily generalize to management teams (Cohen & Bailey, 1997; Gibson, 1999).

LITERATURE REVIEW AND HYPOTHESES

As reviewed by several scholars (Burke, 1986; Burpitt & Bigoness, 1997; Spreitzer & Doneson, in press), empowerment was first conceptualized as an aspect of the relational or power sharing view. The academic roots of this view of empowering leadership are several, including the Ohio State leadership studies (Fleishman, 1953) on "consideration" (e.g., showing concern for subordinates' needs); work on supportive leadership (Bowers & Seashore, 1966); participative leadership studies (Locke & Schweiger, 1979; Vroom & Yetton, 1973); and the coaching, participating, and delegating behaviors encompassed in situational leadership theory (Hersey & Blanchard, 1969).

Conger and Kanungo (1988) argued that a view of empowerment as "sharing power" is incomplete and that a complete conceptualization must also include the motivational effect of empowerment on subordinates. Building on this work, Thomas and Velthouse (1990) presented a more complex model focused on intrinsic task motivation. Kirkman and Rosen (1997, 1999) extended the concept of empowerment to the team level. They argued that empowered teams experience high potency and autonomy in performing their tasks; in addition, they find their tasks more meaningful and impactful, leading to higher intrinsic motivation. As Spreitzer and Doneson (forthcoming) concluded, these perspectives complement one other. Accordingly, we define empowering leadership as behaviors whereby power is shared with subordinates and that raise their level of intrinsic motivation. To clarify the concept further, we offer the following important examples of empowering leader behavior: leading by example, participative decision making, coaching, informing, and showing concern (Arnold, Arad, Rhoades, & Drasgow, 2000).

In the relevant research literature, the term "management team" has mainly been used to denote teams that must integrate the efforts of key interdependent subunits/departments to influence the overall performance of a *business unit* (Bunderson & Sutcliffe, 2002; Cohen & Bailey, 1997). The management teams operating at the top level of a *firm* are referred to as "top management teams" (Cohen & Bailey, 1997; Finkelstein & Hambrick, 1996). Although management teams and top management teams lead different entities, both kinds of teams confront uncertainty, complexity, competitive pressures, and need for strategy formulation and implementation while integrating the efforts of key subunits/departments.

Beginning with the view of the top management team as an "entrepreneurial resource" of a firm (Penrose, 1959) and subsequent theoretical work by Child (1972) and Hambrick and Mason (1984), top management teams have occupied a distinct place in the strategy literature. However, despite their importance, the empirical research has relied heavily on demographic proxies for top management team functioning, which suffer from several limitations (Priem, Lyon, & Dess, 1999). Researchers have pursued some field studies of top management teams of smaller companies and management teams of business units (e.g., Bunderson & Sutcliffe, 2002; Smith, Smith, Olian, Sims, O'Bannon, & Scully, 1994) to illuminate the links between team processes and organizational performance. In the current research we continue this thrust by focusing on management teams responsible for the performance of major, fairly autonomous business units. Because of the broad impact of its tasks, the performance of a management team is best assessed

through the organizational performance of the entity for which it is responsible (Cohen & Bailey, 1997; Finkelstein & Hambrick, 1996). Given the lack of research on empowering leadership–performance linkages in management teams, our aim in this study was to add to the knowledge of management team factors that explain organizational performance.

The expectation that management team functioning will manifest itself in organization-level performance, which is subject to many factors, suggests that it may not be appropriate to assume generalization of findings from other teams (e.g., worker teams) whose scope is much narrower. Thus, to assess the generalizability of the empowering leadership research, it is useful to consider teams that are different from the ones that previous research has studied and cases in which results cannot be prudently assumed without appropriate investigation. Typologies of teams frequently differentiate management teams, as defined here, from other types of teams (e.g., Cohen & Bailey, 1997).

It is useful to examine our conceptual model in the context of a prominent heuristic model of team effectiveness (Cohen & Bailey, 1997). In addition to the external environment, Cohen and Bailey (1997) considered four important categories of team concepts in their model: (1) team design, composition, and context, including leadership; (2) team processes; (3) group psychosocial traits (more appropriately delineated as "emergent states" by Marks and colleagues [2001]); and (4) team effectiveness. According to the Marks et al. model, leadership as a team context variable affects team processes as well as emergent states, which, in turn, affect performance. Thus, by considering knowledge sharing as a team process and team efficacy as an emergent state in our conceptual model, we considered two important intermediate categories that may aid in the understanding of how leadership affects performance. We are not aware of other studies, especially of management teams, that have examined both categories of concepts simultaneously while examining the empowering leadership–performance linkages. Accordingly, in the following sections, we develop hypotheses for the mediating role of knowledge sharing and team efficacy in the empowering leadership–team performance relationship.

The Relationship of Empowering Leadership with Knowledge Sharing and Team Efficacy

Knowledge sharing can be defined as team members sharing task-relevant ideas, information, and suggestions with each other. One study showed that of almost 2,000 U.S. companies surveyed, 34 percent were using knowledge management systems (Wah, 1999). Knowledge sharing is an important component of knowledge management, as it helps in codifying the repository of available knowledge in an organization and increasing it over time (Liebowitz, 1999). Knowledge sharing is a critical team process because if knowledge is not shared, the cognitive resources available within a team remain underutilized (Argote, 1999).

Knowledge sharing does not happen automatically in a team, and the team's leader has an important role to play in making it come about. Empowering leadership can be contrasted with autocratic leadership, and one of the central differences in the outcomes is that autocratic leadership inhibits knowledge sharing by team members (Yukl, 2002). Thus, knowledge sharing is a potentially important benefit of empowering leadership. Yet, to the best of our knowledge, this relationship has so far not been examined in any field study of teams.

House and Dessler (1974) defined a supportive leader (support being one of the aspects of an empowering leader) as someone who provides guidance to followers, treats them fairly, and recognizes their inputs as valuable. Accordingly, team members are likely to receive fair recognition by an empowering leader for their contribution of ideas and information, which motivates them to share their unique knowledge with one another. Similarly, participative decision-making and coaching behaviors of an empowering leader will also encourage knowledge sharing in teams. When a leader models and engages in participative decision making, there are more opportunities for team members to share their ideas (Locke, Alavi, & Wagner, 1997). For example, a leader may give team members a chance to voice their opinions and encourage them to express suggestions. Under such circumstances, the odds are higher that the input of team members will actually influence decision making, and team members might therefore find their knowledge sharing practically relevant. Informing and giving autonomy motivate a search for solutions both within and outside a team and a greater collaborative attempt to help one another through knowledge sharing. According to Arnold and coauthors (2000), the coaching behavior of an empowering leader includes encouraging team members to solve problems together, thereby providing them with opportunities to share their knowledge. Thus, for all the above reasons, it is quite likely that an empowering leader will promote knowledge sharing.

Hypothesis 1. Empowering leadership is positively related to knowledge sharing in teams.

At the conceptual level, leader behaviors that promote power sharing and raise the intrinsic motivation of subordinates are also likely to raise their efficacy (Conger & Kanungo, 1988; Thomas & Velthouse, 1990). This idea can be illustrated more specifically by examining the links between team efficacy and various examples of empowering leader behaviors. Leading by example demonstrates a leader's commitment to his/her work and provides guidance to subordinates on how effective performance can be achieved, thereby raising their efficacy through observational learning (Bandura, 1997). Participative decision making refers to seeking team members' input in making decisions. It may give the subordinates opportunities to expand their knowledge, learn from each other, and acquire new skills, thereby raising their efficacy (Latham, Winters, & Locke, 1994). Coaching educates team members and makes them capable of performing autonomously, thereby raising their efficacy. A leader's informing behaviors are also likely to be positively related to team efficacy. As Spreitzer (1995) argued, information about where an organization is headed "enhances an individual's ability to make and influence decisions that are appropriately aligned with the organization's goals" (1995: 1447). Similarly, Kirkman and Rosen (1999) argued that access to strategic information can help the members determine correct courses of action, thereby enhancing team efficacy. Showing concern refers to support by a leader in the form of trust, concern for subordinates' well-being, and willingness to help. Fear, anxiety, and stress are emotional arousal states that inhibit personal efficacy (Conger & Kanungo, 1988); therefore, a leader who shows concern and provides social support has a positive effect on team efficacy. Thus, we expect a positive relationship between empowering leadership and team efficacy in management teams, in keeping with Kirkman and Rosen's (1999) finding of an empowering leadership–potency relationship in self-managing teams.

Hypothesis 2. Empowering leadership is positively related to team efficacy.

The Relationship of Knowledge Sharing and Team Efficacy with Team Performance

Knowledge sharing may lead to better team performance for at least two reasons: improved decision making, and coordination. Stasser and Titus (1985) found that increased knowledge sharing led to a more comprehensive consideration of alternatives and a better utilization of existing knowledge within a team, leading to improved decision making.

Knowledge sharing is also likely to improve team performance because of its beneficial effect on team coordination. We argue that knowledge sharing assists in the creation of shared mental models and development of transactive memory, thereby enabling better coordination among team members. Shared mental models can be defined as common knowledge held by team members about their task and/or social processes (Mathieu, Heffner, Goodwin, Salas, & Canon-Bowers, 2000). According to Okhuysen and Eisenhardt (2000), if members share information over time, they develop an ability to recognize and process information in blocks or patterns rather than discrete units (Isenberg, 1988). This pattern processing (i.e., intuition) is faster than processing single pieces of information. Thus, information sharing over time can lead to the development of collective intuition. Given experience in sharing knowledge, team members are able to understand even small cues from others and fill in the blanks (Isenberg, 1988). Thus, knowledge sharing assists in the formation of shared mental models that enable people to be "on the same page" during task execution and achieve higher team performance. Ample evidence from laboratory experiments (Marks, Zaccaro, & Mathieu, 2000; Mathieu et al., 2000) and a study of air traffic controllers (Smith-Jentsch, Mathieu, & Kraiger, 2005) illustrates the positive effects of shared mental models on team performance.

Knowledge sharing may also lead to improved coordination because of the development of transactive memory, defined as the knowledge of "who knows what" in a team (Wegner, 1987). Transactive memory begins to form when individuals learn something about the domains of expertise of other team members. With the formation of transactive memory, coordination is likely to improve because workers can anticipate each others' behavior (Wittenbaum, Vaughan, & Stasser, 1998). Lewis (1999) argued that repeated interactions facilitate learning about other members' areas of expertise when team members disclose information indicating their specialized knowledge. She found that knowledge exchange in teams led to the formation of transactive memory, which was instrumental in higher performance. Therefore, the above arguments suggest that knowledge sharing is likely to lead to higher performance.

Hypothesis 3. Knowledge sharing in teams is positively related to team performance.

In the case of management teams, high team efficacy is likely to lead to quicker counter-response to competitor actions, more aggressive strategies, and persistence in achieving high targets (Bandura, 1997; Yun, 1999). Thus, the high efficacy of management teams can be an important asset for an organization. However, despite its importance, we know of no study of management teams that has examined the relationship between team efficacy and performance.

Gibson (1999) argued that, in the case of teams performing uncertain and complex tasks (e.g., management teams), "Groups high in efficacy may set out on a path that they believe will lead to effective performance, but because of the inherent ambiguity of the task, their chance of actually achieving effective performance is low" (1999: 140). She added that groups may not be sure how they achieved good performance on highly uncertain tasks in the past, so the efficacy-effectiveness link may not exist. In a laboratory experiment, Gibson found no relationship between group efficacy and effectiveness for teams performing tasks high in uncertainty, as compared to a positive relationship in teams performing tasks low in uncertainty. However, it is important to note that management teams in real organizations differ substantially from teams in laboratory settings (for example, management teams have much more at stake and much longer time spans). In view of the strong evidence for the positive relationship between team efficacy and performance in other kinds of teams (Gully et al., 2002), we expect a positive relationship between team efficacy and performance in our study of management teams.

Hypothesis 4. Team efficacy is positively related to team performance.

The Relationship between Empowering Leadership and Team Performance

We argued that empowering leadership is positively related to both knowledge sharing and team efficacy, which, in turn, are both positively related to team performance. We take the position that empowering leadership has a direct relationship with team performance. That is, taken together with Hypotheses 1–4, knowledge sharing and team efficacy mediate the relationship between empowering leadership and team performance. Previous research (Cohen, Chang, & Ledford, 1997; Manz & Sims, 1987) has argued that empowering leadership is likely to be beneficial for team performance because of the likelihood of team members taking the initiative in solving problems, the increase in the speed of response of the team members, and improvement in the quality of work life of team members. Kirkman and Rosen (1999) found empowering leadership and team performance to be positively related, and the effect was partially mediated by the psychological empowerment experienced by team members. Following Kirkman and Rosen (1999), we expect the mediation to be partial.

Hypothesis 5. The positive relationship between empowering leadership and team performance is partially mediated by knowledge sharing and team efficacy.

METHODS

Sample

The hypotheses were tested through surveys of management teams in a chain of medium-sized hotels. Each management team consisted of a general manager, as the team leader, and individuals responsible for various functions including sales, food and beverage, and finance, as team members. Thus, these management teams were responsible for leading all the activities in a hotel property, tackling local competition, and generating profits.

We sent surveys to the management team leaders (i.e., the general managers) requesting them to distribute the surveys to the managers heading different functions. This method of giving the surveys to the team leader for further distribution to team members is consistent with previous research on teams (e.g., Seibert, Silver, & Randolph, 2004; Simons, Pelled, & Smith, 1999). We sent surveys to 550 management teams of individual properties spread over various regions in the United States. Although the exact number of managers on each team could not be known, we estimated that the average hotel property had 4 or 5 managers. Therefore, assuming an average of 4.5, the potential pool of respondents was 2,475. Responses were received from 498 managers. Thus, the response rate was 20.12 percent. We included teams that had responses from at least 2 team members and for which performance data were available, a procedure that gave us 102 teams (389 managers) for analysis.

Measures

Empowering leadership. With three different samples, Arnold and colleagues (2000) constructed and empirically validated a scale for measuring empowering leadership behaviors. Their best-fitting model had the following five factors: leading by example, participative decision making, coach-

ing, informing, and showing concern for/interacting with the team. We adopted 3 items for each of the above five factors as listed in Arnold et al. (2000). A sample item from the scale is, "Our general manager teaches our team members how to solve problems on our own." The average score of responses from team members other than the general manager was used to compute this measure. A confirmatory factor analysis (CFA) for the 15-item scale indicated a single second-order factor solution with an acceptable fit ($\chi^2 = 246.60$, $df = 80$, $p < .01$; NNFI = .96, CFI = .97, RMSEA = .08). Cronbach's alpha for the complete scale was .97.

Knowledge sharing. Faraj and Sproull's (2000) four-item scale, developed in a field study of software project teams, measures individual perceptions of the extent of knowledge sharing by team members. A sample item from the scale is, "Managers in our team share their special knowledge and expertise with one another." In addition, we also used the three-item information sharing scale developed by Durham (1997). A sample item from this scale is, "Managers in our team share lot of information with one another." A CFA of the seven items from the two scales indicated an acceptable level of fit for a one-factor model ($\chi^2 = 44.94$, $df = 12$, $p < .01$; NNFI = .98, CFI = .99, RMSEA = .08). Accordingly, we averaged the score on all seven items to compute this variable. Cronbach's alpha for the combined scale was .94.

Team efficacy. We measured team efficacy through aggregation of individual perceptions of team efficacy (Jung & Sosik, 2003). We used the three-item scale developed by Edmondson (1999). A sample item is, "We are confident of achieving the occupancy goal of our hotel." The pilot study revealed that the management team considered room occupancy targets critically important and therefore monitored them closely. Cronbach's alpha was .90.

To verify whether the empowering leadership, knowledge sharing, and efficacy measures were distinct from each other, we conducted a confirmatory factor analysis (CFA) on all the items of the three scales. We found a three-factor solution, corresponding to the three scales, to have a better fit than any two- or single-factor solution, indicating the distinctness of measures.

Level of analysis and aggregation of data. The median interrater agreement coefficients (r_{wg}'s; James, Demaree, & Wolf, 1984) for the three variables—empowering leadership, .98; team efficacy, .90; and knowledge sharing, .95—indicated high intermember agreement.

A one-way analysis of variance (ANOVA) for each of these variables indicated that the between-group mean square was significantly higher than the within-group mean square. The intraclass correlation coefficient (ICC[1]) values were as follows: empowering leadership, .17; team efficacy, .16; and knowledge sharing, .19. The test statistics (*F*-ratios) associated with the ICC(1) values of all three variables were statistically significant. The intraclass correlation coefficients (ICC[2]) values were as follows: empowering leadership, .44; team efficacy, .42; and knowledge sharing, .47. These values are lower than what is generally found in team research. This was because the current study's average team size of 3.81 was not big enough to result in large ICC(2) values; ICC(2) values are a function of group size and ICC(1) values (Bliese, 2000). Bliese argued that low ICC(2) values attenuate relationships among team-level variables. Thus, in that sense, the low ICC(2) values made the tests of the team-level relationships somewhat conservative.

Dependent variable: Team performance. Since management teams are "responsible for the overall performance of a business unit" (Cohen & Bailey, 1997: 243), we considered hotel property performance to be indicative of management team performance, as has previous research (Finkelstein & Hambrick, 1996). The performance of a hotel property can be appropriately evaluated only in relation to its local competitors, because various local factors (e.g., location and seasonal patterns of traffic) affect the number of customers a hotel property can attract and the price it can charge. We computed an index based on what was available from public sources and measured through the relative room rate realization of a hotel property. The index was the average difference in the room rate realized by a hotel property and the rate realized by local competitors, observed daily over a period of 28 days. We began collecting the performance data four weeks after completing collection of most of the survey data. Via consultation with managers of the hotel chain, we compared the room rate charged by a focal hotel property with that charged by two of its local competitors, then computed the average percentage difference. We assessed the reliability (temporal stability) of this measure by splitting the observations into two 14-day periods. The two measures had a correlation of .79, indicating an acceptable level of reliability.

Control variables. We statistically controlled the effects of five variables on our model. First, we took into account the percentage of rooms of a hotel property exceeding the average number of rooms available at two local competitors for a measure of size vis-à-vis competitors, as that might affect relative room rates. Second, the average tenure of managers on the management team was included, as it

might affect the level of familiarity and interaction among team members. Third, we controlled for the number of respondents in each team. Given the importance of demographic diversity variables in management teams research (Finkelstein & Hambrick, 1996), we also included a measure of educational background heterogeneity. Finally, we also took into account the proportion of managers in a team who had received hotel management education as another demographic measure.

ANALYSIS

In approaching our analyses, we drew on the work of Baron and Kenny (1986), as well as more recent related work by Kenny, Kashy, and Bolger (1998) and Shrout and Bolger (2002). According to Baron and Kenny, establishing the role of any mediator (taking knowledge sharing alone as an example, for brevity) in the empowering leadership–team performance relationship involves meeting four conditions: (1) empowering leadership is related to knowledge sharing, (2) knowledge sharing is related to team performance, (3) empowering leadership is related to team performance, and (4) the strength of the relationship between empowering leadership and team performance is reduced when knowledge sharing is added to the model as a mediator. However, Kenny et al. (1998) and Shrout and Bolger (2002) have more recently noted that if there is a significant relationship between empowering leadership and knowledge sharing, and a significant relationship between knowledge sharing and team performance, then even if empowering leadership is not related to team performance, the indirect effect of empowering leadership on team performance is implied (Kenny et al., 1998: 260). Thus, according to Holmbeck (1997), a *mediation* effect exists when all the above four conditions specified by Baron and Kenny (1986) are met. If the third (and consequently, the fourth) condition specified by Baron and Kenny is not met—that is, if empowering leadership and team performance are not directly related, but empowering leadership and knowledge sharing are related, and knowledge sharing and team performance are also related—then empowering leadership has an *indirect* effect on team performance through knowledge sharing.

RESULTS

Table 1 gives the descriptive statistics and correlations among the variables in our study.

As can be seen, empowering leadership did not have a significant relationship with team performance. Therefore, according to the norms set by Baron and Kenny (1986), it is not possible to establish the mediating roles of knowledge sharing and team efficacy in the relationship between empowering leadership and team performance. Testing the indirect effect of empowering leadership on team performance requires a significant relationship be-

TABLE 1
Descriptive Statistics and Correlations

Variable	Mean	s.d.	1	2	3	4	5	6	7	8
1. Relative hotel size	0.04	0.49								
2. Team tenure	3.23	2.45	.07							
3. Number of respondents	3.81	1.40	.19	.20*						
4. Educational diversity	0.53	0.17	.14	.18	.34**					
5. Proportion of members with hotel management education	0.19	0.20	.25*	.12	.01	.20*				
6. Empowering leadership	5.70	0.89	−.03	−.21*	−.11	.00	−.04			
7. Team efficacy	5.71	0.79	−.20*	.00	.06	−.04	−.12	.47**		
8. Knowledge sharing	5.51	0.90	−.14	−.24*	.06	−.09	−.23*	.39**	.38**	
9. Performance	0.76	0.26	.03	.04	.13	.02	.04	.09	.26**	.25*

* $p < .05$
** $p < .01$

tween empowering leadership and knowledge sharing (or team efficacy) and a significant relationship between knowledge sharing (or team efficacy) and team performance (Kenny et al., 1998).

We used structural equation modeling to test the hypotheses and verify the indirect effect of empowering leadership on team performance. Figure 1 gives the standardized path coefficients.

The model depicting Hypotheses 1–4 showed adequate fit ($\chi^2 = 19.80$, $df = 17$, $p > .05$; CFI = .97, RMSEA = .04), and all the paths shown were significantly positive, supporting Hypotheses 1–4. That is, empowering leadership had a positive relationship with knowledge sharing and team efficacy. In turn, both knowledge sharing and team efficacy had positive relationships with performance. Although the direct relationship between empowering leadership and performance posited by Hypothesis 5 was not significant, the total indirect effect of empowering leadership on performance was significantly positive. We also analyzed the data by dropping 21 teams that had only two members to verify bias due to nonresponse. The same paths remained significant in the reduced sample as well. To conclude, our results showed that the effect of empowering leadership on performance was indirectly conveyed through knowledge sharing and team efficacy.

DISCUSSION

We found empowering leadership in management teams to have an indirect effect on organizational performance. Empowering leadership was positively related to both knowledge sharing and team efficacy, which, in turn, were both positively related to performance. A direct relationship between empowering leadership and performance was not supported. The implications of our findings and the limitations of our research are discussed below.

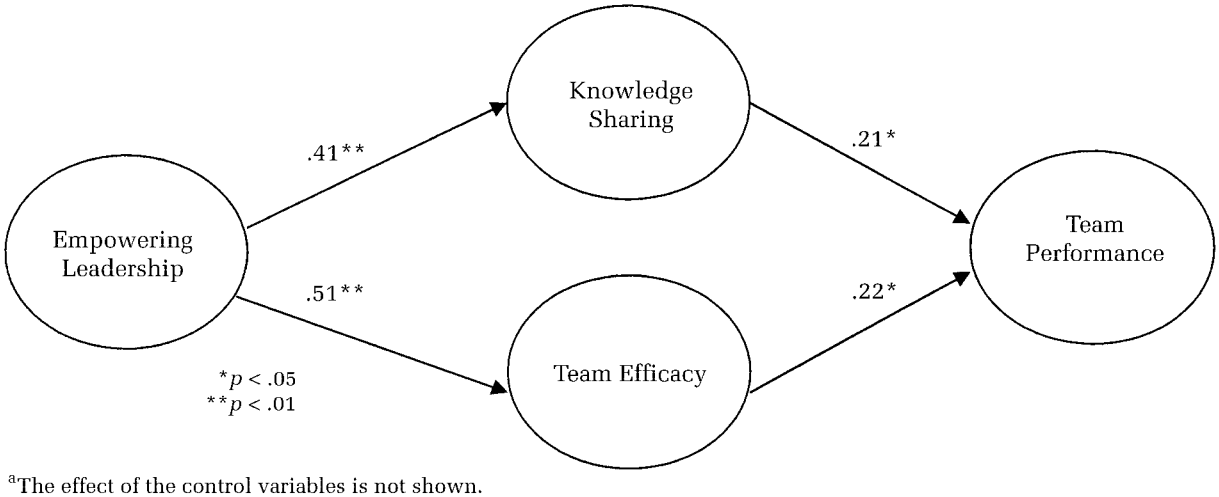
Theoretical Implications

Our findings extend previous research in four important ways. Firstly, we found knowledge sharing to be an important intervening variable in the empowering leadership–performance relationship. The positive relationship of empowering leadership and knowledge sharing is a new finding in a field study of teams. Our study suggests that an important benefit of empowering leadership is that members have increased opportunities and a need to share knowledge in order to solve their problems and make decisions.

The evidence for the direct relationship between knowledge sharing and team performance (measured through a different source) is an important finding, and it is consistent with research by Bunderson and Sutcliffe (2002). Knowledge sharing is a key team process, yet it remains sparsely researched in field settings. Our findings, along with those of previous research (Bunderson & Sutcliffe, 2002; Lewis, 1999) suggest that for teams whose members have diverse expertise (e.g., new-product development teams, cross-functional project teams, management teams), knowledge sharing is a critical team process to be examined because, unless the team members share their unique expertise, the purpose of designing such teams would not be served.

Secondly, we found team efficacy to be an im-

FIGURE 1
Standardized Path Coefficients[a]



[a]The effect of the control variables is not shown.

portant intervening variable in the empowering leadership–performance relationship. The empowering leadership–efficacy relationship was similar to that between empowering leadership and potency found in previous research on nonmanagerial work teams (Kirkman & Rosen, 1999). The evidence of positive effects for empowering leadership on both an important team process and an emergent state, as well as an indirect effect on organizational performance in the uncertain and complex world of management teams, indicates the robustness of findings of empirical research on empowering leadership in teams. Although our study extended the scope of empowering leadership research to management teams, it is important for future research to study other types of teams (e.g., new-product teams, action teams) to further test the generalizability of the effects of empowering leadership on team processes, emergent states, and team performance.

Ample evidence for a positive relationship between team efficacy and performance in nonmanagerial teams exists (Gully et al., 2002), but the team efficacy–performance relationship in management teams is an important finding. Despite the importance of team efficacy for organizational performance (Bandura, 1997; Yun, 1999), no prior research has assessed this relationship in management teams, to the best of our knowledge. Our results do not support Gibson's (1999) finding of no relationship between team efficacy and performance in teams performing tasks high in uncertainty (e.g., management teams). Although this does not imply that task uncertainty is a less important moderator of the team efficacy–performance relationship, what seems more likely is that other factors (e.g., team interdependence) in the case of management teams might compensate for the effect of task uncertainty (Gully et al., 2002). Identifying the boundary conditions of the team efficacy–performance relationship remains an important area for future research (Mischel & Northcraft, 1997).

Thirdly, although previous research on empowering leadership focused only on an emergent state—team empowerment—as the mediating concept (Kirkman & Rosen, 1999), our study examined the intervening roles of both knowledge sharing as a team process and team efficacy as an emergent state. Including these two kinds of concepts in one model makes the latter more inclusive in terms of the heuristic model of team effectiveness (Cohen & Bailey, 1997), as explained earlier. Our findings indicate that both knowledge sharing and team efficacy are important intervening variables in the empowering leadership–team performance relationship, even when their effects are considered simultaneously. A post hoc analysis revealed no differences between knowledge sharing and team efficacy as to the strength of their relationships with both empowering leadership and performance. For future research, our study highlights the importance of studying both team processes and emergent states in one model in order to be more theoretically inclusive, and to obtain more meaningful results regarding how to influence team effectiveness (Marks et al., 2001). It is also important that future research include multiple team processes and emergent states and use rigorous psychometric methods to test the discriminant validity and incremental effects of each category of variables.

Fourthly, management teams provided a highly worthwhile sample here because of implications for organizational performance and the consequent relevance to the strategy literature. We make a contribution to the research on management teams by expanding knowledge of the team factors that influence organizational performance, given the limited field research in this area. Our study indicates that knowledge sharing and team efficacy are strategically important team factors that "scale up" to organizational performance.

Finally, it is important to note that we did not find a direct relationship between empowering leadership and performance. We provided evidence for the indirect effect of empowering leadership on team performance, unlike previous research (Kirkman & Rosen, 1999) that has shown team empowerment to partially mediate the relationship between empowering leadership and performance. There are two possible reasons we did not find support for the direct relationship between empowering leadership and team performance. First, we used an objective measure of team performance, unlike Kirkman and Rosen, who obtained ratings of team performance as well as leader behaviors from the leaders. The second possible reason is that the pathways linking a distal concept such as leadership with organizational performance are more complex and indirect than the pathways linking leadership and team performance in the type of work teams studied by previous research. This means that theories of team effectiveness may need further refinement, especially when applied to management teams.

Managerial Implications

Our study illustrates the indirect importance of empowering leadership and the direct importance of knowledge sharing and the team efficacy of man-

agement teams for organizational performance—an outcome of great interest for managers. Although technology has long been recognized as an important facilitator of knowledge sharing (Liebowitz, 1999), practitioners have also identified the importance of behavioral issues. For example, Robert Buckman, CEO of Buckman Laboratories, remarked, "How do you change your culture to share knowledge?" (*Information Week,* 1999: 6 ER). Our study indicates an empowering leader is an important facilitator of knowledge sharing. Although empowering leadership did not have a direct effect on performance, it is likely its presence leads to higher team efficacy and knowledge sharing, both of which are desirable for team effectiveness. Thus, organizations may find it useful to emphasize leader selection and development so that empowering behaviors are exhibited by team leaders. It must be borne in mind, though, that a transition from a manager-directed set-up to an empowered one involves several challenges (Manz, Keating, & Donnellon, 1990). Also, empowering behaviors may not be suited to crisis situations or situations with incompetent and disinterested employees (Yukl, 2002).

Limitations and Conclusion

The applicability of our results to other kinds of businesses/operations needs to be verified. Though we measured team performance with a time lag, we did not have a causal design. This was an important limitation because with some relationships, such as the team efficacy–performance link, each could potentially cause the other (Lindsley, Brass, & Thomas, 1995). Though we measured team performance through a different source, we measured empowering leadership, knowledge sharing, and team efficacy through the same survey, so the possibility of common method bias must be considered when interpreting the relationships among these three variables. However, our confirmatory factor analysis did indicate that these concepts were perceived as distinct from each other.

Similarly, although we used aggregation of individual ratings to compute the team-level measures, there is increasing evidence that consensus ratings provide incremental validity over the aggregation method (Gibson, Randel, & Earley, 2000; Kirkman, Tesluk, & Rosen, 2001) and should also be used in future research. Another limitation of our study is that we could not ascertain the degree of nonresponse because we did not explicitly ask leaders the number of managers on their teams. It is difficult to assess and eliminate the possible bias due to the nonresponse of some team members. However, when we dropped the teams with only two responses, the results remained the same (in terms of significant paths). This finding gives us some confidence that our results were not biased by including teams with two responses. For the same reason, we could not include the exact team size as a control variable in our analysis. However, on the basis of subsequent discussion with managers of hotel properties, we included the size of hotel property (as a proxy for team size) as a control variable and found similar results.

Our study adds to the knowledge of an important intervening team process and emergent state through which empowering leadership indirectly affects team performance. Our findings highlight the importance of empowering leadership for knowledge sharing. They also provide evidence for certain management team characteristics as potential strategic assets for an organization.

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