Shared Leadership in Teams: An Investigation of Antecedent Conditions and Performance

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SHARED LEADERSHIP IN TEAMS:

AN INVESTIGATION OF ANTECEDENT CONDITIONS AND PERFORMANCE

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Shared Leadership in Teams:
An Investigation of Antecedent Conditions and Performance

ABSTRACT

Shared leadership refers to a phenomenon where leadership is distributed throughout the team rather than relying on a single, designated leader. We examined antecedent conditions that lead to the development of shared leadership and the influence of shared leadership on team performance in a sample of 59 consulting teams. Both the internal team environment, consisting of shared purpose, social support, and voice, and external coaching were important predictors of shared leadership emergence. In turn, shared leadership was found to predict team performance as rated by clients. We conclude by discussing the implications of these findings for team leadership and effectiveness.

Leadership is considered crucial for enabling team effectiveness (Cohen & Bailey, 1997; Hackman & Walton, 1986; Kozlowski, Gully, Salas, & Cannon-Bowers, 1996), and some researchers have even argued that it is the most critical ingredient (Sinclair, 1992; Zaccaro, Rittman, & Marks, 2001). However, most existing research on team leadership has focused narrowly on an individual team leader's influence (usually a manager external to the team) while largely neglecting leadership provided by team members (Kozlowski & Bell, 2003; Stewart & Manz, 1995). Several trends in team design, use, and structure, however, point to the importance of internal team leadership. First, the complexity and ambiguity that teams often experience make it unlikely that a single external leader can successfully perform all necessary leadership functions (Day, Gronn, & Salas, 2004). Second, current forms of teamwork that emphasize knowledge-based work rely on employees who have high levels of expertise and seek autonomy in how they apply their knowledge and skills (DeNisi, Hitt, & Jackson, 2003), therefore desiring greater opportunity to shape and participate in the leadership functions for their teams. Further, flatter organizational structures and the pervasive presence of self-managing teams, which are now well established and deeply rooted in U.S. industry (Lawler, Mohrman, & Benson, 2001; Manz & Sims, 1987), emphasize the need for leadership originating from within the team as opposed to a single individual in a position of hierarchy. Despite this transition in leadership responsibilities from formal managers to team members, relatively little research has addressed the implications of this evolutionary shift to internally distributed forms of team leadership.

Early leadership scholars argued for the importance of leadership being shared among team members (Gibb, 1954; Katz & Kahn, 1978). Gibb (1954: 884) first suggested, "Leadership is probably best conceived as a group quality, as a set of functions which must be carried out by the group. This concept of 'distributed leadership' is an important one." Katz and Kahn (1978)

also suggested that when team members voluntarily and spontaneously offer their influence to others in support of shared goals, shared leadership can provide organizations with competitive advantage through greater levels of commitment, more personal and organizational resources brought to bear on complex tasks, more openness to reciprocal influence from others, and greater sharing of information. Consequently, they argued, "those organizations in which influential acts are widely shared are most effective" (Katz & Kahn, 1978: 332). These early perspectives challenged the convention that leadership is solely an individual phenomenon, but there has been little empirical work on shared forms of leadership until recently.

We define *shared leadership* as an emergent team property that results from the distribution of leadership influence across multiple team members. It represents a condition of mutual influence embedded in the interactions between team members that can significantly improve team and organizational performance (Day et al., 2004). Shared leadership contrasts with the conventional paradigm (referred to as "vertical leadership" by Pearce and Sims (2002)), which emphasizes the role of the manager who is positioned hierarchically above and external to the team, has formal authority over the team, and is responsible for the team's processes and outcomes (e.g., Druskat & Wheeler, 2003; Hackman & Walton, 1986; Kozlowski et al., 1996). Recent empirical work has demonstrated links between shared leadership and team performance (e.g., Avolio, Jung, Sivasubramaniam, 1996; Ensley, Hmieleski, & Pearce, 2006; Pearce & Sims, 2002; Sivasubramaniam, Murry, Avolio, & Jung, 2002). While these studies have helped advance the concept of shared leadership, several research gaps remain which have motivated this study.

The first purpose of our study is to begin to theoretically identify and test conditions that support shared leadership in work teams. To our knowledge, there have been no studies directly

exploring the conditions that give rise to shared leadership. Reflecting a perspective of leadership in teams as a dynamic process involving interactions between team members and external team leaders (cf., Kozlowski et al., 1996; Zaccaro & Klimoski, 2002), we consider conditions both internal and external to the team. Two proximal factors that are likely to influence the development of shared leadership are the internal team environment, including a shared purpose, social support, and voice, and the level of external coaching support. Considering these antecedent conditions for shared leadership also adds to the scant literature on interactions between external and internal team leadership, which is important since both forms of leadership operate concurrently and in conjunction with one another (e.g., Manz & Sims, 1987).

A second purpose is to provide an improved conceptualization and operationalization of the shared leadership construct that reflects its theoretical complexity. Scholars have called for more attention to theoretical models of team leadership that are developed at the team level rather than mere extrapolations of existing dyadic leadership approaches (Kozlowski & Bell, 2003). Prior work on shared leadership has relied primarily on aggregating team members' assessments of the degree to which leadership responsibilities are shared or certain behaviors are exhibited within the team (see Table 1), which may fail to capture the relational nature of the patterns of shared influence in teams. Utilizing social network theory (e.g., Brass, 1995; Mehra, Smith, Dixon, & Robertson, 2006), we attempt to advance a more complete conceptualization of the emergent and relational nature of shared leadership and take a social network measurement approach in order to better capture these overall patterns of influence.

A third purpose of this study is to predict performance outcomes. Existing research on shared leadership has almost exclusively relied on team members' and/or external leaders' ratings of performance (see Table 1), which raises concerns about common method variance as

well as the ability to obtain an independent assessment of the team's performance. We study the performance outcomes of shared leadership using a source independent of the team and its immediate leadership structure, i.e., the end users of the team's work product. We conclude with implications for team leadership research and improved teamwork practices in organizations.

Insert Table 1 about here

LITERATURE REVIEW AND HYPOTHESES

Shared Leadership Defined

Gibb (1954) first suggested the idea of two forms of team leadership: distributed and focused. Focused leadership occurs when leadership resides within a single individual, whereas distributed leadership occurs when two or more individuals share the roles, responsibilities, and functions of leadership. Rather than rigid either-or categories, Gronn (2002) argued that these two concepts of focused and distributed leadership be considered endpoints on a continuum.

To further develop the concept of how leadership is shared among team members, we utilize Yukl's (1989: 5) definition of leadership as "influence processes involving determination of the group's or organization's objectives, motivating task behavior in pursuit of these objectives, and influencing group maintenance and culture." Building on the concept of leadership as influence and drawing on multilevel theory (Kozlowski & Klein, 2000; Morgeson & Hofmann, 1999), we define shared leadership as an emergent team property that results from the distribution of leadership influence across multiple team members. Consistent with the notion of collective constructs (Morgeson & Hofmann, 1999), we argue that shared leadership originates with individual team members engaging in activities that influence the team and other team members in areas related to direction, motivation, and support (Yukl, 1989) and through the

series of interactions that team members have with each other involving the negotiation and sharing of leadership responsibilities. The resulting collective structure can be considered to be a leadership network that influences and shapes both team and individual activities and outcomes.

Leadership can be conceptualized in relation to either the strength (i.e., quality or effectiveness of influence provided) or the source of influence (i.e., single vs. multiple team members providing influence.) Our definition is focused on multiple *sources* of influence, and refers to widespread influence within teams rather than to specific leadership behaviors, formal positions, specific types of influence, or the effectiveness of the leadership that is exhibited by these sources. Building on these ideas of distributed influence and drawing upon Gibb's (1954) original conceptualization, we believe shared leadership can be conceptualized along a continuum based on the number of leadership sources (i.e., team members) garnering a high degree of influence within the team. Anchoring the low end of the continuum are cases where team members follow the leadership of a single individual. Although the nature of leadership exhibited by this single individual might be quite strong, leadership here originates from only a single source. In contrast, at the high end of the shared leadership continuum are teams where most, if not all, team members provide influence to one another. Here, the source of leadership influence is distributed among team members rather than concentrated or focused in a single individual. In these teams, team members both lead and follow one another, such that at a given point in time members are both providing leadership for certain aspects of team functioning and also responding to the leadership provided by others on the team in different areas. Teams with high levels of shared leadership may also shift and/or rotate leadership across time, such that different members provide leadership at different points in the team's lifecycle and development.

Shared leadership is a relational[1] phenomenon involving mutual influence between team members as they work toward the pursuit of team objectives, and social network theory provides a natural theoretical and analytical approach to studying the relational influence structure in teams (Mehra et al., 2006). The exercise of leadership influence (Yukl, 1989) occurs in the context of team member relationships, and assumes the existence of followers or "influencees" (Bedeian & Hunt, 2006). Shared leadership creates patterns of reciprocal influence which further develop and reinforce existing relationships among team members. Thus, social network theory is appropriate as it examines patterns of relationships among individuals such as advice, information, and friendship networks, and emphasizes the relationship as the unit of analysis (Brass, 1995; Sparrowe, Liden, Wayne, & Kraimer, 2001). Further, social network analysis allows for the study of multiple sources of leadership influence, and the ability to model patterns of influence within the team and preserve rich data about the actual distribution of influence (Mehra et al., 2006).

Consistent with social network theory, we argue that the pattern of emerging mutual influence in teams can be conceptualized as an increase in the density of the team's internal leadership network. A leadership network is the pattern of individuals who rely on others for leadership of the team, and density increases as this reliance on one another for leadership grows. Density, as used conceptually in social network research, is a structural property representing the pattern of relationships within teams, and describes the overall level of different types of exchanges among members of a given social network (Sparrowe et al., 2001). Sparrowe and colleagues (2001: 317) describe this team level construct as follows: "Density is analogous to the

[1] When we use the terms 'relational' and 'relationships' here, we are simply referring to the interactions between two or more people. These terms are not meant to imply that shared leadership assumes the existence of or is the result of close personal friendships among team members. We thank an anonymous reviewer for highlighting the need to make this distinction.

mean number of ties per group member. The more ties each group member enjoys with the other group members, the greater the density of the network." Here, ties between team members (also referred to as relationships) exist when a team member perceives another as exerting leadership influence within the team. Thus, the density of a leadership network is the mean number of relationships (per team member) involving leadership influence. When more team members provide leadership to their peers, density of this type of network increases. Operationally, network density is a measure of the proportion of total possible relationships (actual versus potential) that exists in a given network (Wasserman & Faust, 1994), and thus captures variance in the overall patterns of relationships rather than variance in shared perceptions of a construct (as is the case with aggregated behavioral scales). Accordingly, utilizing network density as a measure of shared leadership appropriately reflects the extent to which leadership influence is distributed among a relatively high or relatively low proportion of its team members.

Relationship With Similar Constructs

Having defined and described the nature of shared leadership, it is also helpful to describe briefly its relationship to other similar constructs, such as autonomous or self-managing teams, team empowerment, cooperation, team cognition (e.g., transactive memory systems and team mental models), and emergent leadership. Self-managing and autonomous teams describe particular types of team designs whereby team members have greater degrees of responsibility for setting their own goals, monitoring their own progress, and making their own decisions than do team members in manager-led teams (Hackman, 1987). Although self-managing team designs may promote the development of shared leadership through increased self-management (Manz & Sims, 1987), or through heightened levels of trust or autonomy (Langfred, 2004), such designs themselves do not necessarily result in leadership influence being widely distributed within the

team as other factors such as the internal team environment and external coaching may also influence shared leadership (Wageman, 2001).

Team empowerment is a motivational construct and has been defined as the collective experience of heightened levels of task motivation due to team members' assessments of their team's tasks as providing them with high levels of meaningfulness, autonomy, sense of impact, and potency (Kirkman & Rosen, 1997). From a temporally dynamic perspective, team empowerment can be viewed as an emergent state that both precedes and follows team processes depending on the stage of a team's development and performance cycle (cf., Marks, Mathieu, & Zaccaro, 2001). From this perspective, team empowerment might facilitate the development of shared leadership by motivating team members to exercise influence. Conversely, shared leadership might also lead to greater team empowerment by providing members with a heightened sense of meaningfulness, autonomy, impact, and potency, depending on the stage of a team's development. However, a team may experience a high level of empowerment yet still have a strong external leader providing most of the leadership influence for the team, with very little shared leadership exhibited by team members.

Shared leadership is related to but distinct from other team processes such as cooperation or helping, which refer to working with and/or assisting other team members with their tasks (Kozlowski & Bell, 2003). While these types of behavior relate to being an effective team member and promote efficiency, they do not involve the active influence that is essential to leadership. Consistent with this conceptualization, a recent study found only a moderate correlation between shared leadership and cooperation or helping (Ziegert, 2005).

Shared leadership is also distinct from team cognition constructs, such as transactive memory systems (TMSs), or structures through which members can collectively encode, store,

and retrieve information and expertise (Wegner, 1987), and team mental models (TMMs), or shared understandings about attributes of the team or the task at hand (Cannon-Bowers, Salas, & Converse, 1993). Conceptually, the primary distinction between shared leadership and these team knowledge structures is that the former concerns collective influence, whereas the latter concerns collective cognition. This conceptual difference may perhaps best be seen in the distinction between measurement approaches. Shared leadership assesses the distribution of leadership among team members. TMS measures capture team-level systems for utilizing and integrating individually and collectively held expertise (Lewis, 2003). TMMs assess the similarity and accuracy of individual mental models within a team (Marks, Zaccaro, & Mathieu, 2000). Although distinct concepts, shared leadership likely facilitates the development of TMMs and TMSs through continual influence-based interactions and social exchanges (Klimoski & Mohammed, 1994) that occur as team members share leadership responsibilities. Reciprocally, through effective coordination of expertise and the development of mutual understandings, TMS and TMM likely enable the emergence of shared leadership.

Finally, emergent leadership refers to group members who exert significant influence over other members of the group although no formal authority has been vested in them (Schneier & Goktepe, 1983). Shared leadership is consistent with some of the early group research by Bales (1953), who found that two informal leaders often tend to emerge in leaderless groups: one focused on the task, and one concentrating on relational issues. This literature is similar to shared leadership in that it typically concerns whether leadership is provided informally by a group member (known as an 'emergent leader') in addition to or instead of a formally appointed leader (e.g., Wheelan & Johnston, 1996). However, emergent leadership research differs by focusing on the characteristics of the individual and the group that predict informal leadership emergence,

as well as narrowly considering only 1 or 2 persons as emergent leaders and ignoring the leadership influence of others. In sum, shared leadership is distinct from emergent leadership in that the former can take place in a team with or without a designated leader, can be either formal or informal, and considers the distribution and sharing of leadership among all team members in contrast to a restriction to only one or two leaders.

Antecedent Conditions: Internal and External

Researchers studying shared leadership have argued that in order for shared leadership to emerge, two sets of activities must occur (Katz & Kahn, 1978). First, team members must offer leadership and seek to influence the direction, motivation, and support of the group. Second, the team as a whole must be willing to rely on leadership by multiple team members. In order for these individual and collective behaviors to occur, team members must believe that offering and accepting influence to and from fellow team members is welcome and constructive. We considered key factors - both internal and external - that are likely to impact the development of shared leadership in teams through these mechanisms. The first condition is an internal team environment that supports the development of shared leadership over time, and the second is the level of supportive coaching provided by an external leader.

We propose first that shared leadership is facilitated by an overall team environment that consists of three dimensions – shared purpose, social support, and voice. These dimensions have been drawn from a review of literature on shared leadership (e.g., Avolio et al., 1996; Barry, 1991; Pearce & Conger, 2003; Seers, 1996; Yukl, 1989), and represent distinct concepts that are also highly interrelated and mutually reinforcing, thereby representing a higher-order construct (cf., Edwards, 2001; Law, Wong, & Mobley, 1998). We refer to them here, collectively, as an *internal team environment* enabling shared leadership because they work together to produce the

kind of team context that encourages the willingness to both offer leadership influence and rely on the leadership of other team members (Katz & Kahn, 1978).

Shared purpose is the first dimension of an internal team environment enabling shared leadership. Shared purpose exists when team members have a similar understanding of the team's primary objectives and take steps to ensure a focus on collective goals. Prior work has theorized and demonstrated that team members who have a common sense of purpose and agreed upon goals are more likely to feel motivated, empowered and committed to their team and work (Kirkman & Rosen, 1999; O' Leary-Kelly, Martocchio, & Frink, 1994; Liden et al., 2000). These heightened levels of motivation, empowerment, and commitment that individuals experience when the team possesses a shared purpose increase the willingness of team members to share the team's leadership responsibilities (Avolio et al., 1996). In addition, with a commonly understood set of objectives and direction, team members will be more likely to establish goals and take actions that support the activities of other team members, thereby facilitating both goal-oriented and work-directive leadership behaviors by team members (Seers, 1996), as well as a collective direction to team activities (Yukl, 1989).

The second dimension of an internal team environment that supports shared leadership is social support, which is defined as team members' efforts to provide emotional and psychological strength to one another. Team members support one another through encouraging and recognizing individual and team contributions and accomplishments (Marks et al., 2001). This helps to create an environment where team members feel that their input is valued and appreciated. By actively participating in the team and feeling supported team members are more likely to work cooperatively and develop a sense of shared responsibility for team outcomes (Kirkman & Rosen, 1999). Social support is associated with group maintenance and culture

(Yukl, 1989), leader support/supportive behaviors (Seers, 1996), relational leadership (Barnard, 1938), and developing and maintaining the team by providing "interpersonal glue" that helps build a strong internal social network within the team (Barry, 1991).

The third dimension of this internal team environment is voice. There is not a standard definition of voice in the literature, as it has been used in a variety of research areas to describe constructive change-oriented communication, participation in decision making, involvement, certain extra-role work behaviors, due process, and employee grievance procedures (Van Dyne & LePine, 1998); however, at its core it connotes participation and input. We define it here as the degree to which team members have participation and input into how the team carries out its purpose. Voice is associated with interaction facilitation/participative behaviors in teams (Seers, 1996), and these types of behaviors can result in higher levels of social influence among team members through increased engagement and involvement. In addition, voice has been associated with participation in decision making and constructive discussion and debate around alternative approaches to team goals, tasks and procedures (De Dreu & West, 2001; Simons, Pelled, & Smith, 1999), which can improve the amount of collective influence, involvement, and commitment relative to important team decisions. Thus, the presence of high levels of voice in a team should create an environment where people engage in mutual leadership by being committed to and becoming proactively involved in helping the team achieve its goals and objectives and constructively challenging each other in pursuit of group goals.

These three dimensions are mutually reinforcing and complementary. When team members are able to speak up and get involved (voice), the likelihood that many of them will exercise leadership increases greatly. The opportunity for voice also facilitates shared leadership by strengthening both a common sense of direction and the potential for positive interpersonal

support within the team. When teams are focused on collective goals (shared purpose), there is a greater sense of meaning and increased motivation for team members to both speak up and invest themselves in providing leadership to the team and to respond to the leadership of others. The motivation to participate and provide input towards common goals and purpose can also be reinforced by an encouraging and supportive climate. When team members feel recognized and supported within the team (social support) they are more willing to share responsibility, cooperate, and commit to the team's collective goals. Thus, these three dimensions work together to create an internal team environment that is characterized by a shared understanding about purpose and goals, a sense of recognition and importance, and high levels of involvement, challenge, and cooperation. Therefore, we predict:

Hypothesis 1. An internal team environment consisting of shared purpose, social support, and voice will be positively related to the level of shared leadership within the team.

External Team Coaching

Scholars studying shared leadership and leadership in self-managing teams have noted the critical role of external team leaders in the development of team members' motivation and capabilities to lead themselves and become self-directed (Kozlowski et al., 1996; Manz & Sims, 1987). When discussing this role, researchers frequently stress the importance of *coaching* behaviors, which Hackman and Wageman define as external team leaders' "…direct interaction with a team intended to help team members make coordinated and task-appropriate use of their collective resources in accomplishing the team's task"(2005: 269). Researchers have identified different types of team coaching, distinguishing between forms that are more supportive and reinforcing of the team's self-leadership as compared to those that focus on identifying team problems and engaging in active task interventions which interfere with the team's autonomy

and self-management (Morgeson, 2005; Wageman, 2001). Here, we specifically refer to the former, which has been called "supportive coaching" (Morgeson, 2005) because it is more closely connected with the development of team self-management, initiative, and autonomy, whereas active coaching is more likely to undermine these team characteristics and possibly inhibit the development of shared leadership. Supportive coaching can also be distinguished from other external team leadership functions such as designing the team and its task (Wageman, 2001) and facilitating boundary management (Druskat & Wheeler, 2003).

Through supportive coaching external team managers can contribute to the development of shared leadership in a variety of ways. First, by engaging in behaviors such as encouraging, reinforcing, and rewarding instances where team members demonstrate leadership, supportive coaching fosters among team members a sense of self-competence and team independence (Manz & Sims, 1987). When team members believe that they have significant autonomy and are confident in their skills to self-manage the work of their team they should be more likely to demonstrate leadership. Supporting this assertion, supportive coaching by a team manager has been found to be positively associated with the degree to which team members demonstrate self-management (Wageman, 2001). Second, by providing their teams with encouragement and support, external coaching can help build a shared commitment to the team and its objectives which can reduce free riding behavior and increase the likelihood that team members will demonstrate personal initiative (Hackman & Wageman, 2005). Third, by giving their teams suggestions about appropriate task strategies that will ensure that their activities are well aligned with work requirements and demands (Hackman & Wageman, 2005), team members will have greater clarity on how to best manage their work and processes and thereby be more likely to

influence each other because this understanding will be shared across team members (Kozlowski et al., 1996). Therefore, we predict:

Hypothesis 2. External team coaching will be positively related to the level of shared leadership within the team.

The second – and more indirect – way in which external coaching may influence shared leadership is based on a functional approach to team leadership which states that the role of the external team leader is to do whatever is not being adequately managed by the team itself (Hackman & Walton, 1986). When teams have a supportive internal environment, team coaching by an external team leader is likely to be largely redundant with this internal environment and therefore less critical to the emergence of shared leadership among team members. However, for teams that lack a strong shared purpose, do not promote full engagement and participation, and where team members are unable to provide each other with social support, a functional leadership perspective suggests that the external leader's coaching may be particularly important in helping teams overcome these liabilities and facilitate the development of shared internal leadership. Specifically, effective team coaching by an external leader - focused on building collective commitment to the team and its work, assisting the team with aligning their activities with task requirements, and fostering independence - can help provide the motivational and consultative functions (Hackman & Wageman, 2005) that enable shared leadership but have not been adequately developed by the team internally. External team leaders can also help team members understand the different skills and capabilities of team members and how they can be integrated to address the demands of the task. This understanding can motivate individual team members to initiate and engage in internal leadership activities and do so in a coordinated fashion resulting in an emergent pattern of shared leadership. In this fashion, an external team

leader through supportive coaching can provide the means by which shared leadership may emerge when a team has yet to develop a high level of social support, shared purpose, and voice. Based on the foregoing nature of the relationships between the internal team environment and an external leader's team coaching, we therefore make the following prediction:

> Hypothesis 3. Team coaching by an external leader interacts with the internal team environment in predicting shared leadership such that coaching will be found to be more strongly related to shared leadership when the internal team environment is unsupportive.

Shared Leadership and Team Performance

Shared leadership represents an important intangible resource available to teams, and therefore should enhance team performance on complex tasks (Day et al., 2004). When team members offer their leadership to others and to the mission or purpose, they should experience higher levels of commitment, bring greater personal and organizational resources to bear on complex tasks, and share greater amounts of information (Katz & Kahn, 1978). When they are also open to influence from fellow team members, the team can function with respect and trust and develop shared leadership that in turn becomes an additional resource for improving team process and performance (Day et al., 2004; Marks et al., 2001). This intangible resource is derived from the network relationships within the team, and results in greater effort, coordination, and efficiency for the team (Nahapiet & Ghoshal, 1998).

Only a handful of empirical studies have been conducted with shared leadership as an explicit source of leadership, but the results are promising (see Table 1). Avolio and colleagues (1996) explored shared leadership among teams of undergraduate students and found a positive correlation with self-reported effectiveness. Pearce and Sims (2002) studied the relationship between shared leadership and change management team effectiveness at a large automotive

manufacturing firm and found shared leadership to be a more useful predictor than the vertical leadership of the appointed team leader. Sivasubramaniam and colleagues (2002) found that team leadership, defined in a manner similar to shared leadership as collective influence of members in a team on each other, was positively related to both team performance and potency over time in a sample of undergraduate business students. Pearce, Yoo, and Alavi (2004) studied shared leadership in virtual teams engaged in social work projects and again found that shared leadership was a stronger predictor of team performance than vertical leadership. Ensley, Hmielski, and Pearce (2006) also found shared leadership to be a stronger predictor than vertical leadership of new venture performance in a sample of top management teams.

Finally, there is also indirect support for shared leadership predicting team performance. Taggar, Hackett, and Saha (1999) examined emergent leadership within teams and found that team performance was greatest when other team members, in addition to the emergent leader, demonstrated high levels of leadership influence. Failure of even a single member to exhibit leadership behavior was found to be detrimental to team performance. Although shared leadership was not formally defined or measured, these findings appear to support the notion that shared leadership might result in greater effectiveness than the emergence of a single internal team leader. Taken as a whole, these studies suggest that shared leadership is an important predictor of team performance, and provides an additional resource to teams beyond the leadership of any single individual. Therefore, we predict:

Hypothesis 4. The degree of shared leadership in a team will be positively related to team performance.

METHODS

Sample

Participants and procedure. The study sample included 59 MBA student-consulting teams from a large eastern university (total N = 348; team size ranged from 4 - 7 members with a mean team size = 5.93 individuals). The sample was 67% male, and ages ranged from 24 to 42 (mean age = 29 years old). Participants were 56% White, 33% Asian, 5% Black, and 5% Hispanic. This sample is well suited to testing our hypotheses because the nature of the team task was highly similar and the team life cycle was identical across the teams, thus ruling out these mitigating factors often present in empirical team research. Teams were engaged in real consulting projects and worked closely with their clients over a 5-month period that concluded with a significant deliverable (presentation to the client and an accompanying report). Thus, the likelihood that findings are generalizable to non-student populations is strengthened.

Students were assigned to their teams by the program office, and project teams were multifunctional in terms of team members' areas of concentration and expertise. Each team worked on a current problem or business need for an existing firm and was assigned a faculty advisor who served as an external leader, and who also assigned grades. These external team leaders acted much like a partner in a consulting firm who supervises multiple projects; they were available to provide general guidance and support for the team in working with the client throughout the course of the project. Teams did not have a formally appointed internal leader.

Data from teams were collected through surveys which were administered approximately two-thirds of the way through the project, and data from clients and faculty advisors were collected through surveys administered after the projects and final deliverables were complete and presented to the clients. We surveyed clients in order to obtain independent sources of team performance while faculty surveys were administered primarily to gather information on the

level of project demands faced by the team. Surveys were received from 348 team members (response rate = 100%), from faculty advisors for 51 of the teams (response rate = 86%), and from client contacts for 56 of the teams (response rate = 95%).

Measures

Team performance. Client contacts that had worked closely with the team and were the end users of the project results were asked to rate the effectiveness of each team in terms of project deliverables, presentation, and helpfulness of recommendations. Sample items began with the stem "How effective was this team in…" and include: "meeting your expectations in terms of the quality of the final deliverables," "providing a quality presentation of the final deliverables," and "overall, meeting your needs and goals for this project." Seven items were rated on a 7-point Likert scale ranging from 1 (*extremely ineffective*) to 7 (*extremely effective*), and principal-components analysis yielded a single factor ($\alpha = .93$).

Shared leadership. Shared leadership was measured following a social network approach (Mayo, Meindl, & Pastor, 2003) by using *density*, which is a measure of the total amount of leadership displayed by team members as perceived by others within the team (mean = 3.16, median = 3.15, and range = 2.40 – 3.90). Every team member rated each of his/her peers (using a 5-point Likert scale ranging from 1 (*Not at all*) to 5 (*To a very great extent*)) on the following question: "To what degree does your team rely on this individual for leadership?" To calculate density, we followed the measurement approach for valued relations set forth by Sparrowe and colleagues (2001) by summing all values (here, the team member ratings of each other's leadership) and then dividing that sum by the total possible ties, or relationships, among team members. Thus, following our definition of shared leadership as a team property reflecting the distribution of leadership among multiple team members, teams in which many team members

are rating many of their peers as leaders will appropriately yield higher density scores than those teams in which only 1 or a few members are perceived as exerting leadership within the team. Agreement across the respondents' ratings of their team members was assessed and demonstrated adequate interrater reliability (Median r_{wg} = .65, ICC(1) = .34, and ICC(2) = .78).

In order to illustrate the density measure visually, we created leadership sociograms for each team (Mayo et al., 2003). Leadership network ratings were first dichotomized: values of 4 (great extent) or 5 (very great extent) were assigned a value of 1, and values of 3 or less were assigned 0.[2] The sociograms for the lowest, median, and highest scoring teams on the shared leadership measure are presented below in Figure 1. The circles are nodes representing team members. Arrows represent leadership relations: An arrow pointing from one member (A) to another (B) means that member B is perceived as a source of leadership by member A. Two-headed arrows mean that individuals both perceive one another as a source of leadership.

Insert Figure 1 about here

Internal team environment. Members rated their team's internal environment using 10 items (5-point scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*)) consisting of three separate theoretically derived subscales: *shared purpose, social support,* and *voice.* Voice was measured using 4 items based on previous work by LePine and VanDyne (1998) and DeDreu and West (2001), while shared purpose and social support scales were developed to specifically fit the context of our sample. All items are listed in Appendix A. To test for discriminant validity, we performed a confirmatory factor analysis (using EQS) specifying a higher-order factor with three dimensions (indicated by the 10 items), which yielded a good fit to the data

[2] It is important to note that the dichotomous (0, 1) data set was used *only* for the purpose of creating these graphic depictions of the leadership relations within the team. All substantive analyses in the paper used the fully-valued ratings (1 – 5) for calculation of the density score which was our measure of shared leadership.

($\chi^2_{(32)}$= 67.87; AIC = 3.87; CFI = .977; GFI = .963; AGFI = .937; SRMR = .036; RMSEA = .057), thus demonstrating support for the hypothesized structure[3]. To investigate the convergent validity of the structure for internal team environment, we examined the correlations among the three subscales. The zero-order correlations were high, ranging from .72 to .80 ($p < .001$), which provided evidence that the three subscales represent dimensions that are highly interrelated. Given the overall support for the hypothesized model, these three subscales were first aggregated to the team level and then averaged together to produce a single variable that represents internal team environment ($\alpha = .94$). We tested for whether aggregation was appropriate using the r_{wg} statistic of within-team agreement (James, Demaree, & Wolf, 1993) and intraclass correlation coefficients (ICC(1) and ICC(2)) to assess the extent to which team responses differed among teams and the reliability of the team level means (Bliese, 2000). The mean $r_{wg} = .96$, indicating a high level of agreement across members within teams in rating their internal team environment, ICC(1) = .14, demonstrating that significant variance is accounted for by team membership, and ICC(2) = .71, suggesting that the team-level means are reliable.

Coaching. Team members were asked to rate the level of supportive coaching (Morgeson, 2005) provided by their external leader (faculty advisor) using a 3-item scale. Items included: "expresses his/her confidence in the capabilities of our team," "effectively motivates and guides our team toward accomplishing challenging goals for this project," and "is sensitive to the needs of our team and tries to help us however he/she can." These items capture the motivational and consultative functions of external leaders that have been suggested as particularly important for fostering both commitment to the team and independence (Hackman & Wageman, 2005; Morgeson, 2005). Items were rated on a 5-point Likert scale ranging from 1

[3] We also examined the fit statistics for a 1-factor model, which was not a very good fit to the data. A chi-square difference test also indicated that our theoretical model was a significantly better fit.

(*strongly disagree*) to 5 (*strongly agree*) (α = .92), and responses were aggregated to the team level and demonstrated strong levels of within-team agreement, between-team differences, and reliable team-level means (mean r_{wg} = .83; ICC(1) = .51; ICC(2) = .80).

Control variables. Controls were included for the effects of team size, project demands, gender diversity, and race diversity in order to address these possible alternate explanations for shared leadership and team performance. Differences in team size may influence resources and workload requirements that may influence team performance and therefore was included as a control variable (Kirkman & Rosen, 1999). Environmental factors can impact team outcomes (e.g., Tesluk & Mathieu, 1999) and more demanding projects may thus have a detrimental impact on shared leadership and team performance. Previous research has also shown significant effects for demographic heterogeneity on team outcomes (Williams & O'Reilly, 1998), and therefore, was also included as a control. *Team size* was measured as the actual number of team members on each consulting team. *Project demands* was measured by a 7-item Likert scale that captures faculty advisor ratings of the degree to which the team had to manage difficult project challenges. Sample items include: "changing client demands during the course of the project," "difficulties in accessing data or information necessary for completing the work," and "problems or changes in the project timeline that were outside the team's direct control." Items were rated on a 7-point Likert scale ranging from 1 (*not at all present*) to 7 (*very much present*) (α = .75). *Gender diversity* and *race diversity* were measured using Teachman's index[4] which captures how team members are distributed among the possible categories of a variable (Teachman, 1980).

[4] While the current tendency is to use Blau's index for diversity, the only difference between Blau and Teachman is standardization, and there is no conceptual or empirical reason to favor one over the other. We are grateful to David Harrison for noting this point in a posting to the Research Methods Division listserv group (RMNet).

RESULTS

Means, standard deviations, and zero-order correlations are found in Table 2 below. To test Hypotheses 1 through 3, we used moderated regression. In step 1, we entered all of the control variables. In step 2, we entered the two main effect variables – internal team environment and coaching. In step 3, we tested for interactions by entering the product of internal team environment and coaching. Table 3 presents these results. Team size was the only control variable with a significant relationship with shared leadership ($\beta = .37$, $p < .01$). In step 2, internal team environment had a direct relationship with shared leadership ($\beta = .25$, $p < .05$, one-tailed), as did external coaching ($\beta = .26$, $p < .05$, one-tailed), supporting Hypotheses 1 and 2. In step 3, we found the interaction effect between coaching and internal team environment to be significant ($\beta = -4.06$, $p < .05$) and explaining an additional 5% of the variance. Following Aiken & West's (1991) methods for plotting interactions, we graphed these relationships in Figure 2. It shows that internal team environment was significantly and positively related to shared leadership for teams that had low coaching support, and was not related to shared leadership for teams that had high coaching support. Teams with an unsupportive internal team environment were still able to develop high levels of shared leadership, so long as they received a high level of coaching. Thus, Hypothesis 3 was also supported.

Insert Table 2 about here
Insert Table 3 about here
Insert Figure 2 about here

In order to test Hypothesis 4, we used hierarchical regression. Team performance was regressed on shared leadership after controlling for team size, project demands, gender diversity, and race diversity, as well as the main effects of internal team environment and coaching, in

order to determine whether there was significant additional explained variance. The results (Table 3) indicate that shared leadership is a strong positive predictor of team performance as rated by the end users of the team's work ($\beta = .65$, $p < .001$) and accounts for significant variance in team performance above and beyond the control variables, internal team environment, and coaching ($\Delta R^2 = .26$, $p < .001$). Thus, hypothesis 4 received strong support.

DISCUSSION

Our study makes three key contributions to the literature on team leadership. First, we examined antecedent conditions for shared leadership and found that a team's internal environment and coaching by an external leader are important precursors for shared leadership. Second, our findings show that coaching provided by the external team leader is particularly important for the development of shared leadership when teams lack a strong internal team environment. Third, it extends previous research suggesting positive effects of shared leadership on team performance using a network based measure of shared leadership that better captures the patterns of mutual influence inherent in the construct and a measure of performance that is less subject to common source variance and rating biases.

Theoretical Implications

Despite early suggestions by scholars that shared internal leadership is important (e.g., Gibb, 1954; Katz & Kahn, 1978), team leadership theory has continued to focus primarily on the role of external leaders and to use existing models of dyadic leadership extrapolated to the team level (Kozlowski & Bell, 2003). Our findings suggest that a promising future direction is to move the lens inward to investigate how team members themselves share the leadership responsibilities of the team. Indeed, we found that teams relying on multiple members for leadership performed better than those where internal leadership is relatively scarce. Importantly,

this finding is based on performance ratings provided by clients who focused on the quality of the team's final product rather than on the process and functioning of the team. This suggests that shared leadership has benefits for work teams beyond just improved team processes. Shared leadership can occur in teams with a designated formal leader or without one. The results of this study do not mean that vertical leadership needs to be abandoned in favor of shared leadership; rather, these two important sources of team leadership should be studied in combination (Kozlowski & Bell, 2003).

Building on previous work that has advocated social network methodology to understand relationships in teams (Mayo et al., 2003; Sparrowe et al., 2001), we advocate a network approach to conceptualizing and measuring shared leadership as an important step forward. Rather than capturing the team's overall central tendency by taking the mean of a Likert scale, this approach incorporates the pattern of leadership present throughout the team. By considering all possible relationships in the team, this density measure captures the degree to which the team as a whole relies heavily on most of its members for leadership. It thus allows for a closer approximation to the theoretically rich concept of shared leadership.

This study also presents an initial understanding of antecedent conditions, both internal and external to the team, which enable shared leadership to develop. We found that when teams have an internal environment characterized by a clear and unifying direction that is well understood within the team, a strong sense of interpersonal support where team members feel recognized and encouraged, and where team members have a high level of voice and involvement, teams are able to develop a leadership network characterized by high levels of mutual influence and sharing of leadership responsibilities. Our findings also demonstrate the importance of coaching by an external leader for supporting the emergence of shared leadership,

as well as when this coaching support is most necessary (Hackman & Wageman, 2005). When an internal team environment is supportive, coaching by the external leader is less critical for shared leadership to emerge; however, when an internal team environment is unsupportive, coaching interventions are important for providing a role that is not being met by the team (cf., Hackman & Walton, 1986).

Managerial Implications

This study has important implications for team leaders and managers. First, the findings suggest that organizations should help develop strong internal leadership patterns within their teams to bolster effectiveness. Organizations can promote internal leadership by setting expectations and encouraging members when teams initially form to view themselves and their fellow team members as leaders and to engage in shared, mutual leadership. Organizations can also provide training which fosters a shared leadership perspective and disseminates best practices. Second, our results point to specific dimensions of the internal team environment - shared purpose, social support, and voice - which support the development of shared leadership within teams. Managers should therefore ensure that each team has a clear and shared sense of direction and purpose, promote and establish norms of participation and input into the team's activities and strategies, and seek to foster a positive environment where team members encourage one another and actively recognize each others' contributions. Organizations may further support these conditions by institutionalizing a team charter process whereby teams, upon their initial formation, collectively identify and agree upon a common goal and set of priorities, team roles and responsibilities, and team norms. Third, our findings suggest that external leaders should engage in supportive coaching of the team in order to facilitate the development of shared leadership. This can be in the form of encouraging, reinforcing, and rewarding instances where

team members demonstrate leadership, assisting teams when internal team conflicts arise (e.g., over sharing leadership responsibilities), providing general encouragement to the team as a whole, and being available for suggestions or input into the team's task strategies as needed (Hackman & Wageman, 2005). Team leaders should pay particular attention to teams that may have a weaker internal environment in order to provide additional motivation, guidance, and support. However, for teams with a supportive internal environment, stronger coaching may not provide much additional assistance in developing shared leadership.

Limitations and Future Research

Our study has several limitations that need to be addressed in future research. First, the partial cross-sectional design does not allow for testing causality. While we did measure shared leadership after it had been given time to develop, and collected outcome data from third parties after team projects were complete, shared leadership is an emergent phenomenon and longitudinal designs are needed to understand how shared leadership develops over time by looking at changes in the leadership network across stages of team development. Second, while the teams we studied performed real consulting engagements and were responsible to their clients for delivering a completed project, team members were MBA students, not full time employees. For team members who are full time employees working in different organizational settings, shared leadership may operate differently. Third, there is the possibility of common source variance influencing the relationship between internal team environment and shared leadership since both measures were taken from team members. However, it is important to note that internal team environment is a perceptual measure of the entire team's behavior and actions, whereas shared leadership is a network measure compiled from ratings of each individual team member. This helps mitigate the likelihood that common source bias influences the relationship.

Additionally, there are both strengths and weaknesses to our measurement approach for shared leadership that should be highlighted. Our measurement of shared leadership as network density represents an improvement in this research field, notably by capturing the overall patterns of shared influence within teams, and overcoming a primary limitation of behavioral scales which restrict influence to a set of prescribed behaviors. Operationally, by asking respondents broadly the extent to which team members exert "leadership" rather than detailing specific leadership behaviors, our measure of shared leadership captures the respondents' personal and implicit theories of leadership, and is consistent with the approach utilized by others in similar contexts (e.g., Mehra et al., 2006). However, there are also notable limitations to such an approach that should be highlighted. By neither specifying the meaning of leadership nor priming specific behaviors for respondents in our measure, it is possible that our measure taps into something other than leadership influence, such as participation and engagement, helping and cooperation, or respect and listening among team members. Thus, future research along these lines should consider providing leadership definitions and/or behavioral examples to minimize the influence of differences in respondents' attributions. Further, a richer conceptualization and operationalization might be developed which, in addition to identifying leadership sources, captures the quality and nature of leadership offered by each team member.

Future work should focus on a more detailed understanding of the nature of shared leadership, its development, and boundary conditions of its effectiveness. While it seems clear that relying on many team members for leadership can be an effective approach to team leadership, there are many leadership styles that might be employed by team members such as directive, transactional, transformational, and empowering as well as varying leadership roles that might be adopted. Future research is needed to address how different leadership styles and

roles interrelate and complement one another when they are shared within teams, as well as the relationship between shared leadership and external leadership beyond the effects of coaching.

Additional predictors of shared leadership development should also be examined, such as team empowerment (e.g., Kirkman & Rosen, 1997), team composition (e.g., Cohen & Bailey, 1997), and contextual factors (e.g., Gladstein, 1984). Teams that are highly empowered should be more likely to develop shared leadership as a result of the autonomy and meaningfulness of the work they are doing as well as strong collective beliefs about their potency and impact (Kirkman & Rosen, 1997). The composition of a team in terms of size, and characteristics such as experience, expertise, personality, as well as demographic compositional patterns such as the existence of faultlines (Lau & Murnighan, 1998) may also play a role in the development of shared leadership. Finally, in addition to external coaching there may also be other contextual factors that impact shared leadership such as reward and recognition systems, training in important teamwork and leadership skills, and the nature of the task itself (e.g., Hackman, 1987).

Potential mediating mechanisms linking shared leadership to performance and other effectiveness criteria should be explored as well. For instance, the reciprocal interactions and influential exchanges between team members may facilitate development of team knowledge structures such as transactive memory systems or shared mental models. In addition to serving as a potential antecedent, team empowerment may be another mediating mechanism through which leadership becomes shared among team members (Kirkman & Rosen, 1997).

There are also a number of important boundary conditions for the effectiveness of shared leadership that should be examined, such as the distribution of task competence, task interdependence, the complexity of the task, the life cycle of the team, and cultural values (Pearce & Conger, 2003). Shared leadership is likely to be more effective when team members

have a high level of task competence, when the task is relatively complex, when task interdependence is high, and when the team life cycle allows for the development of shared leadership. It is also likely to be affected by cultural values, particularly power distance and collectivism (Gibson & Zellmer-Bruhn, 2001; Kirkman & Shapiro, 1997), and may be more likely to develop and thrive in cultures that are low in power distance and cultures that are high in collectivism (Carson, 2005).

Finally, team size was found to have a strong positive relationship with shared leadership. Our interpretation of this finding is that teams with more members have greater potential leadership resources available for sharing. However, we might expect a nonlinear relationship between team size and shared leadership in teams that are larger than those in our study. Beyond a certain point in larger teams, we may see either a detrimental or ceiling effect on shared leadership, perhaps as the result of social loafing or free-riding. Future research should explore these nonlinear possibilities further by sampling teams with greater range on team size.

Conclusion

As organizations continue to devote vast resources to the use of teams and teamwork, the need for a better understanding of effective team leadership continues to grow. This study provides an important contribution by highlighting the importance of leadership input from multiple team members, and suggests that shared leadership is a critical factor that can improve team performance from the viewpoint of customers or end users of a team's work. While not a final statement on the topic, this study adds to the growing body of evidence that suggests that teams do well when they rely on leadership provided by the team as a whole rather than looking to a single individual to lead them.

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Appendix A
Items Assessing Internal Team Environment for Shared Leadership

Shared Purpose

The members of my team…

1. Spent time discussing our team's purpose, goals, and expectations for the project.
2. Discuss our team's main tasks and objectives to ensure that we have a fair understanding.
3. Devise action plans and time schedules that allow for meeting our team's goals.

Social Support

The members of my team…

4. Talk enthusiastically about our team's progress.
5. Recognize each other's accomplishments and hard work.
6. Give encouragement to team members who seem frustrated.

Voice

7. People in this team are encouraged to speak up to test assumptions about issues under discussion.
8. As a member of this team, I have a real say in how this team carries out its work.
9. Everyone on this team has a chance to participate and provide input.
10. My team supports everyone actively participating in decision making.

TABLE 1
Previous Definitions and Measures of Shared Leadership

	Definition	Measure	DV
Avolio, Jung, Murry, & Sivasubramanium (1996)	No explicit definition given, but shared leadership is essentially viewed as transformational leadership manifested at the group level in highly developed teams	Team Multifactor Leadership Questionnaire (TMLQ – Form 5X) aggregated to the team level	Self-report ratings (undergraduate project team effectiveness)
Pearce & Sims (2002)	Distributed influence from within the team. (p. 172) Lateral influence among peers. (p. 176)	Ratings (aggregated to team level) on behavioral scales for five leadership strategies: Aversive, Directive, Transactional, Transformational, and Empowering	Self-report and manager ratings of seven effectiveness dimensions (automobile change management teams)
Sivasubramanium, Murry, Avolio, & Jung (2002)	Collective influence of members in a team on each other. (p. 68) How members of a group evaluate the influence of the group as opposed to one individual within or external to the group. (p. 68)	Team Multifactor Leadership Questionnaire (TMLQ – Form 5X) aggregated to the team level	Team potency (self-ratings at Time 1 and 2) and team grade assigned by instructor (undergraduate project team effectiveness)
Pearce & Conger (2003)	A dynamic, interactive influence process among individuals in groups for which the objective is to lead one another to the achievement of group or organizational goals or both. …(L)eadership is broadly distributed among a set of individuals instead of centralized in [the] hands of a single individual who acts in the role of a superior. (p. 1)	N/A	N/A
Pearce, Yoo, & Alavi (2004)	Simultaneous, ongoing, mutual influence process within a team that is characterized by "serial emergence" of official as well as unofficial leaders. (p. 48)	Ratings (aggregated to team level) on behavioral scales for four leadership strategies: Directive, Transactional, Transformational, and Empowering	Self-ratings of problem-solving quality and effectiveness (virtual teams of student social workers)
Ensley, Hmieleski, & Pearce (2006)	Team process where leadership is carried out by the team as a whole, rather than solely by a single designated individual. (p. 220)	Ratings (aggregated to team level) on behavioral scales for four leadership strategies: Directive, Transactional, Transformational, and Empowering	Growth index for new ventures, consisting of the average of firm revenue growth and employee growth rates (new venture TMTs)
Mehra, Smith, Dixon, & Robertson (2006)	Shared, distributed phenomenon in which there can be several (formally appointed and/or emergent) leaders. (p. 233)	Qualitative coding based on visual analysis of leadership network diagrams	Team sales divided by team size (financial services sales teams)

TABLE 2
Descriptive Statistics and Correlations[a]

Variable	Mean	s.d.	1	2	3	4	5	6	7	8
1. Team Performance[b]	5.81	1.02	(.93)							
2. Shared Leadership	3.16	0.35	.46*	--						
3. Internal Team Environment	4.08	0.41	.19	.33*	(.94)					
4. Coaching	3.76	0.64	-.03	.37*	.24	(.92)				
5. Team Size	5.93	0.72	.10	.28*	.42*	-.15	--			
6. Project Demands[b]	4.38	1.19	-.26	.20	-.22	.22	-.04	(.75)		
7. Gender Diversity	.55	.18	-.20	-.22	-.14	-.15	.00	.05	--	
8. Race Diversity	.74	.27	.03	.03	.02	-.24	.02	-.14	-.05	--

[a] N = 59 for most variables (N = 51 for variable 6, N = 56 for variable 1 due to missing data). Scale reliabilities are in parentheses along the diagonal.
[b] These variables were measured using 7-point Likert scales. All other scales were measured using 5-point Likert scales.
* $p < .05$

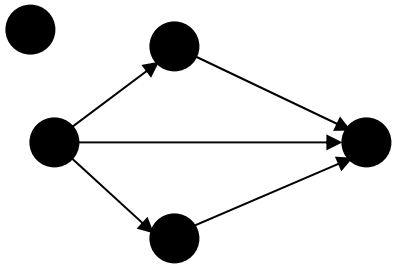
TABLE 3
Results of Regression Analyses

Variable	Shared Leadership[a]	Team Performance[b]
Step 1		
Team Size	.37*	.11
Project Demands	.22	-.25
Gender Diversity	-.24	-.21
Race Diversity	-.04	-.02
R^2	.23*	.12
Step 2		
Internal Team Environment	.25*	.25
Coaching	.26*	-.14
R^2	.39*	.16
ΔR^2	.16*	.04
Step 3		
Internal Team Environment x Coaching	-4.06*	
Shared Leadership		.65*
R^2	.44*	.42*
ΔR^2	.05*	.26*
Adjusted R^2		.32

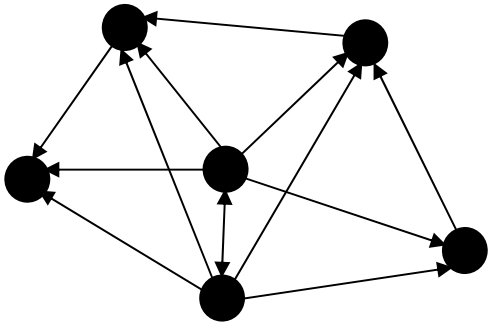
[a] Estimates are standardized regression coefficients. N = 51.
[b] Estimates are standardized regression coefficients. N = 49.
* $p < .05$

FIGURE 1
Leadership Sociograms

Lowest Level of Shared Leadership (score = 2.40)



Median Level of Shared Leadership (score = 3.15)



Highest Level of Shared Leadership (score = 3.90)

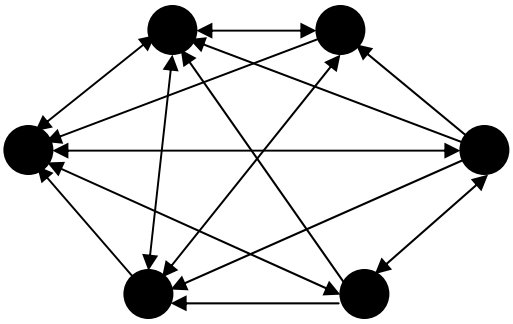
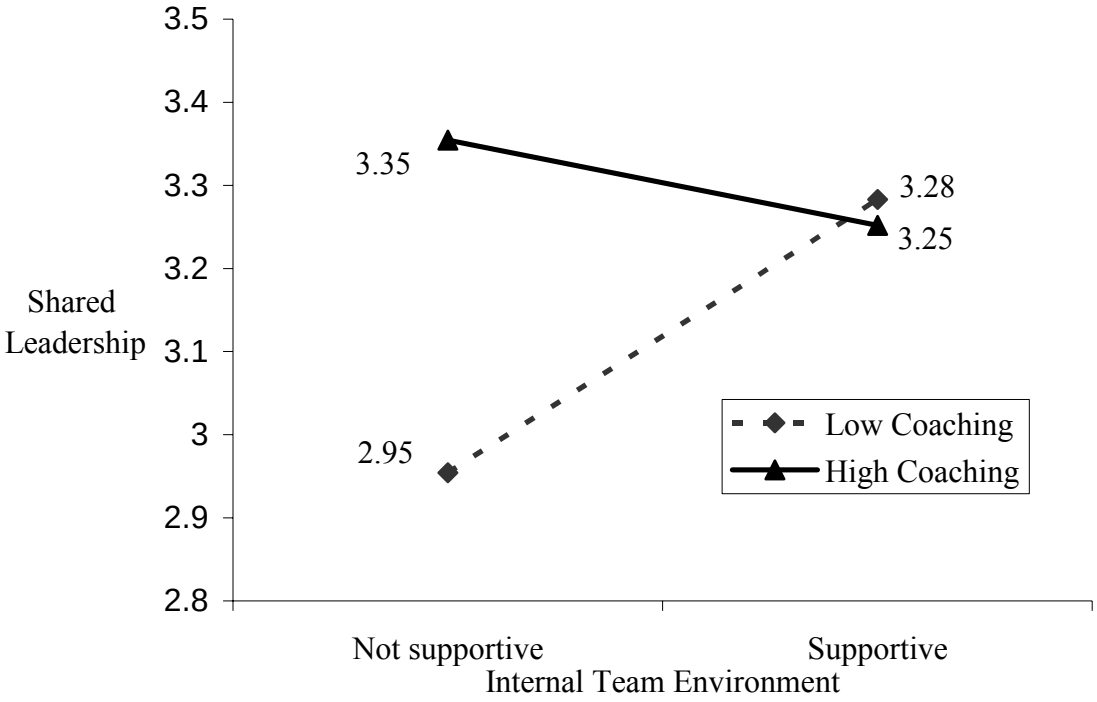


FIGURE 2
The Moderating Effect of Coaching on the Relationship Between Internal Team Environment and Shared Leadership



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