European Journal of Work and Organizational Psychology

Publication details, including instructions for authors and subscription information:
http://www.tandfonline.com/loi/pewo20

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Published online: 17 Feb 2010.

To cite this article: Anat Drach-Zahavy (2011) Interorganizational teams as boundary spanners: The role of team diversity, boundedness, and extrateam links, European Journal of Work and Organizational Psychology, 20:1, 89-118, DOI: 10.1080/13594320903115936

To link to this article: http://dx.doi.org/10.1080/13594320903115936

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Interorganizational teams as boundary spanners: The role of team diversity, boundedness, and extrateam links

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Interorganizational teams are rapidly becoming more prevalent as a means to improve organizations’ responsiveness. To achieve their objective, interorganizational teams must engage in extensive amounts of boundary spanning activity. This study juxtaposed three structural variables, namely team informational diversity, team boundedness, and extrateam links, in an integrated model aimed at promoting our understanding of how to increase interorganizational team boundary spanning activity and its effectiveness. The model was tested with 49 health promotion teams. Our findings indicated that three types of boundary spanning—scouting, ambassadorial, and coordinating—were positively associated with interorganizational team effectiveness. In addition, for team informational diversity, team boundedness, and extrateam links, scouting and ambassadorial activities fully mediated their relationships with team effectiveness; for team boundedness, coordinating activity also fully mediated its relationship with team effectiveness. These findings highlight the importance of incorporating structural considerations into the management of interorganizational teams.

Keywords: Boundary spanning activity; Extrateam; Informational diversity; Interorganizational teams; Links; Team boundedness.

Across different industries, organizations are increasingly blending their competitive strategies with cooperative strategies, using interorganizational teams to manage environmental turbulence, rationalize interdependence, and improve their competitiveness, flexibility, and responsiveness to complex patterns of clients (Goes & Park, 1997; Kraatz, 1998; Nielsen, 1998; Provan & Sebastian, 1998; Yan & Louis, 1999). This issue is of particular concern in the health and human services sector, where
organizations in this arena are under pressure to integrate and improve services while lowering costs, but there are no guidelines for assessing payoffs of group restructuring. Public money and organizational measures are spent on task forces, advisory committees, and coordinating councils, which sometimes are unable to reach consensus or provide only a ritual response to external requirements (Schopler, 1986).

Interorganizational teams are interfirm cooperative arrangements aimed at achieving the parties’ strategic objectives (Das & Teng, 2002), which involve “significant exchange, sharing, or co-development and thus result in some form of enduring commitment between the partners” (Gulati & Gargiulo, 1999, p. 140). This cooperation “can include contributions by partners of capital, technology, or firm-specific assets” (Gulati & Singh, 1998, p. 782). Schopler (1986) similarly defined interorganizational teams as “composed of members, representing origin organizations and community constituencies, who meet periodically to make decisions relevant to their common concerns, and whose behaviour is regulated by a common set of expectations” (p. 703).

These definitions indicate that although interorganizational teams share many characteristics with conventional teams, they also differ in important ways. First, in interorganizational teams members act on behalf of organizations or constituencies such as organizations of origin, consumer groups, professional associations, and employee unions (Schopler, 1986). Hence, these teams are usually composed of representative groups in which each member has competing social identities, obligations, and commitments to other organizations and constituencies (Baron-Epel, Drach-Zahavy, & Peleg, 2003; Keferl, 1999). In this regard, interorganizational teams are similar to cross-functional teams; however, they are more complex because beyond their distinct functional identity, obligation, and commitment, members of interorganizational teams possess also distinct, sometimes conflicting organizational identity, obligation, and commitment. Second, interorganizational teams are often temporary task teams subject to a plethora of demands, conflict, and time pressure (Das & Teng, 2002; Gulati, 1995; Schopler, 1986). In this vein, interorganizational teams resemble task forces, but nevertheless are more complex due to members’ multicommitments. Third, interorganizational teams are often expected, more than traditional teams, to engage in boundary activities, namely the complex web of external relationships aimed at identifying the unique needs of different stakeholders in their focal environment. They are also expected to manage the coordination, knowledge transfer, and political manoeuvring needed to bring new, innovative, “tailor-made” products and services to their customers (Goes & Park, 1997; Knight, 2002; Oliver, 1992; Powell, Koput, & Smith, 1996; Provan & Sebastian, 1998). This is not to say that traditional teams are not expected to engage with such activities, but rather that scouting
for information, coordination, and political activity are more intensely employed by interorganizational teams.

Given the unique characteristics of interorganizational teams, the present study is aimed at contributing to the existing literature on interorganizational teams in several ways. Specifically, our first aim is to identify the boundary spanning activities interorganizational teams engage with. Most previous studies referred to all boundary activities as unified “external activities”, overlooking the inherent differences among them (e.g., Choi, 2002; Lievens & Moenaert, 2000); moreover only scant research if any has focused on boundary spanning activity of interorganizational teams, hence this study is aimed to fill this gap in the literature.

Second, a major challenge for theoreticians and practitioners is how to organize interorganizational teams in ways that promote their effectiveness. Scholars have emphasized that empirical research on organizing and structuring interorganizational teams has lagged well behind their rate of adoption (Provan & Sebastian, 1998; Schopler, 1986). Studies so far have typically portrayed ideal interorganizational teams as relatively stable, meeting frequently and facing the constant need to manage various aspects of their inherent heterogeneity (Baron-Epel et al., 2003; Green, 2000; Gulati & Singh, 1998; Naidoo & Wills, 2000; Yan & Louis, 1999). These aspects are reflected in the literature due partly to traditions in conventional team research and partly to the constant need for interorganizational teams to overcome increasing cases of conflict and to build trust (Provan & Sebastian, 1998). Nevertheless, if the structuring efforts of interorganizational teams are to be effective, we need to examine empirically how the unique characteristics of interorganizational teams are addressed via their structures.

Our third aim is to test a model of interorganizational team’s effectiveness (Figure 1). The model depicts boundary spanning activity as a key process variable characterizing interorganizational teams. Next, the model juxtaposed three structural variables: team informational diversity (e.g., Jackson, 1996), team boundedness (Ancona & Caldwell, 1998), and extrateam links (Oliver, 1992), as key antecedents of boundary spanning activity. These variables were chosen because they tap the unique characteristics of interorganizational teams and potentially address their fundamental need for boundary spanning activity. Based on the Social Identity Perspective (Hogg & Terry, 2000; Reynolds, Turner, & Haslam, 2000), I develop propositions considering the links between these specific structures and extensive boundary activity delineated by our model. For output, the model focuses on interorganizational-level effectiveness, namely the interorganizational team’s production of designated products or its delivery of contracted services as per specifications (Shea & Guzzo, 1987). True, in health and human services, agencies can and do join interorganizational teams to lower
operating costs and gain competitive advantage (Hardy, Phillips, & Lawrence, 2003). However, interorganizational-level outcomes are especially salient in these contexts because clients often have multiple needs, and many of the services typically provided in community-based settings are highly fragmented. This is partly because of categorical funding streams that pay for one type of service but not another, and because of traditions of service organized around a single, narrowly defined problem or illness (Provan & Sebastian, 1998). Accordingly, research in these sectors typically adopted a strategic view of interorganizational teams’ effectiveness, arguing that such collaborations build capacities that enable teams to address social problems more effectively (e.g., Huxham, 1996). In a parallel manner to the strategy literature, researchers of health and human services argue that it is the pooling of resources and knowledge that leads to the solution of otherwise insoluble problems (Hardy et al., 2003). A clearer understanding of the structures–effectiveness relationships should promote research into characterizing the structures best suited for pursuing boundary spanning activities, as well as facilitate interventions to enhance working in interorganizational teams and increase their effectiveness.

**BOUNDARY SPANNING ACTIVITY AND EFFECTIVENESS**

Boundary spanning activity refers to team processes necessary for the task in hand that are directed to reach over the team’s boundary and engage with
external agents in the team’s focal environment (Yan & Louis, 1999). It involves scouting for information, enlisting support, and exchanging other resources vital for team effectiveness. This definition applies to teams in general. The multiactor context, which is the focus of the present study, carries additional challenges for the interorganizational team’s engagement in boundary activities; it may cross boundaries between its own parties, between itself and its organizations of origin, and between itself and other organizations in its focal environment. The intermingling of the objectives, values, resources, and strategies of all the parties involved is thus more salient in interorganizational teams’ boundary spanning than in that of traditional teams.

The advantage of interorganizational teams in engaging in boundary spanning activity is rooted in the notion that these teams are designed as an overlay to existing functional organizations, work at least apparently in cooperation with other parties of the interorganizational team, and are positioned on the boundary of the environment of their organization of origin. This enables interorganizational teams to pool resources in the process of boundary spanning and developing strategic links with organizations in their external environment, be they suppliers, customers, competitors, or any other agents; as mentioned, it is precisely this pooling of resources and knowledge that leads to the interorganizational team effectiveness in tackling otherwise insoluble problems (Hardy et al., 2003). Despite these notable advantages, interorganizational teams engaging in boundary activity face several more challenges stemming from the intermingling of the objectives, identities, priorities, and loyalties of the different parties, which might lead to communication failures.

In general, theoretical justification for the boundary spanning activity—effectiveness link can be obtained from the open systems perspective, particularly from the resource dependence model (Aldrich, 1979; Pfeffer & Salancik, 1978). This model suggests that interorganizational teams depend on their task environment for inputs that are essential for their functioning. Since they cannot generate all needed resources from within, they must engage in boundary spanning activity to acquire them. But resources are often scarce, and other organizations tend to compete for them. Thus, the resource-dependence model focuses on boundary spanning efforts to gain power and control over essential resources (Cummings, 1984; Goes & Park, 1997; Hardy et al., 2003).

Several subsets of boundary spanning behaviours have been identified in prior research (Ancona & Caldwell, 1998; Druskat & Wheeler, 2003; Yan & Louis, 1999), yet only scant research if any has addressed them together in one study, unravelling their antecedents and consequences. In the following we refer to these subsets of boundary activity and provide theoretical
rationale as well as primary empirical evidence for their link with effectiveness.

Scouting activities are team processes involving many aspects of the mapping, information gathering, and scanning for ideas and information about the competition, the market, the customers, or the technology (Ancona & Caldwell, 1998; Druskat & Wheeler, 2003). An interorganizational team may scout for information from organizations that are not accessible to any of its individual parties, or even change the broad pattern of resource and information flows in their focal environment (Hardy et al., 2003). Therefore, scouting effects of interorganizational teams may be much greater than scouting activity of any single party for a finite period. It is suggested here that scouting activities afford the interorganizational team access to crucial information, thereby adding to the team’s expertise, and its understanding of the environment as well as the needs of its customers. Consequently team effectiveness might be enhanced (At-Twaijri & Montanari, 1987; Bartel, 2001; Edmondson, 1999; Yan & Louis, 1999).

Hypothesis 1a: Scouting boundary activity will be positively associated with interorganizational team effectiveness.

Ambassador activities reflect representational team processes (Ancona & Caldwell, 1998). Interorganizational teams taking on these processes persuade others to support the team, and lobby for resources. Ambassadorial activities provide access to the power structures, as members promote the interorganizational team, secure its resources, and protect it from excessive interference. Research taking a political perspective on interorganizational teams has pointed out that one advantage of ambassadorial activity can be the acquisition of power and influence (e.g., Knight, 2002). Particularly when parties have different goals, values, and beliefs (Waddock, 1989) and when the distribution of power between them is unequal (Gray & Hay, 1986), interorganizational teams may be means to cooperate with more powerful allies, or to control others, as more powerful parties in a specific area may be better placed to force collaboration on external players (Hasenfeld & Chesler, 1989). Other studies emphasized that ambassadorial activity is similar to impression management, whereby the team tries to control images of itself, hence contributing to its effectiveness (Ancona & Caldwell, 1992, 1998).

Hypothesis 1b: Ambassadorial boundary activity will be positively associated with interorganizational team effectiveness.

Coordination boundary activity refers to processes aimed at coordinating technical or design issues, obtaining feedback on the interorganizational
team’s activities, and coordinating and negotiating with outsiders. As with their scouting and ambassadorial activities, interorganizational teams might be in a better position for coordinating activities with their improved pooled access, and enjoy greater influence and power over other organizations in their focal environment. Through coordination, negotiation, and feedback, these activities allow tighter coupling with other organizational teams, customers, and authorities, often filling many of the gaps left by traditional formal integrating systems. Hence, engaging with coordination activities improves team’s effectiveness (Ancona & Caldwell, 1992; Bartell, 2001; Tushman, 1979; Yan & Louis, 1999).

**Hypothesis 1c**: Coordinating boundary activity will be positively associated with interorganizational team effectiveness.

Finally, *empowering activities* (Druskat & Wheeler, 2003) are processes of delegating decision-making authority and supporting the delegation. Working in interorganizational teams might be beneficial for empowering as it enables parties to pool resources in the process of developing strategic links with clients in their focal environment (Hardy et al., 2003). Recently, the literature on service organizations has stressed the importance of empowering clients as a participatory strategy aimed at creating acceptance and stronger commitment to the treatment and services offered by the team thereby promoting its effectiveness (Drach-Zahavy & Baron-Epel, 2006; Hardy et al., 2003; Laverack & Labonte, 2000).

**Hypothesis 1d**: Empowering boundary activity will be positively associated with interorganizational team effectiveness.

### STRUCTURAL ANTECEDENTS OF BOUNDARY SPANNING ACTIVITY

How should interorganizational teams be organized to facilitate boundary spanning activity? It seems that team literature does not offer a comprehensive theoretical framework that links design and structural factors to a team’s boundary spanning activities and their impact on team effectiveness (Choi, 2002; Edmondson, 1999). Most studies thus far seem to have focused on managing the interorganizational team’s inner staff dynamics, and have typically recommended relatively stable and bounded teams that meet regularly (Drach-Zahavy & Baron-Epel, 2006). For example, Gulati and Singh (1998) noted that research has concentrated primarily on expected appropriation concerns and anticipated coordination costs as determinants of how to organize interorganizational teams. The
present study, however, focuses on how to organize interorganizational teams to foster boundary spanning activity—an issue seldom addressed in the literature in the context of teams in general and interorganizational teams in particular. Specifically, the proposed model focuses on informational diversity, boundedness, and the team’s extrateam links, because they potentially create less cohesive teams, and hence may foster boundary spanning activities. This premise is grounded within the Social Identity Perspective (SIP; Hogg & Terry, 2000; Reynolds et al., 2000). According to this perspective, team members often classify themselves as an ingroup, show favouritism to their teammates, and classify members of other teams or constituencies as outgroups, projecting bias against them (Ashforth & Mael, 1989). Consequently, perceptual boundaries are created that bind team members together, distinct them from others in the external environment, thereby limiting boundary spanning activity (Joshi & Jackson, 2003). However, the theory identifies a number of important contingencies for dampening ingroup favouring and outgroup derogating attitudes and behaviour (Bartel, 2001; Hogg & Terry, 2000; van Knippenberg, 2003) such as teams’ diversity, boundedness, and extrateam links (e.g., Joshi & Jackson, 2003). These contingencies will be discussed further in the following paragraphs.

**Informational diversity**

Informational diversity refers to the diversity of education, functional specialization, and organizational relatedness embodied in the team, because these variables index diversity of information and perspective (Jackson, 1996; van der Vegt, van der Vliert, & Oosterhof, 2003; Williams & O’Reilly, 1998). Most research on teams’ informational diversity described tension between the desire for more homogeneous teams that promote cohesiveness, commitment, and member satisfaction (e.g., Souder, 1987; Tsui, Egan, & O’Reilly, 1992) and the desire for diverse teams that foster creativity, quality decision making, and innovativeness (e.g., Ancona & Caldwell, 1992; Bantel & Jackson, 1989; Hays, Hays, DeVille, & Mulhall, 2003; Jackson, 1992; Zenger & Lawrence, 1989). However, due to the special nature of interorganizational teams, informational diversity may offer additional advantages.

As mentioned earlier, one of the key challenges of interorganizational teams is to reach out to number of stakeholders in their focal environment, including scouting for information about the prominent needs of customers and clients, working with local authorities to enlist support (i.e., ambassadorial activity), coordinating implementation issues with various experts, and empowering customers to support services. Each of these stakeholders in the team’s environment (i.e., customers, experts,
local authorities) is likely to have different priorities and experiences and, in effect, they speak almost different “languages” (Ancona & Caldwell, 1998; Dougherty & Hardy, 1996). Hence, communicating with these stakeholders will require the interorganizational team to have a great deal of informational diversity allowing for the flexibility needed to interact with others (Ancona & Caldwell, 1998; Joshi & Jackson, 2003). Based on the SIP, Ashforth and Mael (1998) argued that members of high-diversity teams perceive themselves and their team counterparts less as an ingroup, with the effect that team favouritism based on team belongingness is less salient (Joshi & Jackson, 2003). Since high-diversity teams are less likely to feel bound together as members of the same ingroup, their team boundaries are more permeable and team members are more likely to form ingroup relationships with important stakeholders in the team’s focal environment, namely to engage with scouting, ambassadorial, coordinating, and empowering boundary spanning activities (Ancona & Caldwell, 1998; Ashforth & Mael, 1998; Drach-Zahavy & Baron-Epel, 2006). In contrast, restricting the selection of team members to similar parties may be a double-edged sword insofar as it can also restrict the team’s ability to acquire heterogeneous information and cutting-edge knowledge from its environment (Joshi & Jackson, 2003; Mitsuhashi, 2003).

**Hypothesis 2**: Informational diversity will be positively related to scouting, ambassadorial, coordinating, and empowering boundary spanning activities.

**Team boundedness** refers to the multiple modes by which members can be involved in the team and consists of three features. The first is full- or part-cycle membership on the team: Does the team consist of the same members for the full cycle of the project or do members serve for only part of it? The second is full- or part-time assignment to the team: Do members work exclusively on the given project or do they have other responsibilities. The third feature is core or peripheral membership on the team: Are some members assigned to a “core” position and others to more “peripheral” positions (Ancona & Caldwell, 1998). At one extreme—high boundedness—a team’s boundaries may be stretched to include all relevant actors in a continuous mode of structuring, stable across the life cycle of the project. That would require all team members to be equally active throughout, to interact continuously, to invest equal amounts of time, and to contribute actively to the project from start to finish. At the other extreme—low boundedness—an interorganizational team may be designed more flexibly, with parties recruited to the project as needed and only at certain stages, and required to invest different amounts of time and exhibit different saliency in
the project, depending on their potential contribution (Ancona & Caldwell, 1998).

Most research on interorganizational teams has typically advocated team boundedness as a preferred mode of structuring (Armbruster, Gale, Brady, & Thompson, 1999; Butterfoss et al., 1998; Green, 2000; Kegler, Steckler, Malek, & McLeroy, 1998; Kegler, Steckler, McLeroy, & Malek, 1998). True, boundedness carries notable advantages for team building, commitment, and synergism (e.g., Green, 2000; Naidoo & Wills, 2000). However, due to the special temporal nature of interorganizational teams, and their elevated need to engage in boundary spanning activity, team boundedness may also impose certain limitations that have often been ignored in previous research. Although bringing everyone into the team ensures that the resources it requires are available whenever needed, not everyone’s contribution is essential at all times or throughout the entire course of the project. For example, at the initial stages, scouting behaviours might be more essential; later, coordinating and empowering become more salient boundary spanning activities.

In line with the SIP (Reynolds et al., 2000), team boundedness tends to strengthen attitudes of team favouritism and outgroup biases. Hence, members of bounded teams are more likely to form ingroup relationships with other team members than with important stakeholders (e.g., customers, suppliers, authorities, etc.) in the team’s focal environment. In contrast, less-bounded teams create more permeable boundaries, dampening ingroup favouring and outgroup derogating attitudes; hence, team members are encouraged to engage with scouting, ambassadorial, coordinating, and empowering boundary spanning activities (Ancona & Caldwell, 1998; Drach-Zahavy & Baron-Epel, 2006).

**Hypothesis 3**: Team boundedness will be negatively related to the scouting, ambassadorial, coordinating, and empowering boundary spanning activity.

**Extrateam links**

One step beyond bringing people into the team for part of its work cycle is to use extrateam links for specific aims of the project. Extrateam links are defined here as structures or modes of organization that might facilitate boundary spanning activity. These modes of organization refer to short-lived links between an interorganizational team and one or more of the agents in its environment (e.g., experts, authorities, customers). Extrateam links carry certain benefits for the interorganizational team. First, they enable the interorganizational team to make use of the information,
expertise, or support of critical outsiders, while overcoming risks arising from anticipated appropriation and coordination concerns (Ancona & Caldwell, 1998; Gulati & Singh, 1998). Moreover, extrateam links assure that external experts do not become an integral part of the team. Therefore, interorganizational teams can create mutual incentives to share knowledge, technology, and instrumental assistance with experts, while resisting opportunism and discouraging the pursuit of subgoals through superior monitoring mechanisms (Kogut, 1988).

As with team diversity and team boundedness, teams with extrateam links naturally have more permeable boundaries, so team favouritism and outgroup biases are less salient in such teams. Hence, team members are more likely to form ingroup relationships and engage in the four types of boundary spanning activity with people outside the team (Reynolds et al., 2000). Further theoretical support to this premise can be gained from the strength-of-weak-ties (SWT) hypothesis (Granovetter, 1973). The degree of overlap of two parties’ networks varies directly with the strength of their ties to one another. Extrateam links, then, are weaker ties than intrateam links. According to Granovetter (1973), although people linked by strong ties have greater motivation to assist and are typically more easily available, weak ties provide people with access to information and resources beyond those available in their own social circle.

Hypothesis 4: The use of extrateam links will be positively related to the scouting, ambassadorial, coordinating, and empowering boundary spanning activity.

The mediating role of boundary spanning

The proposed model posits complete mediation of team boundary activities in the structure–effectiveness relationship. That is, the four types of interorganizational team’s boundary activity (scouting, ambassadorial, coordinating, and empowering) serve as a vehicle whereby informational diversity, boundedness, and extrateam links enhance team effectiveness. This argument is consistent with previous models of team effectiveness (e.g., Campion, Papper, & Medsker, 1996; Gladstein, 1984; Hackman, 1990; Kirkman & Rosen, 1999) termed input-process-output models. These models separate structures as objective job characteristics from both team processes and effectiveness. All involve a three-stage process: Managers take various actions for structuring the team’s work in Stage 1 (inputs), these actions affect teams’ work processes in Stage 2 (process), and important outcomes result from positive team processes in Stage 3 (outputs). Hackman and Morris (1975) noted that the team’s design is one of the most potent determinants of what constitutes an effective process to promote team
effectiveness. Accordingly, we suggest that the interorganizational team’s informational diversity, boundedness, and extrateam links set the stage for better external team boundary activities it is to enact. These structures enable team members to scout for information from various stakeholders in their focal environment, to lobby and enlist support, as well as to work in close relationships with customers and empower them, in order to maximize their effectiveness (Ancona & Caldwell, 1998).

**Hypothesis 5:** Scouting, ambassadorial, coordinating, and empowering boundary spanning activity will fully mediate the relationship between the interorganizational team’s structures and effectiveness.

**METHOD**

**Setting**

Health promotion interorganizational teams, namely interorganizations’ cooperative arrangements aimed at achieving the health promotion of their community, provided a setting appropriate for this study. First, increasing technical complexity and growing environmental turbulence drove organizations in health promotion to establish interorganizational teams earlier than in many other industries (Gillies, 1998; Goes & Park, 1997; Lasker, Weiss, & Miller, 2001). Specifically, the Ottawa Charter for Health Promotion advocated that health promotion could be advanced if this task were assigned to interorganizational teams (Gillies, 1998; Lasker et al., 2001; World Health Organization, 1986). Hence, those teams are usually composed of members of different organizations such as health, welfare, education, and municipal authorities. Second, evidence from past research (Baron-Epel et al., 2003) as well as pilot assessment interviews with health promotion team coordinators indicated that variance could be obtained of the key variables of interest in this study: team structures, team boundary spanning activity, and team effectiveness. Third, the health promotion teams in our sample shared common goals, common strategies for achieving them, and common measures of effectiveness, so all were comparable.

**Sample**

The research population consisted of 49 health promotion teams. All interorganizational teams working on improving lifestyle quality were approached. Five teams refused to participate in the survey because they were novice and insufficiently familiar with the ongoing project. Hence, the response rate was 89%. All teams can be defined as project teams in that they planned and implemented activities focusing on a healthier lifestyle, besides
their routine jobs in their organization of origin. The teams had worked together for 3.96 years on average ($SD = 2.28$), and team members spent on average 15% of their time on the project ($SD = 7.5$). Of the 49 teams, 45.5% reported providing health promotion services for a population of up to 5000, 40% for a population of 5000–15,000, and 14.5% for a population of 15,000–20,000. Univariate analyses indicated that the size of the targeted population of each interorganizational team did not predict a significant portion of the variance in any of the key variables examined in the study (i.e., team structures, team boundary spanning activity, team effectiveness). Hence, size of population served was not included in the subsequent analyses.

The average size of each interorganizational team was 6.13 members ($SD = 2.85$), ranging from 4 to 10. Preassessment interviews conducted with our team coordinators revealed that although team members had clear and defined roles, they necessarily interacted regularly to achieve shared goals in the services they provided for their populations. They also depended on one another for knowledge and effort through several permanent structures such as “brown bag” lunch meetings, mutual workshops and training sessions, and scheduled staff meetings.

Regarding demographic characteristics, 32% of team members were men and 68% women. Their average age was 38.02 years ($SD = 7.98$) and their average seniority in the current job was 4.5 years ($SD = 4.13$). In education, about 12% of team members had basic schooling, 28% had participated in nonacademic courses in health promotion or associated areas, 45% had a Bachelor’s degree, and 5% had an MA degree. The main organizations represented in the teams were primary care clinics (27%), hospitals (15%), municipal authorities, (30%), welfare organizations (15%), and formal and informal education organizations (13%).

Each interorganizational team was managed by a coordinator, responsible for its ongoing functioning. This manager worked fairly autonomously and reported to the district management. In their demographics, 35% of the coordinators were men and 65% women. Their average age was 40.08 years ($SD = 8.13$), their average seniority as team coordinator was 7.7 years ($SD = 8.13$). In education, about 12% had basic schooling, 24% had participated in nonacademic courses in health promotion or associated areas, 40% had a Bachelor’s degree, and 24% had an MA degree. None of the demographic variables predicted a significant portion of the variance in team boundary spanning activity or team effectiveness, and were therefore not included in subsequent analyses.

Procedure

Data were collected by two methods: interviews with team coordinator and team members, and survey data on team effectiveness compiled by the
coordinators and their managers. Interviews with the health promotion team coordinators and team members were structured and were held separately to avoid possible mutual influences and social desirability effects. Thus, 98 interviews were held: 49 with team coordinators and 49 with team members as a group (all team members were approached at a regular team meeting).

Each interview lasted approximately 90 minutes. It covered a standard set of questions, but the participants were encouraged to raise and discuss related topics as well. All interviews were conducted in Hebrew and written down verbatim. The interviewer used no audio recording. Participants were assured that their responses would remain anonymous. The interview questions for the coordinator and team members addressed the research questions by concentrating on the interviewee’s evaluation of the extent and type of boundary spanning activity. Coordinators were also asked to assess the functional diversity of the team, members’ type of involvement in the team (team boundedness), and extent and type of links with experts. In addition, the coordinator’s immediate supervisor was asked to evaluate the team’s effectiveness.

Measures

Informational diversity was defined as the diversity of educational background, functional specialization, and organizational relatedness embodied in the interorganizational team (Jackson, 1996). Information for this measure was obtained by asking each coordinator to specify the various functional roles, educational background, and organizational belongingness evinced by the interorganizational team. Their information revealed that all these three variables were nested in the functional role: They overlapped to the extent that all health professionals belonged to healthcare organizations and had a health-related educational background. Likewise, all social workers belonged to social welfare organizations, and had an education in social work. Hence, functional diversity determined the informational diversity in our study.

Informational diversity was measured by Blau’s (1977) heterogeneity index, defined as $1 - \Sigma P_i^2$, where $P_i$ is the proportion of the total team that each informational category represents. This proportion is squared and summed over each category. The summed value is the degree of homogeneity in the team, and the figure resulting from the subtraction of that value from 1 gives the degree of heterogeneity. Heterogeneity scores in this case can thus range from 0 = full homogeneity to 0.83 = full heterogeneity. This is because the maximum value is given by $(K - 1/K)$ where $K$ is the number of categories. Thus, in this case (where $K = 6$), the maximum value for Blau’s heterogeneity index is $5/6 = 0.83$. The function categories
used were: administrators, dieticians, health professionals, teachers, social workers, and fitness instructors.

*Team boundedness* was defined as the way members were involved in the team: full- or part-time membership; full- or part-time assignment to the team; core or peripheral membership (Ancona & Caldwell, 1998). On a 5-point Likert-type scale, from 1 = most coalition members (80–100%) to 5 = few coalition members (0–20%), coordinators were asked to specify the proportion of coalition members who (a) contributed to all stages of the project (full- or part-cycle membership); (b) worked full- or part-time on the coalition (full- or part-time assignment); and (c) key core members, who contributed more than others to the project (core or peripheral membership). To enhance the readability of the findings, the team boundedness index was then subtracted from 6 such that high scores indicate high boundedness, namely higher proportions of interorganizational team members who served for the full cycle of the project, worked full-time on the project, and contributed equally to the project. Cronbach’s alpha reliability was .75. Coordinators’ assessments were averaged across items.

*Extrateam links* were assessed by the sum of contractual short-lived connections with external professionals/agents/organizations during the previous year. Coordinators were asked to assess the number of occasional links, where some contractual arrangement was made between the team and external professionals, for acquisition of knowledge and information, financing, and practical assistance. The number of links was then summed across purposes.

*Boundary spanning activity.* The team coordinator and team members were asked to specify and describe in detail the nature of steps taken by the interorganizational team to interact with its environment. Raw responses concerning the team’s boundary spanning activities were listed in order. Next the raw responses were analysed for content, and coded into meaningful themes/categories of boundary spanning activities. Data analysis was iterative (Eisenhardt, 1989): The earlier stages of analysis were more exploratory and open-ended, comparing the constructs and themes noted from the boundary spanning literature with those that emerged from the data; the later stages were guided by the components identified in the preliminary analyses. The analyst asked: Did the participants express similar opinions? Were there dominant themes in their answers? To verify these categorizations, two research assistants, doctoral students in organizational behaviour and familiar with team research, who were blind to the questions of interest, replicated the coding of the answers. Their two sets of results replicated 95% and 92% of the first author’s own categorizations.
All responses in our sample fitted into the prescribed categories of boundary spanning activity: scouting, ambassadorial, coordinating, and empowering behaviours. Finally, we dummy coded every behaviour as $1=\text{enacted by the team}$ or $0=\text{not enacted}$, and then summed the behaviours in each category to obtain the measures of scouting, ambassadorial, coordinating, and empowering. Higher scores represented higher boundary activity enacted by the team. Level of agreement between coordinators and members was moderate to high (Kappa coefficient ranged from .78 to .89).

I tested for the homogeneity of responses at the unit level by calculating the $r_{wg}$ coefficients (James, Demaree, & Wolf, 1984) for each of the four boundary activities for each of the 49 participating interorganizational teams. The $r_{wg}(j)$s for scouting were between .70 and .97, with a median of .88; for ambassadorial they ranged between .70 and .97, with a median of .83; for coordinating between .72 and .99, with median of .89; and for empowering between .77 and .98, with a median of .86. Homogeneity was also tested by interclass correlations (ICC1) and by the reliability of the mean (ICC2; Bliese, 2000). Results for ICC1 and ICC2 were .12 and .74 respectively for scouting; .23 and .79 respectively for ambassadorial; .13 and .80 respectively for coordinating; and .15 and .78 respectively for empowering.

**Effectiveness.** Team effectiveness was defined as the production of designated products or the delivery of contracted services as per specification (Shea & Guzzo, 1987). As with traditional team research (e.g., Alper, Tjosvold, & Law, 1998; Gaziel, 1992), several factors limit the prospects of obtaining objective effectiveness measures. First, health promotion teams do not always collect team-level effectiveness data, perhaps because parties typically become interorganizational team members to enhance their own individual performance (Provan & Sebastian, 1998) or because high proportions of those teams are not engaged in appraisal processes (Gillies, 1998). Second, although we chose interorganizational teams that participated in the same project and were engaged in similar activities, effectiveness comparability across teams was still limited (Kirkman & Rosen, 1999). Therefore, we used ratings of effectiveness as perceived by the coordinator’s immediate supervisor as the effectiveness criteria.

The supervisor was asked to complete a 5-item Likert-type scale (from $1=\text{not effective at all}$ to $5=\text{effective to a great extent}$), developed for the purposes of the present study, measuring interorganizational team effectiveness. Items were derived from preassessment interviews with coordinators and supervisors about their goals and effectiveness.
standards, as follows: “How effective was the team in health promotion knowledge transfer and skill development?”, “How effective was the team in developing a health promoting environment?”, “How effective was the team in strengthening community activities in health promotion?”, “How effective was the team in changing the health habits of the members of the community?”, and “Generally, how effective was the interorganizational team?” To assess team effectiveness, we averaged the responses of the corresponding subscale. Cronbach’s alpha reliability score for the team effectiveness scale was $.85. Correlation of supervisors’ and coordinators’ appraisals was $.68 (p < .01), supporting the validity of the assessments. In addition, concurrent validity was assessed by correlating the effectiveness measure and compliance ratio of community members who attended the various programmes of the interorganizational team, $r = .46$, $p < .03$.

**Control variables.** We treated the length of time for which the interorganizational team had collaborated as a control variable because the literature on teams has noted that the time the team works together is a key variable influencing team effectiveness (Hackman, 1990).

## RESULTS

### Descriptive data

**Extrateam links.** The data from the coordinators’ interviews provide interesting insights into the motives of interorganizational teams to form extrateam links, as well as the frequency of their occurrence. First, acquiring knowledge and information was the most prevalent motive. Examples are “approaching experts for counselling for the interorganizational team”, “training and guidance”, and “demonstrations”. Coordinators reported creating extrateam links for knowledge and information on average of 3.4 times during the previous year ($SD = 1.7$), with a majority of 67.3% reporting the creation of links on three to eight occasions, 30% on one or two occasions, and only a negligible 2.7% reporting no links being created. The second most frequent motive was to obtain financing. Examples are “enlisting financial resources” and “obtaining contributions”. Coordinators reported creating extrateam links for obtaining financing an average of 1.7 times during the previous year ($SD = 1.8$), with 40% reporting creating such links’ on two to five occasions, 30% on one single occasion, and 30% reporting the creation of no such extrateam links. The least frequent motive was to get instrumental and technical support. Examples are “utilizing equipment and structures”, “advertising and signposting”, and “refreshments”. Coordinators reported creating extrateam links for this
reason an average of 0.16 times during the last year ($SD = 1.8$). About 83% of the coordinators reported never creating extrateam links for this reason; the remaining 17% reported creating links for such assistance on one single occasion.

**Boundary spanning activity.** Coordinators and team members were asked to detail the actions taken by their team in order to engage in boundary spanning activity. Starting with the first strategy, namely scouting behaviours, interviewees described activities that were conducted in the course of searching for information and scanning the environment. The most frequent responses were targeted at the customers: “identifying the specific needs and expectations of members of their community”, “disseminating needs and satisfaction surveys”, and “interviewing customers through focus groups”. The remaining responses were targeted at scouting the competitors, such as “communicating with other health promotion teams to learn about their actions” and “learning what other teams in similar projects do”.

In the second category, namely ambassadorial behaviours, interviewees described activities that involved working with community representatives to enlist resources for the benefit of the team, including social awareness and political relations. Examples are “lobbying the educational department to introduce health education plans into schools and kindergartens”, “interacting with legal representatives to pass and enforce laws against smoking in public places”, and “use of TV broadcasting on local channels to create public awareness of the project”.

The third category, coordinating activities, involved interactions of coordination, negotiation, and problem solving with other functional units. The most frequent activities reported in this category concerned interactions with municipal authorities for the benefit of the project. Examples are “coordinating with municipal authorities to set up sun shades in parks” and “coordinating activities to lay walking and jogging tracks so as to encourage physical activity”. The next most frequent activities involved coordination with various managers in order to foster programmes for health promotion, for example, “negotiate with the school principals about serving healthier food in the school cafeteria”.

The fourth category was empowering behaviours. All interviewees referred to activities conducted in the course of delegating decision-making authority to residents of the communities. Examples are “participation of representatives of the community in the steering committee”, “appointing community representatives to serve as health trustees”, “participation of community representatives in decision-making processes, such as when we decide on equipment acquisition in accordance with residents’ demands”, “conducting workshops to encourage women’s leadership”,

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and "developing support groups in the community to encourage physical activity, better eating habits, and the like".

**Hypothesis testing**

Table 1 exhibits the means, standard deviations, and intercorrelations matrix for the study variables. The correlations among the three structural variables were nonsignificant, indicating that they were relatively independent and distinct aspects of team structure. Second, correlations between the various boundary spanning activities were moderate and significant (ranging from .39 to .49), indicating that although the four boundary spanning activities had common variance, each contained a unique aspect of boundary spanning. Third, the correlations between the structural variables and boundary spanning activity, as well as between the structural variables and effectiveness, were all significant, thereby providing initial support for the hypotheses.

To test Hypotheses 1a–d, a hierarchical regression analysis for predicting team effectiveness from the four boundary spanning activities was conducted. The control variable, collaboration duration, was entered into the regression equation in Step 1, and the proposed predictors, namely scouting, ambassadorial, coordinating, and empowering were entered in Step 2. Results indicated that after controlling for team duration, scouting, $\beta = .37$, $p < .05$, ambassadorial, $\beta = .76$, $p < .01$, and coordinating $\beta = .57$, $p < .05$, were significantly and positively associated with team effectiveness, whereas empowering, $\beta = .12$, $p > .05$, was not linked with team effectiveness. The boundary activities predicted 41% of the variance in team effectiveness, $\Delta R^2 = 3.47$, $p < .05$.

<table>
<thead>
<tr>
<th>TABLE 1</th>
<th>Intercorrelation matrix of study variables</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
</tr>
<tr>
<td>1. Team heterogeneity</td>
<td>0.46</td>
</tr>
<tr>
<td>2. Team boundedness</td>
<td>2.69</td>
</tr>
<tr>
<td>3. Links with experts</td>
<td>5.34</td>
</tr>
<tr>
<td>4. Scouting</td>
<td>7.23</td>
</tr>
<tr>
<td>5. Ambassadorial</td>
<td>3.73</td>
</tr>
<tr>
<td>6. Coordinating</td>
<td>3.21</td>
</tr>
<tr>
<td>7. Empowerment</td>
<td>5.18</td>
</tr>
<tr>
<td>8. Supervisors’ effectiveness ratings</td>
<td>2.36</td>
</tr>
</tbody>
</table>

$N = 49$, *$p < .05$, **$p < .01$. 

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To test Hypotheses 2–4, four hierarchical regression analyses for predicting boundary spanning activities were conducted. The control variable, collaboration duration, was entered into the regression equation in Step 1, and the proposed predictors, namely team heterogeneity, team boundedness, and interorganizational links, were entered in Step 2. In Table 2 the results appear in the columns labelled “scouting”, “ambassadorial”, “coordinating”, and “empowerment”.

As for scouting, the control variable of collaboration duration accounted for a negligible amount, \( \Delta F = 0.8, p = ns \), of the variance in this boundary spanning activity. The joint main effects of the structural predictors accounted for an additional 45\%, \( \Delta F = 16.75, p < .01 \), of the variance in this boundary spanning activity. As predicted, team heterogeneity and interorganizational links were significantly and positively related to scouting, whereas team boundedness was negatively related to it (Hypotheses 2, 3, and 4). Together, these findings indicated that teams which were more heterogeneous and less bounded, and had more extrateam links, were associated with increased engagement in scouting boundary spanning activity.

As for ambassadorial boundary spanning activity, the control variable of collaboration duration accounted for 12\%, \( \Delta F = 7.61, p < .01 \), of it. The joint main effects of the structural predictors accounted for an additional 40\%, \( \Delta F = 20.85, p < .01 \), of the variance in boundary spanning activity. As predicted, team heterogeneity and interorganizational links were significantly and positively related to ambassadorial boundary spanning activity, whereas team boundedness was significantly and negatively related to it (Hypotheses 2, 3, and 4). Together, these findings indicated that teams that were more heterogeneous and less bounded, and had more extrateam links, were associated with increased engagement in ambassadorial boundary spanning activity.

As for coordinating boundary spanning activity, the control variable of collaboration duration accounted for 11\% of the variance in the coordinating activity, \( \Delta F = 8.79, p < .01 \). The joint main effects of the structural predictors accounted for an additional 10\%, \( \Delta F = 2.95, p < .05 \), of the variance in coordinating. As predicted, team boundedness was significantly and negatively related to the coordinating boundary spanning activity (Hypothesis 3). By contrast, no associations were found between team heterogeneity and interorganizational links and coordinating.

As for empowerment, findings from the regression analysis did not support the hypotheses that structural variables were associated with this boundary activity, despite the significant correlations between the structural variables of team heterogeneity, team boundedness, and interorganizational links and effectiveness. The empowerment variable was excluded from further analyses.
<table>
<thead>
<tr>
<th>Step variables</th>
<th>Scouting</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>β</td>
<td>ΔR²</td>
<td>ΔF</td>
<td>β</td>
<td>ΔR²</td>
<td>ΔF</td>
<td>β</td>
<td>ΔR²</td>
<td>ΔF</td>
<td>β</td>
<td>ΔR²</td>
<td>ΔF</td>
<td>β</td>
<td>ΔR²</td>
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<td>Step 1: Control variable</td>
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<td></td>
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<tr>
<td>Collaboration duration</td>
<td>.05</td>
<td>.03</td>
<td>.08</td>
<td>.12</td>
<td>7.61*</td>
<td>.11</td>
<td>8.79*</td>
<td>.02</td>
<td>1.53</td>
<td>.08</td>
<td>2.85</td>
<td></td>
<td></td>
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<tr>
<td>Step 2: Structural variables</td>
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<tr>
<td>Informational diversity</td>
<td>.45</td>
<td>16.75**</td>
<td>.40</td>
<td>20.85**</td>
<td>.10</td>
<td>2.95*</td>
<td>.02</td>
<td>1.05</td>
<td>.31</td>
<td>4.27*</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Boundedness</td>
<td>-.34**</td>
<td></td>
<td>-.11*</td>
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<tr>
<td>Extrateam links</td>
<td>.48**</td>
<td></td>
<td>.97**</td>
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<tr>
<td>Total R²</td>
<td>.48</td>
<td></td>
<td>.52</td>
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<td>.21</td>
<td>.04</td>
</tr>
</tbody>
</table>

N = 49. *p < .05, **p < .01.
The mediating role of boundary spanning activity

According to Baron and Kenny (1986), complete mediation can be demonstrated only by showing evidence of the following: (1) the antecedents are related to the consequence. Support for this argument was provided by the results of the hierarchical regression analysis presented in Table 2 in the column labelled “team effectiveness”. The antecedents of team structural variables significantly predicted 31%, $\Delta F = 4.27, p < .05$, of the variance in team effectiveness. Team informational diversity, boundedness, and links to external experts were significantly associated with team effectiveness. (2) The antecedents are related to the mediators. Support for this argument could be provided by the testing of Hypotheses 2–4. As indicated, these hypotheses were fully supported for scouting and ambassadorial boundary activities. Only team boundedness was significantly and negatively related to coordinating. (3) The mediator is related to the consequence. Support for this argument was provided for the scouting, ambassadorial, and coordinating boundary activities by the findings supporting Hypothesis 1. (4) The relation between the antecedent and the consequence is eliminated when the mediator is controlled. To demonstrate this, we conducted a hierarchical regression analysis to control for boundary spanning activity. Collaboration duration was entered in the first step, followed by the mediating variables of scouting, ambassadorial, and coordinating boundary activities in Step 2. Finally, the main effect terms of the structural variables were entered in Step 3. The results of the hierarchical regression analysis are presented in Table 3.

<table>
<thead>
<tr>
<th>Step variables</th>
<th>$\beta$</th>
<th>$\Delta R^2$</th>
<th>$\Delta F$</th>
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<td>Collaboration duration</td>
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<td>Step 2: Mediating variables</td>
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<td>4.59**</td>
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<tr>
<td>Scouting</td>
<td>.35*</td>
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<td></td>
</tr>
<tr>
<td>Ambassadorial</td>
<td>.69**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coordinating</td>
<td>.52**</td>
<td></td>
<td></td>
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<tr>
<td>Step 3: Structural variables</td>
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<td>9.45**</td>
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<td>Informational diversity</td>
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<tr>
<td>Boundedness</td>
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<td></td>
<td></td>
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<tr>
<td>Extrateam links</td>
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<tr>
<td>Total $R^2$</td>
<td>.64</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

$N = 49, *p < .05, **p < .01$. 

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The findings indicated that none of the structural variables was significant. In addition, the explained variance in effectiveness due to the structural variables fell from .31 to .17 when controlling for the mediators of boundary spanning. Thus, for team informational diversity, team boundedness, and extrateam links, scouting and ambassadorial activities fully mediated their relationships with team effectiveness. In addition, for team low boundedness, coordinating activity also fully mediated its relationship with team effectiveness.

**DISCUSSION**

The present study affords us concrete insights into interorganizational teams and their functioning that differ from the knowledge and insights found in the extant literature on team dynamics in a single organization. Our external perspective on the interorganizational team’s functioning served as a springboard to display the contours of interorganizational teams. As our findings indicate, effective interorganizational teams should not automatically imitate the structures and designs that work for teams in a single organization. Instead, to be effective, and to successfully manage the mission of boundary spanning activities, interorganizational teams should maintain an open team configuration by inviting in external experts, changing team composition over time, including full-time and part-time members alike, and distinguishing core and peripheral members.

The findings also shed light on the work processes employed by interorganizational teams to manage their focal environment, be it composed of direct customers, suppliers, competitors, support groups, or any other interest groups in the team’s environment; such processes constitute boundary spanning activity (Ancona & Caldwell, 1998; Yan & Louis, 1999). These complex webs of external activities seem to be particularly important to interorganizational teams because such teams are set up precisely to facilitate engagement in boundary spanning activities in an attempt to improve flexibility and responsiveness (Choi, 2002; Goes & Park, 1997; Kraatz, 1998; Nielsen, 1988; Provan & Sebastian, 1998). Moreover, as our findings indicate, the pooling of resources and knowledge of all parties in the interorganizational team facilitated engagement in boundary activities and led to the solution of otherwise insoluble problems (Hardy et al., 2003). The findings provide empirical support for previous descriptions of boundary spanning activity by Ancona and Caldwell (1992) and by Druskat and Wheeler (2003) for teams in a single organization. The findings generally fit well into the prescribed activities of scouting, ambassadorial, coordinating, and empowering behaviours. Nevertheless, by drawing on reports by coordinators of interorganizational teams working in health promotion, which state what these teams actually do to influence
their environment, the present findings both specify and enlarge previous taxonomies of boundary spanning activity to the realm of interorganizational teams. It spells out in behavioural terms what interorganizational teams actually do in order to span, attain support for, and influence their external environment. It also enlarges them by illustrating these teams’ appropriateness in nonprofit service organizations, such as health promotion bodies. As many of the team coordinators noted, the main strategic advantage of interorganizational teams was the merging of resources, such as knowledge, power, and influence, which fostered creative solutions that would not have been available to any of the parties working on their own.

Further, our findings indicate that boundary spanning activity promotes the effectiveness of interorganizational teams: to the extent that the effectiveness of teams engaged in scouting, ambassador, and coordinating behaviours increased. This finding is of particular importance because the focus of most previous research has been on processes in the interorganizational team’s inner environment, such as building trust, managing conflict, and creating commitment and identification. The important processes of managing the team’s external environment have so far been largely ignored.

Finally, the study juxtaposed three structural variables, namely team diversity, team boundedness, and extrateam links, in an attempt to promote our understanding of how to design and structure interorganizational teams such that boundary spanning activity is promoted and effectiveness increased. The first structural factor—informational diversity—is considered a means of monitoring the team’s ability to successfully manage demands for excessive interfaces with the environment; the broad range of professionals represented on the team serves to improve its communicative potential with different professional interest groups in its focal environment (Hays et al., 2003; Jackson, 1996; Wandersman & Goodman, 1993). In this sense, our findings demonstrated that increased scouting and ambassadorial activity, and greater effectiveness of the interorganizational team, were associated with greater informational diversity.

Team boundedness is a second means of monitoring the team’s interaction with the external environment. Setting boundaries that determine who is and who is not a team member, as well as how and for how long each member will contribute to the team, makes for the formation of temporary structures that include only essential workers for a particular stage of the project. This in turn might enhance the team’s potential for responding to the environment with minimal waste of time and human resources. We found that less bounded teams, emphasizing part-time and part-cycle members, were positively associated with scouting, ambassadorial, and coordinating activities, and with effectiveness of the interorganizational team.
Extrateam links are a third means of monitoring the team’s ability to better meet the needs of the external environment. We found that extrateam links were positively associated with scouting and ambassadorial boundary activities, and with the effectiveness of the interorganizational team. In this sense, our findings revealed several important facts. First, the interorganizational teams in our sample created extrateam links mainly to acquire knowledge and information, and to a lesser degree to obtain financing or technical and instrumental assistance. This finding seems surprising, particularly considering the financing and technical challenges confronted by such teams when pursuing health promotion plans. Further studies should explore the qualifications and capabilities of interorganizational team members for enlisting the required financial and technical support from experts in their focal environment. Moreover, our findings indicated that the best contribution to boundary spanning activity and effectiveness was made by occasional collaboration with a range of experts during the team’s project as needed.

Together, these findings provide empirical support for the notion that these structural variables are important antecedents of the interorganizational team’s boundary spanning and effectiveness. However, a structuring dilemma appears to emerge, in that the chief strengths of each structuring approach are accompanied by limitations. Further research should examine whether teams with low connectedness to the environment run the risk of becoming “overbounded” (Alderfer, 1976), such that roles and norms become rigid, learning is limited, and the ability to adapt successfully to the external environment is low. At the other extreme are “underbounded” teams, which may have difficulty creating cohesiveness, building a stable identity, and developing effective internal processes.

Limitations and suggestions for further research

Several limitations should be acknowledged. First, our study focused on team boundary activities, thereby ignoring the possible tradeoff relationship between a team’s external and internal activities; engagement in boundary spanning activity might interfere with engagement in building team cohesiveness, commitment, and identification, and vice versa (Ancona & Caldwell, 1998). Further research should aim to examine such issues as the effects of low bounded structures on the team’s identity, shared vision, leadership, and conflict, and how this impacts on the project’s effectiveness. Second, as the study was cross-sectional, one should be cautious about causal interpretations of the relationships found between structures, process, and output variables. Further studies, employing longitudinal research designs should be conducted to validate the relationships found here. Such studies could also investigate if interorganizational teams engage with
different boundary spanning activities over time. A third limitation concerns the uniqueness of our sample of health promotion teams nested in healthcare systems. Nevertheless, three salient aspects of such teams have been identified that make them interesting for cross-industry comparisons: They engage in comparable boundary spanning activities as industrial and profit organizations; they rely on knowledge workers; and they involve complex interdependent relationships among various professional groups, as well as across organizations (e.g., clinic to hospital to rehabilitation centre to home health agency). All in all, this might imply that results from well-executed research in the health services should be applicable to organizations in other industries that share these characteristics.

Practical implications

What advice might we give to practitioners on the basis of the present findings? First, interorganizational teams should make purposeful decisions about how teams should be structured rather than simply allowing these structures to emerge or to automatically strive for a continuous mode of structure. This means considering not only who is on the team, but also how and for how long members function in it.

Second, the high engagement in boundary spanning activity, and on the other hand the modest creation of extrateam links for financial and practical assistance, point at the need to develop training programmes for interorganizational team members to focus on power issues and influence skills. These programmes should train members how to engage in diverse influence tactics, such as lobbying, creating coalitions, negotiating, and enlisting support and resources.

Finally, our results suggest that interorganizational teams may be well served by developing an elaborate and paradoxical repertoire of modes of structuring. Faced with the complex consequences of team diversity, team boundedness, and extrateam links, administrators should be prepared to experiment with alternative structures, relying on the input of their various stakeholders (i.e., team members, external experts, and customers) for feedback on successes and failures.

A concluding remark

The findings of the present study emphasize the importance of boundary spanning activity processes in promoting interorganizational team effectiveness. Our findings drew attention to the importance of investing time, effort and resources not only in monitoring the inner environment of the team by stimulating commitment, identification and trust as a means to promote interorganizational team effectiveness, a topic well studied and emphasized
by previous studies. Instead, we focused on efforts executed by inter-organizational teams to monitor their external environment—customers, suppliers, competitors, or other agents—in an attempt to attain outside resources, information, and support as a means to promote team effectiveness.

Furthermore, our findings identified the structural antecedents vital for enhancing engagement in boundary spanning activity: low boundedness, high informational diversity, and frequent creation of extrateam links. These findings contribute to shifting the conception of an interorganizational team as a bounded, well-defined, stable entity to that of a more fluid and permeable structure interacting with an external environment.

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Revised manuscript received May 2009
First published online February 2010*