

## GROUP SOCIAL CAPITAL AND GROUP EFFECTIVENESS: THE ROLE OF INFORMAL SOCIALIZING TIES

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**This study introduces the concept of group social capital, which is the configuration of group members' social relationships within a group and in the social structure of a broader organization, and tests the proposition that group effectiveness is maximized via optimal configurations of different conduits for such capital. These conduits include intragroup closure relationships and bridging relationships that span vertical and horizontal intergroup boundaries. Results from our 60-team field study of informal socializing ties provide empirical support.**

As the business environment has become more complex and uncertain, organizations have responded by increasingly using groups as their fundamental unit of organizational structure in an effort to decentralize decision making and respond more flexibly to their environments (Manz & Sims, 1993; Mohrman, Cohen, & Mohrman, 1995). Groups have been granted greater autonomy within organizational structures, which has brought with it the need for groups to more actively manage their cooperation and coordination with other organizational units and with management (Choi, 2002). Ancona and her colleagues have shown that groups need to manage “boundary-spanning” relationships with other groups and external members in their organizations to pull in important informational and political resources that help maintain

the groups' effectiveness (Ancona, 1993; Ancona & Caldwell, 1992; Gladstein, 1984).

Although boundary-spanning activities can increase performance, recent research suggests that pursuing social relationships outside a group might decrease the group's internal cohesiveness (Keller, 2001), which can, in turn, negatively affect its performance (e.g., Beal, Cohen, Burke, & McLendon, 2003). Thus, an increasingly complex and uncertain business environment has made understanding how individual group members manage this delicate balance of social relationships within their group, across organizational units, and across hierarchical levels increasingly important.

We introduce the concept of group social capital as one way of examining in greater depth how group members' social relationships within and outside of their groups and across multiple types of boundaries are related to group effectiveness. Social capital is the set of resources that inheres in the structure of relations between individual actors (Bourdieu, 1986; Burt, 1992, 2000; Coleman, 1988, 1990; Nahapiet & Ghoshal, 1998). People and groups of people are connected to certain others (and not connected to yet others), and this pattern of connection creates a network of interdependent social exchanges wherein certain people become trusted exchange partners who can be called upon for resources and support. For example, when organization members socialize outside of the workplace with certain other organization members, the trust, opportunity, and motivation to increase the level of social exchanges among these people in-

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creases. The social capital concept highlights the idea that people or groups with the “right” types of social connections can more effectively employ other types of capital they possess (such as financial resources, knowledge, skills, and abilities) to achieve their goals than can people or groups with social connections of a different type. People with the right connections occupy a position in the network of social exchanges that allows them to bring their resources to bear on problems in a more timely and effective manner (Burt, 2000; Portes, 1998).

We define *group social capital* as the *configuration of a group’s members’ social relationships within the social structure of the group itself, as well as in the broader social structure of the organization to which the group belongs, through which necessary resources for the group can be accessed*. We explicitly consider individuals as embedded simultaneously in the social structure of a group and an overall organization (Firebaugh, 1980; Manson, 1993), thus viewing a group simultaneously as both a whole unit and a collection of individuals. Doing so allows us to consider optimal configurations of members’ social relationships within a group, outside the group, and across hierarchical boundaries within an organization. The main purpose and contribution of this piece is to propose and test a multidimensional model of group social capital that focuses on optimal configurations of social ties within and outside a group that lead to the highest level of group effectiveness. This study was a preliminary empirical test of the conceptual model developed in Oh, Labianca, and Chung (in press).

The concept of group social capital is intended to spur multilevel research on groups. Despite the fundamentally relational and embedded nature of groups, most group research (for reviews, see Guzzo and Dickson [1996], Guzzo and Shea [1992], and Hackman [1992]) has lacked a multilevel perspective that focuses simultaneously on the social structure of a group *and* its members’ relationships within the larger social structure of an organization (Firebaugh, 1980; Manson, 1993; see also Klein, Dansereau, & Hall, 1994; Rousseau, 1985). Recently, researchers have begun to explore how differences in group members’ positions in their group’s and their broader organization’s social structures affect phenomena of interest (cf. Labianca, Brass, & Gray, 1998; Sparrowe & Liden, 1997; Reagans & McEvily, 2003), but this more multilevel view remains in its infancy. Only by viewing groups from a multilevel perspective that simultaneously addresses the internal and the external so-

cial context can researchers begin to accurately account for groups’ social capital.

From a broader group effectiveness perspective, our model of group social capital also serves to expand upon the work that has been conducted on group boundary management (e.g., Ancona, 1993; Ancona & Caldwell, 1992; Gladstein, 1984). Groups with a keen ability to manage their external relationships are more effective (Ancona, 1993; Cross, Yan, & Louis, 2000; see Choi [2002] for a review). This study traces the social connections that group members must establish in order to effectively manage their internal processes while reaching out to other units and unit leaders within their organization for resources that allow a group to be successful. Thus, an additional theoretical contribution of our work is to add greater specificity to knowledge of group boundary management.

### GROUP SOCIAL CAPITAL AND INFORMAL SOCIALIZING TIES

Our definition of group social capital acknowledges that a group itself has a social structure and must be considered both as a whole and as an aggregate of its parts, which include the formal group leader and the group members. This definition also recognizes that groups and their members must be considered in their broader contexts (e.g., Firebaugh, 1980; Gladstein, 1984). Some groups will have greater social capital “liquidity” because of their members’ positions in the overall social structure of their organization—that is, their ability to tap into resources passed along through their social ties quickly if they need these resources. For example, timely access to information or political support is likely to be better for groups whose members socialize during their free time with their organization’s upper management. This liquidity is important in many situations, such as when a group needs to protect or grow its funding to continue to function.

We follow the more structuralist network theoretic tradition of focusing on the configuration of social ties (or *conduits*) that make resources available to a person or group (see Seibert, Kraimer, and Liden [2001] and Adler and Kwon [2002], for alternative perspectives that focus on resources carried in specific ties). From the structuralist perspective, the configuration of group members’ social ties within and outside a group affects the extent to which the members connect to individuals who can convey needed resources, have the opportunity to exchange information and support, have the motivation to treat each other in positive ways, and have the time to develop trusting relationships that

might improve the group's effectiveness (cf. Krackhardt, 1992).

Our focus in this study is on a particular type of social tie—informal socializing ties—that potentially make a wide variety of resources available to a group through its members' informal socializing outside of the workplace with other members of the group and members of the broader organization. Researchers on networks have often distinguished between social ties that can primarily access a single resource and ties that can access multiple types of resources (cf. Fischer 1982), and the general research emphasis in work organizations has been on single-resource ties. Podolny and Baron (1997) developed a typology of single-resource ties in which some ties afford access to organizational gossip about important future decisions (e.g., strategic information ties); others, access to positive affect and personal support (e.g., friendship ties); others, to work flow inputs/outputs and task advice (e.g., task advice ties); and still others, to performance feedback and authority to proceed with current activities (e.g., "buy-in" ties). However, in practice, it is often difficult to look at social ties as conveying only one type of resource because, as relationships develop, they tend to broaden from being very specific to including more foci and resources (Altman & Taylor, 1973; Feld, 1981). Qualitative research on relationships in the workplace indicates that as a social tie strengthens, the relationship moves from being centered solely on instrumental, work-related purposes to having more expressive/affective elements, a change that creates the opportunity and motivation for the members of the relationship to transmit a greater variety of resources (e.g., Fischer, 1982; Labianca, Umphress, & Kaufmann, 2000). These are precisely the type of ties that can provide the most liquid social capital because of the flexibility in the type of resources that can be accessed.

A number of different social ties can create the opportunity for the members of a relationship to convey all or most of these resources, and these types of ties can be quickly appropriated to serve many varied purposes (Coleman, 1988, 1990). Podolny and Baron (1997) focused on the mentorship tie as one instance of a strong, comprehensive tie that could provide work-related resources and identity-related information and support, and whose focus could be work related and yet also extend into the personal realm. This type of social tie can be used to access a great variety of social capital resources. Podolny and Baron also noted that other ties might share this property.

This study investigates another type of tie that can be appropriated for many different purposes—a work-related tie that extends into the social realm

outside of work. These informal socializing relationships specifically move outside of the physical setting of the workplace. In that sense, the shift in the physical focus of the relationships' activities invites a shift in the types of resources that are transferred in the ties (Feld, 1981). For example, what might begin as a tie in which simple work flow information is transmitted can be transformed into a tie that can be appropriated for task-related advice, political support, strategic information, and emotional support if the relationship is taken outside of the workplace (by, for example, the individuals going out to dinner together). This change of venue invites greater focus on the informal, expressive aspects of the relationship, which can increase the level of trust between the members of the relationship and give them greater time, opportunity, and motivation to strengthen and broaden their relationship. This increased appropriability increases the liquidity and utility of each member's social capital.

In some cultures, such changes in relationship focus are institutionalized and actively encouraged for workplace relationships to the point that these shifts are informal requirements for being an effective worker. For example, in many Asian cultures, including the Chinese, Japanese, and Korean cultures, norms have developed whereby workers engage in social activities outside of the workplace, mostly centered on eating and drinking (Bian, 2001; Bian & Ang, 1997). While these types of informal socializing relationships are certainly important in Asian cultures, prior social network research has found that they are also important in Western business culture, suggesting that they are universally important. For example, some network researchers have studied workplace "friendship" by asking about the extent to which two people socialize outside of their organization (e.g., Ibarra, 1992; Ibarra & Andrews, 1993; Mehra, Kilduff, & Brass, 2003). Mehra, Kilduff, and Brass found that employees in a U.S. high-technology company who had greater numbers of informal socializing ties with fellow employees (defined as "people with whom you like to spend your free time" [Mehra et al., 2003: 130]) had higher performance ratings than those who had fewer numbers of such ties. In addition, performance ratings were even more positive if the employees with whom they socialized were from diverse social circles within the organization. Ibarra (1992) found that women in a U.S. advertising firm had less access than men to potential instrumental resources like advice, information, and political support in part because they had more gender segregated informal socializing ties ("people whom you see socially outside of work")

[Ibarra, 1992: 431]). Women's inability to access comprehensive ties meant that they had to develop separate networks for both instrumental and expressive (emotional and identity-related) resources, which made their social capital less "liquid" and their networks more difficult to maintain. Using the same data set, Ibarra and Andrews (1993) found that employees central to the informal socializing network in an organization also perceived significantly less interdepartmental conflict than employees who were less central, which suggests that these ties might be a mechanism through which interdepartmental conflict is managed. Thus, informal socializing ties might be a particularly informative type of social tie to study for understanding a group's social capital, because they can carry a wide variety of resources that can improve performance and potentially assist in coordinating across groups in an organization.

### GROUP SOCIAL CAPITAL AND GROUP EFFECTIVENESS

We argue that there are optimal configurations of social ties that maximize group effectiveness. A number of ways to define group effectiveness exist, including meeting many types of group and individual members' goals (cf. Hackman, 1987; Guzzo & Shea, 1992; Guzzo & Dickson, 1996; Sundstrom, DeMeuse, & Futrell, 1990). This study focuses on group effectiveness as upper-level managers' evaluations of a team on a broad set of criteria, including the following: quality of work, quantity of work, initiative, cooperation with other groups, ability to complete work on time, and ability to respond quickly to problems. Greater group social capital makes for more effective groups because these groups have greater access to important resources necessary to maintain and improve their performance, and to quickly respond to challenges that arise.

We emphasize that the members of a group can engage in these informal socializing relationships with people within their group and outside their group, and even with members of management, including leaders of other teams. These all represent different types of ties or conduits through which group social capital flows. Group social capital needs to be understood from an optimal configuration perspective; it is the optimal overall balance of relationships that leads to the maximum flow of group social capital. There are informal socializing relationships that draw a group together into a cohesive whole, relationships that reach across hierarchical levels outside the group, and diverse relationships that reach across different

horizontal boundaries within the organization (such as cross-departmental relationships). The group must have the right configurations of each of these relationships to maximize group social capital resources and to ultimately improve group effectiveness. In the remainder of this section, we discuss different relationship conduits that bring social capital to a group, as well as the optimal configuration of those conduits. We do not exhaustively treat all of the possible conduits that supply a group with social capital, but we capture many important conduits and suggest further possibilities for future research in the Discussion section.

### Closure Conduits: Relationships That Bring a Group Together

In social capital research, two main conduits through which social capital flows have been suggested: *closure* relationships and *bridging* relationships (Burt, 2000). Closure in a group is full connectedness; each member has a tie with each other member. Through the closure mechanism, group members connected by strong relationship ties benefit from embedded and dense networks in their closed group (Coleman, 1988, 1990). In a group in which group members have strong ties to each other, and in which everyone is connected to everyone else through informal socializing outside of the workplace, we would expect more bounded solidarity, stronger reciprocity norms, greater trust, and sanctions against self-serving behaviors than we would expect in groups lacking those strong ties (Granovetter 1985; Krackhardt, 1999; Portes & Sensenbrenner, 1993). Mutual trust develops from exchange reciprocity in an environment in which norms are well enforced and free riding is kept in check (e.g., Coleman, 1988, 1990; Levine, 1991). Such an environment allows for greater "credit risk" to be extended—group members are more willing to extend favors to one another because they know that the favors will ultimately be returned by another member of the group (e.g., Edmondson, 1999; Kramer, Hanna, Su, & Wei, 2001). Thus, social capital in these groups diminishes the probability of opportunism, reduces the need for costly monitoring, reduces transaction costs, and results in benefits for all group members (Seers, 1989; Uzzi, 1997). Group social capital that flows through closure conduits emphasizes that group members are willing to subsume their interests under those of the group as a whole because of the dense web of strong closure relationships within the group. Beyond these instrumental benefits, the informal socializing ties also bring expressive benefits (e.g., Ibarra, 1992, 1993; Umphress, Labianca, Brass,

Kass, & Scholten, 2003). An often-undervalued resource that flows through social ties is emotional support (Nicolaou & Birley, 2003; Wellman, 1992). There are many times when a setback might destroy morale, or when an unexpected tragedy might cause a group to lose its focus. Although emotional support is generally ignored in social capital research, we believe that the ability to access emotional support during difficult times is an important aspect of group social capital that can determine the relative effectiveness of a group.

While group closure has many positive aspects, we do not share the view of recent studies that suggest simple positive linear relationships between group closure and performance (e.g., Reagans & Zuckerman, 2001; Sparrowe, Liden, Wayne, & Kraimer, 2001). We instead argue that excessive group closure may *negatively* affect group social capital, and ultimately, group effectiveness. Excessive group closure, particularly in relationships with significant expressive/affective components such as informal socializing ties, can lead not only to increased identification and satisfaction with an in-group, but also to strong norms against associating with members of out-groups (Brewer, 1979). Strong-closure groups might constrain individual group members' contacts with diverse others outside and restrict access to the more diverse resources and innovative information available beyond the closed group (Portes & Sensenbrenner, 1993). Even where ties continue to be allowed with out-group members, the resources and information that flow through those ties can be ignored or discounted because of strong positive in-group biases and negative out-group biases (cf. Coser, 1956; Pruitt & Rubin, 1986; Simmel, 1955; Tajfel & Turner, 1985). These biases can combine to limit access to and absorption of innovative information from outside the group. The ultimate effect of these forces is that in a closed group connected by strong, positive ties, the information that is available tends to be homogeneous and redundant (e.g., Burt, 1992; Gargiulo & Benassi, 2000). Its effectiveness is thus limited (Burt, 2000). We argue that at moderate levels of group closure—that is, when moderate numbers of these comprehensive informal socializing relationships exist—group social capital will be highest, and group effectiveness will be maximized. By contrast, high or low levels of group closure will be detrimental to group effectiveness.

*Hypothesis 1. Group closure will have an inverted U-shaped relationship with group effectiveness. Group effectiveness is maximized at a moderate level of closure.*

### **Bridging Conduits: Cross-Boundary Relationships**

The closure perspective discussed above rests on an assumption that all group members are homogeneous. But the members of a group can be heterogeneous with respect to their positions in the formal and informal structures of the group and of the organization (Blau, 1969). This heterogeneity comes from various boundaries that exist in groups and organizations, including vertical boundaries (those between leaders and followers), horizontal boundaries (those between people in different functional areas), and boundaries delineating intra-group and intergroup relationships (Oh, Labianca, & Chung, in press). The bridging mechanism, in contrast to the closure mechanism, emphasizes the importance of ties connecting heterogeneous people (e.g., Burt, 1992). Employees who bridge otherwise disconnected people tend to receive timely, diverse information because of access to a wide range of heterogeneous information flows. These bridging relationships can span a number of different types of boundaries within an organization.

#### ***Intergroup horizontal bridging relationships.***

Because groups exist in the broader social structure of organizations, we need to consider a group's boundary-spanning activities, which are critical determinants of a group's social capital resources, and ultimately of its effectiveness (Ancona, 1990; Geletkanycz & Hambrick, 1997; Gruenfeld, Matorana, & Fan, 2000; Tushman, 1977). Groups that communicate more frequently with different people in outside groups have greater access to resources outside themselves (e.g., Hansen, 1999; Tsai, 2001). Groups whose members socialize outside the workplace with people from a diverse set of other groups from within their organization will learn about developments in the organization faster because the relationships in which their members are engaged are trusting relationships. Those groups will be more likely to receive important tacit knowledge because their members spend more time with a diverse set of people outside the workplace, making it more likely that members of other groups in the organization will be motivated to share their knowledge and skills with the groups' members. If a group experiences a setback, it is more likely to be able to access a broad base of emotional and political support through its ties with other groups in the organization. Thus, if a group has quick access to timely information, diverse ideas, and critical instrumental, political, and emotional resources because of its members' external connections to diverse groups, it is more likely (compared to a group with less diverse connections) to come up with creative decisions and to

have the necessary leverage to implement these decisions (Ancona, 1993; Ancona & Caldwell, 1992; Milliken & Martins, 1996). Better performance results for the group with diverse connections.

*Hypothesis 2. Groups with more diversity in their social relationships with other groups will be more effective than groups with less diversity in their external ties.*

**Intergroup vertical bridging relationships.** Having diverse external ties is important, but having external ties to people who have the power to influence one's group is perhaps more important. Every organization has a dominant coalition of powerful actors (Thompson, 1967), and connections to that dominant coalition facilitate an organization member's ability to upwardly influence as well as to gather needed resources in a timely manner to accomplish tasks (cf. Brass, 1984, 1992; Seibert et al., 2001). This is true for individuals, and it is also true for a group as a whole. A group, through its members, must be able to access the dominant coalition in its organization. These group boundary management activities facilitate the group's ability to absorb outside political pressure, protect itself from external threat, and coordinate and negotiate with outsiders, and they ultimately allow it to be more successful (Ancona, 1993; Ancona & Caldwell, 1992). This effect might be particularly important because members of an organization's dominant coalition tend to have the ability to act quickly and with broader latitude, making access to dominant coalition members a very liquid source of group social capital. For example, if an executive is attempting to shut down a task force, the task force's access to political resources from other members of management may prevent the shut-down—if this access is rapid. Quick reactions and quick mobilization of a group's social capital is facilitated by group members' informal socializing relationships with leaders around the organization.

We operationally defined "dominant coalition" here as the formal leaders of the other groups in a focal group's organization. Access to these leaders can facilitate a group's ability to engage workers from other groups to assist them (Perry-Smith & Shalley, 2003). For example, if a task force is trying to reengineer a company's new product development process, the ability of its members to tap leaders in various groups that are intimately involved in new product development will allow the task force to gain important information. This ability will also reduce the possibility of resistance from workers in other groups to any change that might need to be implemented in the process. The existence of informal socializing ties between

group members and those leaders makes the latter more motivated to assist the group members when they need information, political support, or other types of assistance than would be leaders with whom members of the group did not socialize informally. Thus, groups whose members have more informal socializing relationships with formal leaders in other groups will be able to access resources more quickly and successfully than groups whose members have fewer of these ties. In the previous hypothesis, we argued that the diversity of a group's informal socializing ties *to other groups* in its organization will increase group social capital, without specifying who is on the other end of these ties. Here we argue that when a group's informal socializing ties are *to leaders* in other groups, the focal group's social capital, and ultimately, its effectiveness, are enhanced.

*Hypothesis 3. Groups with more relationships with formal leaders in other groups will be more effective than groups with fewer external ties to leaders.*

## METHODS

### Sample and Procedures

The work groups in this study were drawn from 11 organizations in Korea ranging in size from 17 to 151 employees and averaging 74 employees. These organizations included a consumer sales company, a paint manufacturer, and 9 smaller entrepreneurial organizations in such high-tech industries as computer software, computer equipment, and Internet-based technologies. The primary sources of data for this study were questionnaires. The questionnaire items and scales were translated into Korean and subjected to careful validity checks using back-translations by a bilingual Korean-American independent of the research team. We distributed questionnaires to all the work groups in the 11 organizations, a population of 82, as well as to the organizations' upper managements. The 9 small high-tech ventures each had 3 to 7 teams, and the sales and paint organizations had 21 and 7 teams, respectively. Members of 77 work groups completed the questionnaires (a 94 percent group-level response rate). Respondents completed questionnaires either during breaks at work or at home and sealed them in individual envelopes, which were collected by the members of the research team to ensure confidentiality. We also interviewed key informants and obtained relevant archival data such as organizational charts from each organization. Each chart listed each group in the given organization, included a roster of the members of

each group, identified each group's formal leader, and delineated whom the group leader reported to in the hierarchy; we used them to identify bridging ties with assistance from key informants.

Following previous research on the network properties of work groups in organizations (Sparrowe et al., 2001), we excluded work groups with a less than 80 percent response rate on the questions about intragroup ties or with fewer than three reported intergroup ties (see below for descriptions of these variables). We did this to allow comparison between our study and previous research, as well as to ensure that there was sufficient variance in the Blau index of heterogeneity of intergroup ties for regression analysis (see below). These exclusions reduced the final sample to 60 work groups (73 percent of the groups in the population) ranging in size from 3 to 20 members; the average for the analyses was 6 members per group (formal leaders were considered group members for analyses). These 60 groups had an average 96 percent individual response rate. The average age of the respondents was 34.6 years; their average organizational tenure was 4.6 years; 60 percent of the respondents had at least a university degree; and 76 percent of respondents were men. The work groups' main functions included accounting, sales, human resources, and research and development, and they could be classified as process teams (see Napier and Gershenfeld [1999] for a typology of groups).

## Questionnaire

**Intragroup networks.** The questionnaire presented an individual respondent with an alphabetical list of all group members in the respondent's work group (see Marsden [1990] for a discussion of this roster method). Following Burt (1992), we asked respondents, "To what extent did you go out with this person for social activities outside work such as going out to informal lunch, dinner or drinks?" (Burt, 1992: 123). These network data were valued on a five-point scale ranging from "not at all" (1) to "very much" (5). We constructed matrices that represented all of the informal socializing relationships among members of each group.

**Intergroup networks.** Each respondent was asked to name up to ten people in his or her organization but outside of his or her own work group with whom he or she "had been out with often for social activities outside of work such as going out to informal lunch or dinners" (see Campbell and Lee [1991] and Marsden [1990] for a discussion of the name generator method). Focusing on a relationship such as informal socializing is consistent with the name generator method, which tends to

reliably elicit emotionally closer or stronger relationships (Campbell & Lee, 1991). Using the company-supplied organization charts, we identified the group in which each "alter" (an organization member whose name was elicited by the above question) was located in the organization, as well as whether the alter was a formal leader of another group in the organization. We analyzed all data using the UCINET 6 for Windows network analysis package (Borgatti, Everett, & Freeman, 2002).

## Independent Variables

**Closure conduits.** Group closure was measured as a group's density in the network of informal socializing relationships (Burt, 2000: 351). A group's density is the sum of the valued tie strengths in the group divided by the total possible sum of tie strengths among all members in the group (Scott, 2000). The data were left in asymmetric form. We replaced missing data (less than 4 percent because of the high response rate) with the median value for the group, as did Sparrowe et al. (2001).

**Intergroup horizontal bridging conduit diversity.** We used Blau's (1977) index of heterogeneity to measure a group's diversity of outgoing intergroup ties by examining the distribution of the group's members' total informal socializing ties to people in other groups. Heterogeneity was defined as follows:  $Heterogeneity = (1 - \sum p_i^2)$ , where  $p$  is the proportion of informal socializing ties to another group and  $i$  is the number of other groups in the organization. This index varies from 0 (if members have informal socializing ties with only one other group) to a theoretical maximum of 1 (if members have equal proportions of informal socializing ties with all other groups).

**Intergroup vertical bridging conduits.** Intergroup vertical bridging was measured by group members' informal socializing relationships with the formal leaders of different groups. Formal leaders were identified via organization charts and were verified by key informants in each organization. We identified the number of formal leaders in other groups that a group's members named as people that they socialized with informally outside of work (out-degree informal socializing ties). This measure was a simple count: if a group had five members with a tie to the same leader of another group, this would be counted the same as if a group's members had five ties to leaders of five different groups. We standardized these numbers and then used the standardized scores as measures of intergroup vertical bridging to allow for comparisons across differently sized groups in differently

sized organizations with different numbers of groups.

**Dependent Variable**

**Group effectiveness.** The effectiveness of each group was assessed by the CEO of its company or by the high-level manager who usually evaluated the group’s performance (cf. Anderson, 1983), according to the organization’s key informant. We did not ask the formal leaders embedded within the groups to evaluate group effectiveness because they were likely to be favorably biased, as high group performance would imply their own leadership effectiveness. We asked the high-level executives to assess group effectiveness using a seven-item, five-point scale (“very poor,” 1, to “excellent,” 5) similar to the one used by previous researchers (Sparrowe et al., 2001). They were asked to respond to the question, “Compared to the average of other teams in your company, how would you rate this team’s performance on each of the following items?” We then averaged the executive’s responses about the group’s performance on the following items: the quality of work, the quantity of work, the group’s initiative, the group’s cooperation with other groups, its ability to complete work on time, its ability to respond quickly to problems, and its overall performance ( $\alpha = .89$ ).

**Control Variables**

**Alpha/beta.** The 60 work groups in the sample came from two different types of organizations: 9 small entrepreneurial organizations (32 groups) and 2 medium-sized, more mature organizations (28 groups). We controlled for a group being in one

of medium-sized organizations by including two dummy variables, alpha and beta, in the regression, using the following coding scheme:

	Dummies	Alpha	Beta
Nine small entrepreneurial firms: 32 groups		0	0
Medium-sized mature firm: 21 groups		1	0
Medium-sized mature firm: 7 groups		0	1

The above scheme allowed us to include only two control variables, both of which were correlated above .90 with organizational size, organizational age, and industry type (high-tech vs. low-tech), thus preserving power in our regression analyses (we thank an anonymous reviewer for this suggestion).

**Group size and total number of ties.** Previous research suggests that group size influences group dynamics and performance (Hare, 1981; Shaw, 1981; see Moreland and Levine [1992] for a review). For example, larger groups tend to be less cohesive. Larger groups also have more members that can give them bridging ties. We controlled for these possibilities by controlling for the number of members in each group. We also controlled for the total number of group ties, which was the sum of the total number of closure and bridging ties for each group. By controlling for the size of the networks, we were able to address the possibility that it was simply the “extensivity” of the networks that determined group effectiveness, thus allowing us to isolate the effects of the closure and bridging mechanisms (Burt, 2000).

**RESULTS**

The descriptive statistics in Table 1 show that the

**TABLE 1**  
**Descriptive Statistics and Correlations<sup>a</sup>**

Variable	Minimum	Maximum	Mean	s.d.	1	2	3	4	5	6	7
1. Alpha	0.00	1.00	0.31	0.46							
2. Beta	0.00	1.00	0.11	0.32	-.24*						
3. Total number of ties	10.00	155.00	38.44	27.16	.23*	.15					
4. Group size	3.00	20.00	5.67	2.93	.19	.18	.86***				
5. Closure	0.14	2.83	0.80	0.47	-.20	.13	-.27*	-.36**			
6. Intergroup horizontal bridging conduit diversity	0.26	0.90	0.66	0.14	.27*	.19	.11	.04	-.09		
7. Intergroup vertical bridging conduits	-1.13	2.12	0.05	0.90	-.05	.01	.54***	.40**	-.15	.01	
8. Group effectiveness	2.14	4.86	3.78	0.66	.37**	.33*	.09	.08	.05	.33**	.20

<sup>a</sup>  $n = 60$  groups.  
\*  $p < .05$   
\*\*  $p < .01$   
\*\*\*  $p < .001$

typical work group in this study had six members, relatively low density in the intragroup informal socializing network, and moderately high diversity of ties with other groups. Table 2 presents the results of the hierarchical regression analyses testing the hypothesized relationships between the different constructs of group social capital and group effectiveness.

Hypothesis 1 proposes an inverted U-shaped relationship between group closure and effectiveness. To support an inverted U-shaped relationship, the coefficient estimates for closure should be positive and the estimates for closure squared should be negative and significant, with a significant change in the model's explained variance. The results in model 3 in Table 2 show that at moderate levels of group closure, group effectiveness was maximized, suggesting support for the hypothesized inverted U-shaped curvilinear relationship between group closure and group effectiveness (see Figure 1 for a graphical depiction of the relationship).

Hypotheses 2 and 3 concern bridging conduits across groups. Did a focal group's pattern of informal socializing relationships with other groups in its organization matter for group effectiveness? Our results did not support Hypothesis 2: intergroup horizontal bridging conduit diversity, measured by the focal group's diversity of informal socializing ties with other groups, were not significantly related to group effectiveness. On the other hand, groups with greater numbers of informal socializing relationships with the formal leaders of other groups achieved greater group effectiveness, suggesting support for Hypothesis 3, which is about a positive relationship between intergroup vertical

bridging relationships and group effectiveness. Taken together, closure and bridging group social capital conduits explained an additional 15 percent of the variance in group effectiveness in equations controlled for specific organization, group size, and a group's total number of ties (model 1 vs. model 4 in Table 2).

In a post hoc examination, we also checked for possible interaction effects between closure and bridging ties. Finding significant interactions would suggest that optimal group social capital configurations would involve the proper balance within different types of closure and bridging conduits, and also across the different conduits (for example, needing to choose between adding another intragroup closure tie and adding another intergroup vertical bridging tie). We examined the possibility that closure ties and bridging ties interact through either linear interactions, curvilinear by linear interactions, or curvilinear by curvilinear interactions (Aiken & West, 1991). We tested the curvilinear by linear interaction by including the product of a squared closure term and a linear bridging term. We tested the curvilinear by curvilinear interaction by including the product of squared terms for both closure and bridging variables. Results failed to uncover any interaction effects, and these analyses are not reported.

## DISCUSSION AND FUTURE DIRECTIONS

We proposed and defined the construct of group social capital as the configuration of group members' social relationships within the social struc-

**TABLE 2**  
Results of Regression Analyses Predicting Group Effectiveness<sup>a</sup>

Variable	Model 1	Model 2	Model 3	Model 4
Alpha	0.73*** (0.16)	0.73*** (0.16)	0.71*** (0.15)	0.73*** (0.16)
Beta	1.02*** (0.24)	1.00*** (0.25)	0.84** (0.24)	0.82** (0.24)
Total number of ties	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)	-0.01 (0.01)
Group size	-0.07 (0.05)	-0.06 (0.05)	-0.01 (0.05)	0.02 (0.05)
Closure conduit		0.07 (0.17)	1.26* (0.49)	1.18* (0.46)
Closure conduit squared			-0.47* (0.18)	-0.42* (0.17)
Intergroup horizontal bridging conduit diversity				0.47 (0.53)
Intergroup vertical bridging conduits				0.23* (0.09)
$R^2$	.35	.36	.43	.50
$F$	7.52***	5.96***	6.60***	6.40***
$\Delta R^2$		.01	.07	.07
$\Delta F$		0.19	6.64*	3.74*

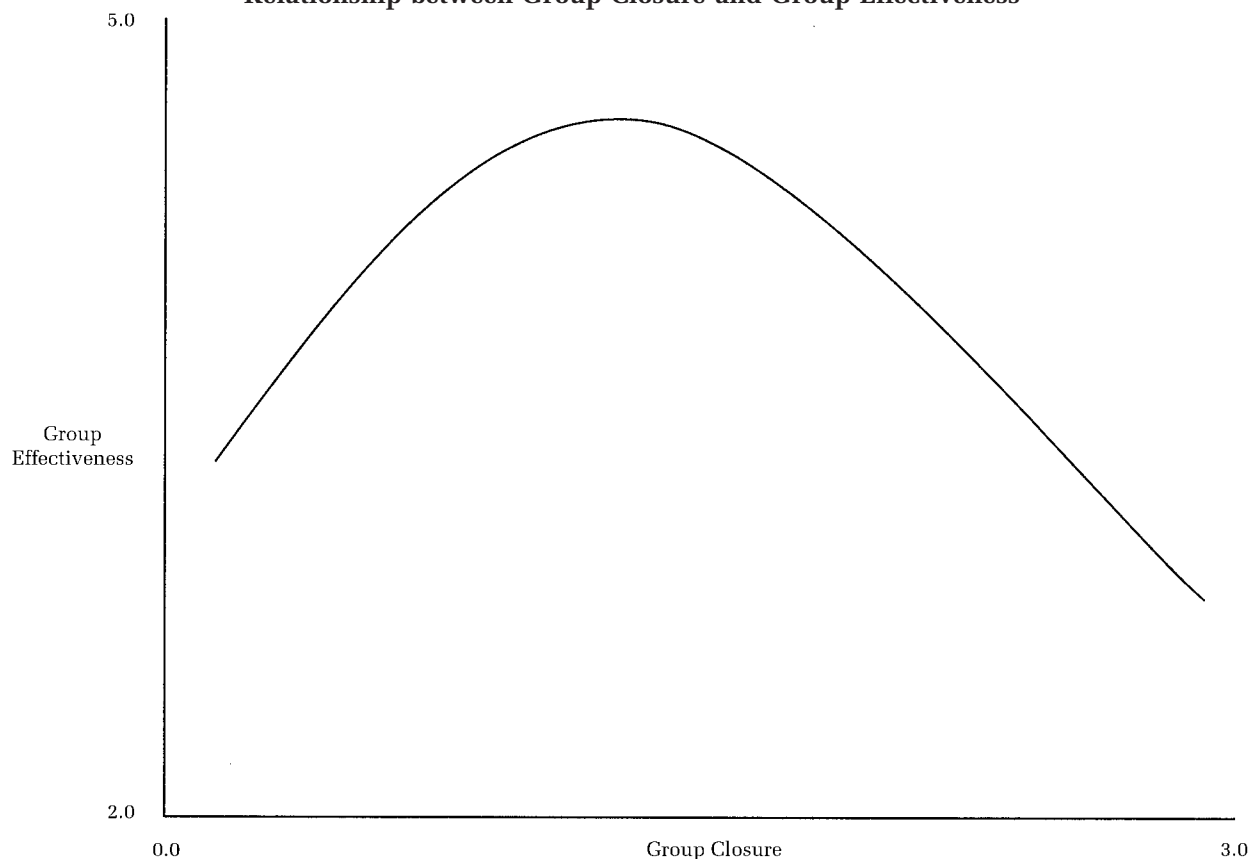
<sup>a</sup> n = 60 groups. Values represent unstandardized coefficients; Standard errors are in parentheses.

\*  $p < .05$

\*\*  $p < .01$

\*\*\*  $p < .001$

**FIGURE 1**  
**Relationship between Group Closure and Group Effectiveness**



ture of a group itself, as well as in the broader social structure of an organization, through which necessary resources for the group can be accessed. Our results suggest that certain optimal configurations of group social capital conduits maximize group effectiveness. The optimal configuration of informal socializing ties within a group is a moderate level of internal closure, whereas the optimal configuration of these ties across groups is a large number of bridging relationships to other groups' leaders. This study adds to scholars' understanding of group social capital by suggesting that more of one type of social tie is not always better. Our findings suggest that it is actually counterproductive for a group's functioning when all its members go out together informally outside of the organization. This study focused on informal socializing ties, but we believe that our arguments about optimal configurations can be generalized to other types of ties, particularly to more comprehensive, multiple-resource ties, such as mentoring ties. This study also contributes to understanding group boundary management (Ancona, 1993; Gladstein, 1984) by making explicit the types of boundary-spanning informal socializing relation-

ships, specifically those that cross to other groups' formal leaders in the organization, that a group must maintain in order to improve its effectiveness.

Our study also adds to the study of groups and networks by focusing on a previously underappreciated type of social tie—the informal socializing tie that crosses outside of the workplace into a more informal realm. These ties are particularly critical because the switch in focus from the workplace to outside the workplace invites a shift in the types of resources that are transferred in the ties toward greater comprehensiveness and multiplexity. This is particularly true in many Asian cultures, where norms have developed whereby employees engage in social activities outside of the workplace (e.g., Bian, 2001). Indeed, as one Korean executive explained in an interview with our study team:

In Korean companies, [informal socializing] ties are key factors for successful task performance, rather than just being supplementary ones for task-related ties. In Korean companies, most important issues tend to be discussed, coordinated, and decided in advance of formal meetings through informal and personal meetings among relevant individuals. In the formal meetings, these decisions tend to be just

endorsed and become official by others with rarely fierce conflict and serious debates on the issues. Thus, if the individual faces some problems and conflicts, that individual would discuss the possible solutions with other relevant individuals through personal meetings such as informal lunch or drinks after work in advance of formal meetings.

Another Korean executive we interviewed said:

It is very important to maintain good personal relationships with others within and outside the group through everyday interactions for the possible mobilization of those personal relationships for performing tasks some day. If you often miss the informal dinner or drinks with other colleagues and are perceived as the isolated one by other colleagues, you will be in big trouble with working with others. In Korean companies, whether I know that person personally or not makes a big difference in [task-related] cooperation.

These comments might lead one to wonder whether the results of our study, which was conducted within 11 organizations in Korea, will generalize to other countries because of the strong emphasis placed on informal socializing in that country. There has been no suggestion to date that social capital operates differently in Korea than it does in other, more individualistic, cultures (e.g., Hofstede, 1980), even if certain types of relationships (such as informal socializing relationships) are encouraged to a greater extent in Korea. Indeed, research at the individual level suggests that informal socializing ties are important determinants of performance in the United States as well (e.g., Mehra et al., 2001). Notwithstanding this situation, future researchers should seek to replicate this study in other cultural settings where informal socializing outside of work is relatively rare to confirm the generalizability of the results.

It is also noteworthy that the previous network studies showing positive linear relationships between internal group closure and group performance (Reagans & Zuckerman, 2001; Sparrowe et al., 2001) focused on single-resource ties that were mainly task-oriented. Perhaps the types of curvilinear effects we found in this study are more likely to be found when studying more comprehensive ties that are both instrumental and expressive, and that require greater investment of time, attention, and care. Further research incorporating comprehensive ties, such as mentoring and informal socializing ties, as well as single-resource ties, such as task advice ties, should examine the extent to which the type of tie influences the relationship between internal group closure and group performance.

We hypothesized that the curvilinear relationship between internal group closure and group per-

formance is driven, in part, by norms in strong-closure groups constraining individual group members' social contacts with diverse others outside their groups, thus restricting access to the more diverse resources and innovative information that might be available beyond the closed group. However, we did not find the expected negative correlation between group closure and intergroup ties. This finding suggests closed groups might have norms that allow members to have social ties with out-group members, but that the resources and information that flow through those ties might be ignored or discounted when they enter the closed groups. This lack of information utilization might be due to the development of strong positive in-group biases and negative out-group biases that prejudice a group's members against absorbing and using information from outside their group (cf. Coser, 1956; Pruitt & Rubin, 1986; Simmel, 1955; Tajfel & Turner, 1985). Future research should examine in closer detail the underlying mechanism driving the curvilinear relationship between internal group closure and performance.

Future research should also move past the current tendency in social capital research to either examine the closure and bridging conduits separately, or to pit the two in a "horse race" to see which is a better predictor of the phenomenon of interest (cf. Burt, 1987). Moving forward, we believe that more complex, multidimensional models that examine the interactions between different types of conduits will be needed to get a deeper understanding of group social capital. There is a limit to the amount of time and attention that group members can spend on initiating and maintaining their social relationships, particularly informal socializing ties. Pursuing one type of tie generates opportunity costs because one then limits pursuing and engaging other types of new relationships (Granovetter, 1985). In addition to potential issues of time, attention, and care, legitimacy issues arise. It is also possible that being embedded in a dense web of informal socializing relationships within one group might make having informal socializing relationships with members of other groups illegitimate in the eyes of fellow group members. Alternatively, even if these ties are not actively discouraged, information brought into the group from these ties might be discounted and not used to plan future group activities. Different types of ties might interact to affect group effectiveness in many potential ways. While we did not find any significant interaction effects in the current study, it is likely that this lack of findings was due to not having a sufficient number of teams, as opposed to there not being any trade-offs inherent in having different

types of social ties. Future studies with greater power might seek to uncover these types of interaction effects.

The study has a number of limitations that point toward possible future research. As with most network research, the design was cross-sectional, prohibiting determination of causality. Although we have argued that a group's configuration of social ties determines its effectiveness, it is also possible that upper management's ratings of effectiveness could affect the development of informal socializing relationships within a group, and between that group and formal leaders in other groups in the encompassing organization. Future researchers conducting longitudinal research might be able to better determine the direction of causality. Another limitation common to network research is that the data were collected in only 11 organizations, leaving open the question of whether our results would generalize to a broader population of organizations. Further, we collected the intergroup informal socializing ties using a single-item measure, as is typically done in network research, which leaves open questions of data reliability. Future researchers should also control for possible group composition effects that are due to differences in individual characteristics, such as human capital and task characteristics.

Another limitation of this study is that we defined group effectiveness as a single upper-level manager's evaluation of each team on a broad set of criteria. Clearly such an evaluation is a crucial measure of group effectiveness, but future researchers might wish to survey additional upper-level managers to ensure greater reliability, and they may wish as well to adopt a more multilevel, multidimensional definition of group effectiveness (e.g., Guzzo & Shea, 1992; Hackman, 1987). For example, at the group level, in addition to measuring upper-level managers' satisfaction with a group, researchers can measure the group's ability to reach agreed-upon goals, its ability to incorporate tacit knowledge, and its viability (its ability to come together in the future to do more work). At the individual level, effectiveness can also be measured as the extent to which membership in the group meets individual group members' goals and needs. Researchers employing different effectiveness measures might find that the relationships between group effectiveness and the various closure and bridging conduits differ from what we observed here. For example, they might find a positive linear relationship between closure and a group's internal assessment of its performance that might be affected more by socioemotional elements than by external information gathering (cf. Ancona,

1993), or a curvilinear relationship between bridging ties and group learning of tacit knowledge (cf. Hansen, 1999). Our definition of group social capital and the resources that flow through relationship conduits is sufficiently broad to accommodate this broader view of group effectiveness, and we encourage future research in that direction.

Another limitation was that the data were collected in small and medium-sized organizations with extremely flat hierarchies. If research were conducted in larger, "taller" firms (those with more hierarchical levels), one could examine whether the same configuration of ties is important for groups that are either more central or have greater status in organizations' hierarchies (cf. Tsai, 2001). This step is ultimately necessary if researchers are to achieve a more multilevel view of groups and their social capital.

We adopted a decidedly sociological approach in this study in that we measured only the social ties within and between groups and assumed that resources such as trust, political support, information, and emotional support were flowing through those ties and ultimately improved group effectiveness (e.g., Burt, 2000). While this is probably an easy supposition to defend because our analysis centered on informal socializing relationships, a more resource-based view of social capital would also be interesting to pursue. More psychologically oriented researchers in the arena of individual social capital have begun to open the black box by measuring the resources that are presumed to flow through social ties (e.g., Seibert et al., 2001). For example, in this study, our arguments assume that emotional resources (e.g., social support) that flow from intragroup relationships are a more important element of those relationships than they would be in intergroup relationships, and that political support is more important in vertical relationships than in horizontal ones. Asking respondents more directly about what type of resources flow in what proportions through different relationships would confirm what is now only speculated. It is easier to measure both social ties and resources at an individual level than at a group level, yet we think that it would be fruitful for future researchers to examine group social capital resources directly by asking about the type and quality of a wide variety of resources that are transmitted through ties.

We also do not claim to have exhaustively examined all of the types of conduits that can carry group social capital resources. For example, a group can also be composed of formal and informal subgroups (e.g., Frank & Yasumoto, 1998; Weick, 1979). The group's leader's ability to efficiently connect subgroups to quickly confront problems

might be another form of group social capital that improves a group's effectiveness. Although it might not be possible for a group leader to maintain a strong relationship with each group member—particularly a strong relationship via informal socializing ties—the leader's ability to maintain a strong relationship with at least one member of each subgroup might be sufficient to maintain the group's ability to work together while allowing time for the group leader to develop critical intergroup ties. Bridging conduits across subgroups would only be present in fairly large groups, because a group can have no fewer than five members to fit this profile (enough for a leader and two subgroups composed of at least two members each). Finding enough large groups for analysis of this type of intragroup conduit is difficult, but doing so is possible and should be considered as a future possible research direction.

### Managerial Implications

We believe that group social capital is malleable, although not easily so. We believe that it can be influenced by altering group composition to include members with the most needed types of social ties and by changing current members' behaviors and patterns of interaction. Existing group members can be actively encouraged to develop bridging ties. Increasingly, firms are sponsoring informal groups around common hobbies and social activities to promote the formation of these bridging ties. The introduction of computer-based social networking systems within organizations might also assist somewhat in developing bridging relationships.

During group formation, teams might also consider a possible member's current social ties as an input into the group composition decision. For example, a potential team member with excellent access to formal leaders in other groups through informal socializing ties might be critical to maximizing group social capital resources. Finally, recent research indicates that the self-monitoring personality trait is linked to a person's social network configuration in organizations (Mehra et al., 2001). Including a balance of individuals who rate high on this trait—who would be more adept at creating bridging ties—and those who rate low, and thus would be more adept at maintaining closure ties, might help in achieving optimal group social capital.

Our results also call into question the benefits of traditional team building efforts focused around creating a highly cohesive team. This approach would likely increase a group's closure by encour-

aging informal socializing, but doing so might be counterproductive for group effectiveness. Traditional team building would also do little by way of improving any bridging ties to other groups' formal leaders that are lacking, and such ties were also positively related to group effectiveness here. Our results suggest that team building that is focused on bringing a team with very low internal closure to a moderate level of closure will likely improve effectiveness, but that trying to create a highly closed team is counterproductive.

### Conclusion

Our results suggest that there are multiple conduits for group social capital that lead to greater group effectiveness and that researchers need to consider them in more complex models, such as optimal configuration models. Having too much of one source of group social capital (strong closure within a group, for example) can negatively affect the group's effectiveness. The increasingly complex and uncertain business environment within which organizations operate has made understanding how a group's members manage this delicate balance of social relationships within their group, across organizational units, and across hierarchical levels increasingly important.

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