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Be Careful What You Wish For: The Effects of Issue Interpretation on Social Choices in Professional Networks

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This research examines the role of agency and choice in how individuals use social networks. Prior research has addressed how individual characteristics such as status and the ability to accurately perceive network ties influence individuals' social choices in a given situation. In contrast, we examine how individuals' interpretation of the issues in a situation affects their social choices and access to social capital. How individuals interpret issues influences which contacts they consider most valuable in that situation. This assessment in turn influences social choices, such as from whom to seek advice. In a study of school managers or principals, respondents solicited 362 contacts for advice in a simulated problem-solving exercise. The findings revealed that managers solicit advice from different kinds of contacts depending on whether the managers frame the issues strategically or politically. When they frame the issues strategically, their egocentric advice network consists of contacts they perceive to have more expertise and material resources. When they frame the issues politically, their egocentric advice network comprises contacts they perceive to have more influence and to be more trustworthy. When managers have indefinite issue frames, they seek advice by relying more on general criteria, such as expertise, trust, and their typical frequency of interaction with contacts.

Keywords: social networks; managerial cognition; decision making

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Introduction

Prior research on social networks focused on structural forms of social capital (Burt 1992, Coleman 1988, Granovetter 1973). More recent research has emphasized the role of agency and choice in affecting individuals' ability to gain access to the cognitive, material, and social resources embedded in networks (Ibarra et al. 2005). The two emerging streams of research on agency and choice in networks—network cognition and network activation—depart from structural approaches. These streams emphasize individuals' perceptions of their contacts and the effect of personal characteristics, such as status, on individuals' ability to gain access to contacts (Freeman 1992, Janicik and Larrick 2005, Smith et al. 2012). However, both structural approaches to research on social capital and approaches that emphasize agency share underlying assumptions about the value of social capital. Existing research has largely overlooked how an individual's perceptions of a presenting problem or issue may influence the value of social capital as well as the individual's accumulation of such capital.

One of the most robust findings about individual cognition is how powerfully people's perceptions of their situations influence their behaviors (Lant 2005, Tversky

and Kahneman 1981). For example, research on issue framing reveals that how an individual perceives a problem influences how the individual solves the problem. Issue framing determines not only the degree of risk an individual is willing to assume in solving problems but also how many and what types of solutions individuals generate (Dutton and Jackson 1987, Hawley and Nicholas 1982, Nutt 1998, Tversky and Kahneman 1981). If the effects of framing also hold for decisions about contacts, then framing influences how individuals make decisions about their contacts and gain access to social capital. Our central claim is that issue framing influences managers' decisions about interactions with contacts because framing drives assessments about which contact attributes are salient and valuable. Consequently, framing determines the cognitive, social, and material resources to which managers ultimately have access.

Our study examines the contacts that public school managers or principals solicit for advice when facing a difficult school problem. Because our data include measures on principals' and contacts' attributes and their typical frequency of interaction across two different problems, we can assess effects on tie activation

over and above the effects of individual characteristics, task features, and tie strength. The results suggest that managers form different egocentric advice networks depending on whether they frame problems as strategic or political. These networks in turn offer different capacities for addressing problems. When managers frame issues as strategic, they seek advice from contacts who they perceive to be more expert and endowed with material resources. When managers frame issues as political, they seek advice from contacts who they perceive to be more influential and trustworthy. In situations where managers do not have a definitively political or strategic frame for an issue, material resources and influence become less important. Instead, managers select contacts based on general criteria for advice seeking, such as expertise, perceived trustworthiness, and typical frequency of interaction. In this article, we first present a framework that explains how issue interpretation influences advice seeking and access to social capital. We then describe our research methods and present the results of a study in which multilevel data on managers' advice seeking was analyzed using hierarchical linear models (Raudenbush and Bryk 2002). We conclude by discussing the findings and directions for future research.

Agency, Cognition, and Access to Social Capital

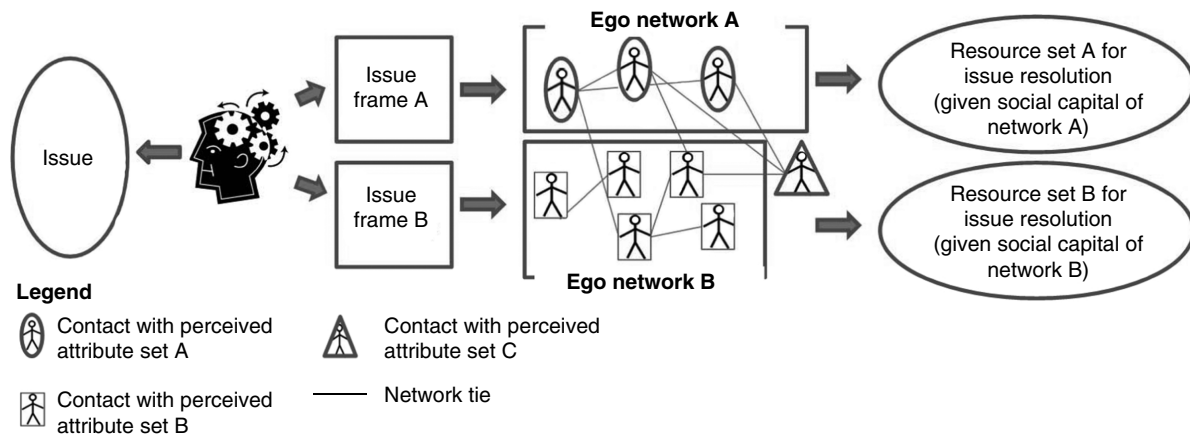
In this study, we follow existing research to conceptualize social capital as the potential and actual set of cognitive, social, and material resources made available through an actor's direct and indirect ties to other actors in a network (Bourdieu 1986, Coleman 1988, Lin 2001). As such, social capital is a property of both dyads and network structure. In this study, we focus primarily on social capital as a property of dyads. Social capital provides cognitive resources, such as abundant or diverse information, depending on the strength of ties between individuals (Granovetter 1973, Renzulli and Aldrich 2005). Social capital also provides social resources, such as feelings of trust or obligation, depending on the degree of reciprocity in ties (Coleman 1988). In turn, the cognitive and social resources of social capital can generate material resources, such as financial support or in-kind transfers, because these resources are provided directly by a contact or become available because of ties to a contact (Galaskiewicz et al. 2006). Access to the cognitive, social, and material resources of social capital is typically viewed as an artifact of structural serendipity or disparity. Network structure surely determines the set of ties available to an individual and predicts the probability of a given set of interactions (Watts 1999). However, within the probabilistic set of available ties, individuals frequently make choices about those with whom they will interact.

For example, existing work illustrates how organizational managers make choices about who they will solicit advice from based on whether their contacts are friends, have the same functional or industry experience, or are more diverse (McDonald and Westphal 2003, McDonald et al. 2008). Research on advice network generation suggests that managers decide which contact to approach by weighing the benefits of knowledge to be gained against the possible costs in time, money, and reputation (Nebus 2006). Additionally, research on social categorization suggests that individuals' specific goals influence not only which contacts they select but also which contacts are salient as available interaction partners (Fitzsimons and Shah 2008). To the extent that interactions with different contacts confer different kinds of cognitive, social, and material resources, managers' decisions about their interactions influence their access to social capital.

Our central claim is that managers decide which contacts to interact with based on their interpretations of the issues for which social capital may be valuable. Their decisions, in turn, determine their access to cognitive, social, and material resources. This claim builds on a central insight of cognitive studies of organizations: managerial decisions are strongly influenced by managers' interpretations of the organizational issues with which they are dealing (Dutton et al. 1989, Gioia and Thomas 1996, Jackson and Dutton 1988, Lant 1992, Nutt 1998). For example, issue frames, such as perceiving an issue as a threat or an opportunity, make some choices seem more salient and likely to lead to desired outcomes; issue frames also motivate managers to seek category-confirming information (Jackson and Dutton 1988, Lant 2005). Extending these findings to managers' decisions about contacts suggests that issue frames may cause individuals to view some contacts as more salient and likely to possess resources that will lead to a desirable resolution (Fitzsimons and Shah 2008). Furthermore, because of issue frames, managers may solicit contacts whom they believe have resources most relevant to the perceived issue (Dutton and Jackson 1987, Lant 2005).

In other words, managers attempt to match the perceived attributes of issues with the perceived attributes of contacts and pursue those contacts whom they believe to be most relevant for addressing their perceived issue (Brandon and Hollingshead 2004, Fitzsimons and Shah 2008). This means that although they may have diverse contacts with whom to interact and from whom to receive a variety of cognitive, social, and material resources, managers limit their local ego networks based on their frames for organizational issues. Because different contacts may provide different kinds of resources, managers with different issue frames will have access to different kinds of social capital and thus may have different capacities for addressing organizational issues. Figure 1 illustrates these arguments.

Figure 1 Issue Interpretation and Access to Social Capital



Our arguments about the importance of issue interpretation are not intended to supplant the explanations that network structure and individual characteristics offer for understanding social capital (i.e., Burt 1992, Coleman 1988). Instead, our arguments are intended to explore the additional role that issue interpretation may play in the construction of networks and in access to social capital. In particular, findings from this study are useful for understanding how two managers may face the same substantive issues, have similar demographic or dispositional traits, and even have similar networks yet still generate two different kinds of egocentric networks with different kinds of social capital. Our work suggests that such differences arise because these managers have different interpretations of the issue they are facing.

How Issue Frames Influence Resources in Advice Networks

Organizational issues can be defined as the broad, diffuse, and ill-specified developments in organizations “which have not yet achieved the status of a decision event” (Dutton et al. 1983, p. 308). Because they are nascent, organizational issues have a relatively large number of potential attributes (Dutton et al. 1983, 1989). Categorizing and comparing these attributes provides managers with schema or cognitive frames for interpreting issues (Dutton and Jackson 1987, Hodgkinson et al. 1999, Nutt 1998). Managers’ frames for organizational issues will influence how managers solicit contacts for help. This choice is important because the costs of advice seeking mean there is a trade-off for soliciting some contacts over others (Nebus 2006).

Managers cannot solicit every possible combination of contact resources. Therefore, they must choose the contacts who can provide the most valuable resources. A manager decides to solicit one contact over another not because the manager perceives one contact’s resources as without value but, rather, because the manager perceives another contact’s resources as more

valuable. In other words, managers must optimize their choice of contacts so that they gain the most valuable resources for the least cost in time, energy, money, and reputation (Nebus 2006). The manner in which a manager frames the issue will determine which resources she perceives as valuable and from whom she solicits advice. Consider, for example, how strategic versus political issue frames—both of which have been demonstrated as being particularly salient in the education sector—might influence the perceived value of resources and thus influence advice seeking (Gioia and Thomas 1996, Hawley and Nicholas 1982, Lant and Hurley 1999, Thomas et al. 1994).

Strategic issue frames emphasize normatively rational managerial behaviors such as planning, achieving goals, and acquiring resources (Bolman and Deal 2008, Hawley and Nicholas 1982, Thomas et al. 1994). Strategic frames also emphasize the implementation of systems and routines, reliance on expert technical knowledge, and focus on organizational rather than individual interests (Bolman and Deal 2008, Dutton et al. 1983, Gioia and Thomas 1996, Thomas and McDaniel 1990). In contrast, “the heart of the political perspective is the process by which conflict is resolved among individuals with competing preferences” (Eisenhardt and Zbaracki 1992, p. 23). Issues with political frames tend to be more subjective and value-laden rather than normatively rational; they are characterized by conflict, negotiation, power, influence, personalities, and attitudes (Bolman and Deal 2008, Gioia and Thomas 1996, Hawley and Nicholas 1982, Thomas et al. 1994). Goal achievement is paramount when dealing with strategic issues, but when dealing with political issues, the process and procedure involved in achieving a goal might be more important than the goal itself (Gioia and Thomas 1996, Kim and Mauborgne 1998, Thomas et al. 1994).

The issue attributes emphasized by strategic and political frames suggest two different organizing principles for advice seeking. Strategic framing suggests that managers who are seeking advice would prioritize

assembling contacts on who can help plan and execute targeted action and thus increase organizational performance. Political framing suggests that managers would prioritize assembling contacts who can help build consensus and coalitions and thus to address sensitive, symbolic, and emotionally charged situations (Narayanan and Fahey 1982). For example, existing research suggests that expertise, trust, resources, and accessibility are key attributes that managers seek in their social contacts (Brandon and Hollingshead 2004, Cross and Sproull 2004, Cross et al. 2001). In our study, we view expertise, trust, material resources, and accessibility as critical resources available through ties to contacts. Furthermore, we suggest that strategic frames will make some of these resources more salient and valuable whereas political frames will make other resources more salient and valuable.

For example, expertise may be important when a manager perceives that an issue has a technically correct solution and that specialized technical knowledge will likely lead to the best solution. The importance of technical expertise is consistent with strategic framing, which emphasizes normative rationality as well as systems and routines that increase performance (Bolman and Deal 2008, Eisenhardt and Zbaracki 1992, Thomas and McDaniel 1990). However, if the manager frames the issue politically, having contacts who can provide the right technical solutions may be less important than having contacts who can be trusted with sensitive information or who can provide emotional support during political dramas (Chua et al. 2008).

HYPOTHESIS 1 (H1). *When managers frame an issue as strategic rather than political, contacts' expertise has a greater effect on advice seeking.*

HYPOTHESIS 2 (H2). *When managers frame an issue as political rather than strategic, contacts' trustworthiness has a greater effect on advice seeking.*

Some organizational issues cannot be resolved by expertise or trusted advice alone; they require additional resources. Different kinds of resources may be important depending on whether the manager frames the issue as strategic or political. When managers perceive issues as strategic, they may focus on implementing new routines to increase organizational performance (Bolman and Deal 2008, Thomas and McDaniel 1990). Implementation often requires hiring or retraining employees as well as obtaining additional supplies, equipment, or space. Thus, when managers frame issues strategically, they may perceive material resources as critical (Dutton et al. 1983, Thomas and McDaniel 1990).

In contrast, solving political issues may depend less on material resources and more on social resources to gain support for a potentially controversial course of action (Bolman and Deal 2008, Cross et al. 2001, Dutton

and Ashford 1993, Eisenhardt and Zbaracki 1992). For example, Dutton and Ashford (1993) suggest that *issue selling* is a matter of exercising influence and gaining legitimacy for an issue and its proposed resolution. Political issues may be more controversial and thus more difficult to sell. One way to gain greater influence is to rely on influential contacts. Thus, contacts with influence become particularly important when managers frame an issue politically.

HYPOTHESIS 3 (H3). *When managers frame an issue as strategic rather than political, contacts' material resources have a greater effect on advice seeking.*

HYPOTHESIS 4 (H4). *When managers frame an issue as political rather than strategic, contacts' influence has a greater effect on advice seeking.*

Expertise, trust, material resources, and influence are valuable only when managers can gain access to them. A manager may refrain from seeking advice from contacts perceived as having issue-relevant attributes if the manager also perceives that the contact is not easily accessible (Cross and Sproull 2004). Soliciting accessible contacts can enable managers to take action quickly, thus achieving their goals more efficiently. This is especially important when an issue is framed strategically (Thomas and McDaniel 1990). When they frame issues politically, however, managers do not have the same freedom to seek input from the most accessible contacts. The sensitive nature of the issue may require them to be more selective about their contacts (Bolman and Deal 2008). In other words, when managers frame issues politically, they may be constrained in their ability to seek advice from contacts who happen to be accessible.

HYPOTHESIS 5 (H5). *When managers frame an issue as strategic rather than political, contacts' accessibility has a greater effect on advice seeking.*

It is important to note that the above hypotheses are not intended to suggest that contacts' perceived expertise, material resources, and accessibility are important only when issues are framed strategically, nor do we suggest that contacts' perceived trustworthiness and influence are important only when issues are framed politically. Expertise, material resources, accessibility, and influence are contact attributes that may be important for addressing a variety of organizational issues (Cross and Sproull 2004, Cross et al. 2001). We argue, however, that the relative value of these resources depends on issue framing: managers will make trade-offs among contacts with different kinds of resources depending on how they have framed the issue.

The perceived value of resources, and thus contacts, based on framing raises a question about how value is assessed when organizational issues do not have a specific frame. Some issues may not be easily classified as political or strategic. Other issues may be viewed

as both. When issues do not have a definitive frame, managers are operating with a greater degree of uncertainty. Research on decision making under uncertainty suggests that in these situations, individuals fall back on one of a number of decision-making biases (Tversky and Kahneman 1982). One of these, the availability bias, might especially apply to situations in which managers do not have a definitive issue frame. When applied to decisions about contacts, the availability bias suggests that managers without definitive issue frames will solicit advice from the contacts with whom they interact most frequently.

The influence of interaction frequency on managers' decisions to solicit contacts arguably reflects the importance of base probabilities in situations where managers do not have a definitive issue frame. In other words, without a definitive frame, managers likely solicit contacts who are the easiest to approach. This includes not only contacts that managers interact with frequently but also those they implicitly trust and deem likely to have solutions to problems. Given this, we expect managers with indefinite frames to not only seek advice from contacts with whom they interact frequently but also seek advice from contacts who are perceived as trusted and expert.

HYPOTHESIS 6 (H6). When managers have an indefinite issue frame, they seek advice only from contacts who are expert or trusted, or with whom they interact frequently.

Research Methods

Setting

Educational organizations provide a valuable context for examining issue framing and social choices. School operations tend to be characterized by high levels of ambiguity and uncertainty; they produce many situations that require issue interpretation and advice seeking (Leithwood and Steinbach 1995). As loosely coupled systems, directives in administrative offices may have limited or unintended consequences at the technical core, and a variety of means can lead to the same end (Weick 1976). Schools have diverse stakeholders with competing goals and interests, which makes single-goal, rational decision making more problematic (Conley 2003). In highly institutionalized organizations such as schools, decisions and practices are value-laden and symbolic (Meyer 1977). Thus, decisions are subject to many contentious interpretations. For all these reasons, school managers or principals rely heavily on issue interpretation and advice seeking (Hite et al. 2005, Leithwood and Steinbach 1995, Meier and O'Toole 2001). And because ambiguity and uncertainty create conditions for strong social influence, the advice school managers receive may have a particularly strong impact on their decision making.

A growing recognition of the prevalence and importance of school managers' advice seeking has resulted in an increasingly popular education reform initiative, especially prevalent in large school systems. This reform focuses explicitly on building collegial networks among school managers (Lieberman and McLaughlin 1992, Wohlstetter et al. 2003). The networks are typically made up of subsets of educational professionals from multiple schools, which form smaller communities meant to increase interaction among school managers, provide learning opportunities about best practices, generate increased accountability, and reduce the span of control of higher-level school officials (Lieberman and McLaughlin 1992, Wohlstetter et al. 2003). Many school managers describe interactions with colleagues in these networks as the primary way they "learn to introduce change to their schools or solve complex problems" (Coffin 1997, p. 45).

Sample

Our focal empirical context is a large northeastern U.S. city where a 2004 school reform initiative placed principals into the types of professional networks described above (Lieberman and McLaughlin 1992, Wohlstetter et al. 2003). At the time of the study, principals had participated in their networks for three years. The networks in our focal empirical context have between 4 and 20 members and were formed by regional administrative supervisors, who also assigned network leaders to oversee the networks' activities. Though the leaders are encouraged to have regular meetings with network members, our informal interviews with principals and education officials suggest that there is considerable variation in the amount and quality of interaction taking place.

Principals' network membership is publicly available data. For the current study, we collected data for the 362 contacts of 49 school principals who attended a free one-day mini-conference in July 2007 and who agreed to participate in an academic research study during one of the conference sessions. The number of principals in the study is small relative to the 1,029 principals in the total population. Because participants were selected non-randomly, there is some concern about selection bias. We used publicly available data about the number of enrolled students, the percentage of students passing the statewide English test, and the percentage of students receiving free and reduced-price lunch, which is the standard measure of student socioeconomic status (SES) to compare the characteristics of our study participants to the total population.

This preliminary analysis suggests that study participants are primarily principals of smaller schools (mean difference = -221.37 ; $t(1,011) = 3.95$; $p \leq 0.01$), which tend to perform better than other schools (mean difference = 12.61 ; $t(1,011) = -4.19$; $p \leq 0.01$), despite a larger proportion of poor students who tend

to have more academic needs (mean difference = 10.27; $t(1,011) = -2.6$; $p \leq 0.01$). These characteristics, along with participants' attendance at the conference, suggest that our respondents may be more highly motivated and successful than school managers in the overall population. Motivated, successful managers may differ in the way they frame problems and seek advice (Lant 1992, Leithwood and Steinbach 1995). Thus, the results of the analysis should be interpreted in light of this.

It should also be noted that using principals' formally assigned networks makes the network boundary specification problem more tractable by providing a natural empirical boundary that is constant across all respondents (e.g., Laumann et al. 1983). However, because the contacts in formal networks are not self-selected, there may be substantial variation in attachment, closeness, and social identity across networks (Chua et al. 2008). Similarly, although contacts in formal networks are available to principals as potential ties, they might not be the most salient or likely to be solicited outside the study context. In the current study, we cannot determine the extent to which there is between-person variation in preferences for seeking advice from contacts in formal networks versus other contacts.

Data Collection

Data for the study were collected in two stages. In the first stage, we collected data on respondent demographic characteristics and typical frequency of interaction with all of the contacts in their network. These data allow us to examine the marginal effects of tie activation beyond the effects of respondents' individual and organizational characteristics and above those of tie strength between respondents and contacts. In the second stage, we collected data on respondents' interpretations of two organizational problems and their perception of contact attributes relevant to each problem. Collecting data for two problems allows us to assess within-person variation in advice seeking and framing and to examine the marginal effects of framing beyond those of task features (Cross and Sproull 2004). Because we ask respondents to assess the attributes of all contacts—not only those contacts selected for advice—we can assess how variation in contact attributes affects tie activation. One limitation of our data collection strategy is that we did not ask respondents to indicate their contacts' contacts. As a result, we do not have data on indirect relationships between respondents and contacts and cannot examine the effects of structural network characteristics, such as density and closure. Our data also do not allow us to examine the effect of contact attributes other than gender.

To further explain our data collection strategy, the first wave of data collection asked respondents to complete and return a conference preregistration form, which asked about their gender, race, age, tenure as a principal,

and highest level of education (i.e., master's, doctorate, or postdoctorate). We also used publicly available archival material to collect data about the respondents' and contacts' school characteristics, including the percentage of students receiving a passing grade on the statewide English exam as a measure of performance, and the number of enrolled students as a measure of school size. We also used data on the proportion of students receiving free and reduced-price lunches (i.e., SES); this can have a substantial effect on school operations processes and outcomes.

The sociometric question in the first stage of data collection asked how frequently respondents interacted with each of their listed contacts on a seven-point scale: daily (7), multiple times a week (6), weekly (5), multiple times a month (4), monthly (3), every few months (2), or less often (1). These data about baseline interactions were collected before the conference to minimize respondents' tendencies to provide consistent responses on the survey administered during the conference (Podsakoff et al. 2003). Participants who did not complete the preconference survey were asked to complete it in an opening conference session.

The second wave of data collection took place at the conference. Respondents participated in a simulated problem-solving exercise (Dearborn and Simon 1958) in which they were asked to read two problem scenarios, one about school bullying and one about student achievement. The two scenarios were developed based on cases in the *Journal of Cases in Educational Leadership* along with input from area experts. After reading each scenario, respondents were asked to write up to five words or phrases that best described the main issues to be resolved in each. Respondents were also asked to rank the importance of each issue from 1 to 5, with 5 indicating the most important issue to be resolved. A manipulation check assessing whether the scenarios were sufficiently challenging to motivate advice seeking revealed that the school bullying scenario was perceived as more urgent but the student achievement scenario was more likely to motivate advice seeking (e.g., Leithwood and Steinbach 1995). We control for these differences in the analysis.

After reading and responding to a scenario, respondents were asked to indicate their propensity to solicit each of their contacts for advice about that problem, and to explain why. Specifically, respondents were provided with a matrix that listed their contacts' names, preceded by a blank line, on each row. The columns of the matrix listed five attributes that might apply to each contact—the degree to which the contact was “accessible,” “expert,” “influential,” endowed with “material resources,” and “trusted” for the given problem (see Lawrence 2006 for a similar adaptation of a conventional network survey). The definition of each attribute was provided to respondents on the preceding page of

the survey. Each cell of the matrix included a scale in small font that respondents used to rate each contact on a given attribute. The scale for seeking advice from a contact ranged from 1 (not at all likely) to 7 (very likely). The scale for the measure of contact attributes that justified advice seeking ranged from 1 to 7, with 1 indicating that the participant totally disagreed that a contact had a given attribute, and 7 indicating the participant totally agreed that a contact had a given attribute.

Perceptions of contact attributes can be problem specific. For example, a contact may be perceived to have expertise on the issue of school bullying but not on student achievement. We therefore asked respondents to rate contact attributes after each of the two problem scenarios. A preliminary analysis indicated that approximately one-third of the evaluations of each contact attribute changed from the first scenario to the second. The chi-square tests of these differences were significant for all five attributes (access: $\chi^2(36) = 669.722$, $p < 0.001$; expertise: $\chi^2(36) = 626.814$, $p < 0.001$; influence: $\chi^2(36) = 664.630$, $p < 0.001$; material resources: $\chi^2(36) = 705.389$, $p < 0.001$; trust: $\chi^2(36) = 713.779$, $p < 0.001$). Note that we addressed potential order effects for the appearance of each scenario by randomly assigning the scenarios to appear first or second in the survey booklet.

Measures

Our data collection strategy allows us to construct a data set in which every respondent, i , repeats in the data set for each of his contacts, j , and for each scenario, k . In other words, each set of contacts for each respondent is stacked for each scenario. This means that if respondent i has 10 contacts, then the respondent appears in the data set 20 times, i.e., once for each contact for the first scenario and once for each contact for the second scenario. In total, the data set includes 760 observations (across the two scenarios) of tie activation and attributes for the 362 unique contacts of the 49 respondents. Note that the total number of observations (760) is greater than twice the number of unique contacts (i.e., 724) because some contacts appear for more than one respondent. However, not all respondents have observations for both scenarios because some respondents did not complete both of them.

Dependent Variable. The dependent variable for the analysis is the likelihood, l_{ijk} , that respondent i would solicit contact j for advice on scenario k . The measure is taken from responses to the survey question described above about how likely respondents would be to solicit advice from each of their contacts.

Independent Variables. The independent variables of interest in the analyses are respondent i 's report of contact j 's attribute for scenario k , a_{ijk} . Specifically, each contact is assessed as being (1) accessible, (2) expert,

(3) influential, (4) resource-endowed, and (5) trusted. Because reports about the five attributes are made for the same contact and because there tend to be spillover effects between assessments of contact attributes (e.g., Cross et al. 2001), the five attribute measures are correlated. Several empirical considerations for including the five partially correlated measures in the analyses are discussed in the appendix.

Another independent variable of interest for the analysis is respondent i 's framing of the issues in scenario k , f_{ik} . This measure varies on a scale from 0 to 15, where 15 indicates that a respondent's interpretation of a scenario is entirely characterized by a given frame and has 0 elements of the other frame; values near the midpoint indicate that the scenario has an indefinite frame. To determine a respondent's frame for a scenario, we first trained two independent coders to categorize participants' 461 open-ended responses for the main issues to be resolved as "political" or "strategic." Because a given response might include elements that could be considered either strategic or political, we created guidelines to enable coders to assess whether responses referred *mainly* to strategic or political issues. The guidelines, which included definitions, indicators, examples, and an underlying decision-making principle for strategic or political issues, were developed from the existing literature on strategic and political issues in organizations. The guidelines are illustrated in Table 1 (cf. Ansoff 1979, Bolman and Deal 2008, Dutton and Jackson 1987, Dutton et al. 1989, Eisenhardt and Zbaracki 1992, Gioia and Thomas 1996, Hawley and Nicholas 1982, Narayanan and Fahey 1982, Nutt 1998).

For example, each coder reviewed the following response: "Data suggests that higher performing students have needs." This response might be coded as strategic because it refers to test score data and "high performance"; it could also be coded as political because it refers to the needs of one student group (high performers) compared to others. Using the definitions, decision-making principles, indicators, and examples illustrated in Table 1, each coder made an independent assessment of whether this and other responses had more of a strategic or political emphasis. We take the agreement of two independent coders as an indicator that a response can be reliably interpreted as strategic or political. Initial interrater reliability for all responses was significant and substantial (Cohen's kappa = 0.68, $p < 0.01$) based on Landis and Koch's (1977) criteria. We asked coders to reach consensus about responses with discrepant codes. If the coders agreed that a response could not be coded because it was illegible or unintelligible, or if there was strong disagreement about a response, it was removed from the analysis. In this way, the coders reached 100% agreement on the final 414 responses included in the analysis.

The second step in determining a respondent's issue frame was to assess the *degree* to which respondents

Table 1 Coding for Political and Strategic Frames

Issue frame	Definition	Decision-making principle	Indicators	Example responses
Political issue	The response is focused on issues that seem more political than strategic, such as the management of competing interests and the use of power and influence.	To build consensus and coalitions to deal with sensitive, symbolic, and/or emotionally charged situations.	1. Goal negotiation 2. Resource allocation 3. Individual needs 4. Management via influence 5. Human issues	"Equity for all students" "Building community" "Us vs. them" "Conflict between parents and teachers" "Political dynamics/issue of control" "Kevin's mom's behavior"
Strategic issue	The response is focused on issues that seem more strategic than political, such as issues related to achieving the long-run performance goals of the organization.	To plan and execute targeted action related to organizational performance.	1. Goal achievement 2. Resource acquisition 3. Organizational needs 4. Management via systems and routines 5. Technical issues	"Stagnant [test] scores" "Regulations, procedures" "Build capacity within school building" "Analyze data" "Explicit allocation of resources to improve student test scores" "Mediation skills"

perceived a given scenario as strategic or political. Using respondents' rankings of the importance of each issue, we constructed a weighted score ranging from 0 to 15 to indicate the degree to which the scenario had a political or strategic issue frame (see Brickson 2005 for a similar example). If a participant provided three responses that were coded as political and ranked one response as the highest priority issue to be resolved (5), the second political response as the next highest priority (4), and the third political response as the third priority (3), then the weighted sum for the participant's political framing would be 12. The weighted sum for the participant's strategic framing would be 3 because the two remaining responses would be strategic and would have been rated as fourth (2) and fifth (1) priorities. Because the score for one frame partially predicts the alternate frame, the measures can be conceptualized as inverse poles on a unidimensional scale, such as conventional measures for sex as male or female (see Tables 2 and 3). However, indicators for a strategic or political frame have more than two values, and the distribution of values can result in a third indefinite category.

Covariates. The analysis includes a number of covariates for respondent *i*'s and contact *j*'s individual and organizational characteristics, which may influence issue

interpretation and advice seeking. The measures were taken from respondents' reports and archival material from the state department of education. The measures include a dummy for the respondents' gender (g_i) and the contacts' gender (g_j) (1 = female, 0 = male); the respondents' tenure in their organizations, measured in years (t_i); and the performance of respondents' schools (p_i), measured as the percentage of students passing the statewide English Language Arts (ELA) exam. Table 3 provides the correlation matrix for these measures. We also collected data on respondents' age, race/ethnicity, level of education, school size, and SES, but preliminary analyses revealed no significant effects for these measures, so they were not retained in the analyses.

The analyses also include a number of covariates that measure multiple characteristics of the dyadic ties between respondents' and contacts. We include a variable for network size (z_i), measured as the total number of contacts in respondents' networks. We also include a variable for the strength of a tie between respondents and contacts (s_{ij}), measured by their typical frequency

Table 2 Descriptive Statistics for Political and Strategic Framing in the Two Problem Scenarios

Scenario	Political framing		Strategic framing	
	Mean	SD	Mean	SD
School bullying	9.72	3.93	4.82	3.79
Student achievement	6.97	3.64	7.09	3.74
Correlation ^a	0.217		0.088	

^aCorrelations are nonparametric since strategic and political framings are pooled across scenarios.

Table 3 Correlation Matrix of the Measures in the Two Problem Scenarios

Measure	1	2	3	4	5	6
1. <i>Political framing</i>	1.00					
2. <i>Strategic framing</i>	-0.852**	1.00				
3. <i>Tenure</i>	-0.068	0.114	1.00			
4. <i>Enrollment</i>	-0.226*	0.232*	0.318**	1.00		
5. <i>% free lunch</i>	-0.121	0.0121	-0.018	0.001	1.00	
6. <i>% pass ELA</i>	0.130	-0.165	0.033	0.384**	-0.302**	1.00

Note. Correlations are nonparametric since strategic and political framings are pooled across scenarios.

* $p < 0.05$; ** $p < 0.01$.

of interaction. In addition, we measure the degree of homophily and propinquity between respondents and contacts by constructing three indicators. The measure for school homophily, $h1_{ij}$, takes the Euclidean distance of each pair's school enrollment, the student body SES, and school performance. A second measure for gender homophily, $h2_{ij}$, is constructed as a 0-1 dummy variable to measure whether respondents and contacts have the same gender. The third measure, d_{ij} , is the geodesic distance between respondents' and contacts' schools.

Analysis

The analysis of interest tests the effects of contact j 's attributes on the likelihood that he or she is solicited for advice about scenario k given respondent i 's framing of the issues in the scenario. Because respondents have different frames and perceptions of contact attributes for each scenario, and because different respondents have different sets of contacts, the structure of the data has scenario and attributes nested in contacts and contacts nested in respondents. Thus, the data have a multilevel structure that is appropriately modeled with a three-level hierarchical linear model (HLM) (Raudenbush and Bryk 2002).

Preliminary estimation of the variance components indicates significant variation in the error term attributed to contacts ($\chi^2(313) = 1,443.13; p \leq 0.001$) and respondents ($\chi^2(48) = 210.39; p \leq 0.001$), which supports the appropriateness of HLM for the analysis (Raudenbush and Bryk 2002). The model for the effects of interest has the functional form shown below. The terms in the models are uncentered, with mean effects interpreted relative to zero for all variables. The mean effect varies by characteristics of the contacts and the respondents. The error term varies randomly at each level.

$$\begin{aligned} \text{Level 1: } Y_{ijk} = & \pi_0 + \pi_1(\text{Accessibility}) + \pi_2(\text{Expertise}) \\ & + \pi_3(\text{Influence}) + \pi_4(\text{Material_resources}) \\ & + \pi_5(\text{Trustworthiness}) \\ & + \pi_6(\text{Problem_scenario}) + e, \end{aligned}$$

$$\begin{aligned} \text{Level 2: } \pi_0 = & \beta_{00} + \beta_{01}(\text{Contact_gender}) \\ & + \beta_{02}(\text{Gender_match}) \\ & + \beta_{03}(\text{Typical_interaction_frequency}) \\ & + \beta_{04}(\text{School_similarity}) \\ & + \beta_{05}(\text{School_distance}) + r, \end{aligned}$$

$$\begin{aligned} \text{Level 3: } \beta_{00} = & \gamma_{000} + \gamma_{001}(\text{Network_size}) \\ & + \gamma_{002}(\text{Respondent_gender}) \\ & + \gamma_{003}(\text{Tenure}) + \gamma_{004}(\text{Performance}) + u, \end{aligned}$$

where Level 1 is repeated observations on scenarios, Level 2 is contacts, and Level 3 is respondents; Y_{ijk}

is the reported likelihood of soliciting advice for scenario k , belonging to contact j , who belongs to respondent i 's network; and e is the error across observations, r is the error across contacts, and u is the error across respondents. Slopes at Levels 1 and 2 are constant (i.e., $\pi_1 = \beta_{01} = \gamma_{010}$).

The above model provides two ways to examine the moderating effects of issue framing on the association between contact attributes and advice seeking. One approach is to include, at the first level, the measure for issue framing and its interaction with the five contact-attributes measures. A second approach is a subgroup analysis for issues with a strategic, political, and indefinite issue frame. Both the interaction term and subgroup analyses approaches have strengths and weaknesses. Consistent with previous work that has examined moderating effects on the ties between actors (e.g., Becerra and Gupta 2003), we have used the subgroup approach in our analysis for two main reasons: (1) for our study, the subgroup approach allows for more direct evaluation of our hypotheses and more straightforward interpretation of the model results, and (2) the subgroup approach does not introduce substantial multicollinearity into the models. We further discuss our choice of the subgroup approach and provide the results of supplemental analyses in the appendix.

The subgroups are constructed using the mean cut-off for the political and strategic issue framing. A score above the mean political score for a scenario indicates a political framing. A score above the mean strategic score for a scenario indicates a strategic framing. A score below the mean for both frames was deemed to be an indefinite frame. We chose the mean as a cut point because of its intuitive conceptual appeal. For example, because most respondents indicated that a given scenario presented both strategic and political issues, one might argue that only an above-average framing score indicates that a scenario has a distinctly political or strategic frame. However, we also explored alternative cut points to define the two frames, including the median, the top quartile, and the mean plus one or minus one standard deviation. The overall pattern of results from the sensitivity analyses are substantively the same as the main results, which are presented in Table 5.

Finally, we should note that because there were six respondents who shared the same contacts, it might be appropriate to use a cross-classified multilevel model (Raudenbush and Bryk 2002). However, the small number of cross-classified observations suggests they would have a limited effect on variations in the error term. However, we wanted to determine whether violations of the assumptions of the fully nested model affected the results. Therefore, we examined a set of six cross-classified models, one for each scenario for each subgroup, and a set of three-level HLMs in which redundant

respondents and contacts were removed. In this follow-up analysis, the results of the cross-classified models for the scenario on student achievement were more tentative than the results for the scenario on school bullying. However, the general pattern of results for all alternative analyses was substantially the same as the main results.

Results

The descriptive statistics presented in Table 4 illustrate the association among contact attributes, contact demographics, and respondent demographics. We see, for example, that respondents in the study have an average of 12 contacts in their networks and report interacting with their contacts nearly once a month ($M = 2.96$, $SD = 1.25$). Whereas the analyses control for both respondent and contact gender, it is interesting to note that most contacts in our sample are female, as are most respondents. We do not include respondents' race, age, and highest level of education in the results because our preliminary analyses demonstrated that these demographic characteristics had no significant effects. However, it may be of interest to note that 30% of respondents self-identify as black, 28% white, 12% Latino, and 6% self-identify as another racial/ethnic group, including Asian. The average age of respondents is 48.8 years of age; and 70% of respondents have a master's degree, 6% have a doctorate, and 4% have some other advanced degree.¹ The average tenure of principals in the study is slightly less than three years.

Table 5 presents the results for the effects of contact attributes on advice seeking. Model 1 shows results for the full sample. Models 2 and 3 show results for the subsamples with strategic framing and political framing, respectively. Model 4 presents results for the subsample with indefinite framing. The moderating effects of issue framing on the association between contact attributes and advice seeking can be observed by comparing the effects of contact attributes across the four models. When the effect of a given contact attribute is significant in one model but is not significant in another, this suggests that issue framing moderates the effect of the contact attribute in the first model but not in the second. If the effect of a given contact attribute is significant in more than one model, then the relative magnitude of the effect can be determined by comparing the standardized coefficients and effect sizes in the two models (Cohen 1992). To the extent that there is a difference in effect size for two coefficients, the statistical significance of the difference in the coefficients can be determined by using a Welch's (1947) t -test, which adjusts for nonequal variances and nonequal sample sizes.

Compared with the empty model that contains only contact and respondent demographics, the results of Model 1 indicate that perceptions of a contact's expertise, trust, material resources, influence, and accessibility

account for an additional 39% of variation in whether a contact is solicited. The results of Model 1 also demonstrate the overall importance of contact attributes on advice seeking (Cross et al. 2001). In our study, being perceived as accessible has a significant positive effect on a contact being solicited ($\pi = 0.20$, $p \leq 0.05$). Being perceived as expert in the problem area has a significant positive effect on a contact being solicited ($\pi = 0.41$, $p \leq 0.01$), as does being perceived as trustworthy ($\pi = 0.24$, $p \leq 0.01$). Being perceived as influential has a significant negative effect on a contact being solicited for advice ($\pi = -0.22$, $p \leq 0.05$). A contact's typical frequency of interaction with a respondent has a significant positive effect on the contact being solicited for advice ($\pi = 0.36$, $p \leq 0.01$).

Although Model 1 illustrates the overall effects of contact attributes on advice seeking, it does not examine how the effects of contact attributes may be greater or lesser depending on respondents' issue frames. For example, we hypothesized that contact expertise would have a greater effect on contact selection when problems were framed strategically rather than politically. This hypothesis can be evaluated by comparing the effects of expertise in Model 2 to the effects of expertise in Model 3. Comparing these two models provides strong support for Hypothesis 1. The effect of expertise on soliciting a contact for advice is positive and statistically significant ($\pi = 0.42$, $p \leq 0.01$) when problems are framed strategically in Model 2, but it is not significant when problems are framed politically in Model 3. Hypothesis 2 predicted that trust would have a greater effect on advice seeking when issues are framed politically rather than strategically. The results of Model 3 indicate that trust has a strong positive effect on contact selection when problems are framed politically ($\pi = 0.61$, $p \leq 0.01$). However, trust does not have a significant effect when problems are framed strategically. Thus, there is strong support for Hypothesis 2.

Hypothesis 3 asserted that material resources would have a greater effect on advice seeking when problems were framed strategically rather than politically. This hypothesis is supported by the positive and significant effect of resources for strategic problems in Model 2 ($\pi = 0.51$, $p \leq 0.01$). The effect of material resources is not significant when problems are framed politically. Hypothesis 4 asserted that political framings would result in a contact's influence having a greater effect on his or her being solicited for advice, compared to problems framed strategically. This hypothesis is supported. The effect of influence is statistically significant and positive for political framings ($\pi = 0.62$, $p \leq 0.01$). The effect of contact influence is also statistically significant but negative for strategic framings ($\pi = -0.31$, $p \leq 0.01$).

One way to compare the magnitude of the influence effect for political and strategic framing is to compare the standardized effects of the two coefficients

Table 4 Descriptive Statistics and Correlations of the HLM Measures

	Mean (SD)	Max/Min	Correlations															
			1	2	3	4	5	6	7	8	9	10	11	12				
Level 1 (n = 760)																		
1 <i>Likely selection</i>	3.84 (2.01)	1/7	1															
2 <i>Accessibility</i>	5.13 (1.51)	1/7	0.483**	1														
3 <i>Expertise</i>	4.39 (1.49)	1/7	0.593**	0.482**	1													
4 <i>Influence</i>	4.05 (1.43)	1/7	0.463**	0.363**	0.751**	1												
5 <i>Resources</i>	4.16 (1.48)	1/7	0.504**	0.321**	0.726**	0.824**	1											
6 <i>Trustworthiness</i>	4.83 (1.56)	1/7	0.588**	0.599**	0.607**	0.476**	0.493**	1										
Level 2 (n = 362)																		
7 <i>Typical interactions</i>	2.96 (1.25)	0/7	0.377**	0.341**	0.188**	0.145**	0.178**	0.331**	1									
8 <i>School similarity</i>	0.12 (0.11)	0/1	-0.033	-0.034	0.093*	0.087*	0.065	0.029	-0.087*	1								
9 <i>Distance</i>	4.96 (5.23)	0/30	-0.079*	0.048	0.03	0.062	0.033	-0.051	-0.074*	0.016	1							
Level 3 (n = 49)																		
10 <i>Network size</i>	12.01 (2.47)	4/20	-0.011	0.002	-0.028	0.045	0.034	-0.110**	-0.132**	-0.204**	0.154**	1						
11 <i>Tenure</i>	2.94 (2.78)	0/10	-0.036	-0.03	-0.094**	-0.051	-0.064	0.04	0.082*	-0.005	-0.02	0.075*	1					
12 <i>% pass ELA</i>	53.84 (21.14)	23/98	-0.144**	-0.080*	-0.133**	-0.112**	-0.161**	-0.154**	-0.007	0.167**	0.138**	-0.078*	0.128**	1				
13 Gender—contact		Male: 102																
14 Gender—respondent		Male: 11																
15 Gender match		Matching: 384																
			Frequencies															
			Female: 262															
			Female: 38															
			Nonmatching: 276															

* $p \leq 0.05$. ** $p \leq 0.01$.

Table 5 HLM Results for Effects on Soliciting Advice Network Members

	Model 1 (full sample)		Model 2 (strategic subsample)		Model 3 (political subsample)		Model 4 (indefinite subsample)	
	π	SE	π	SE	π	SE	π	SE
Level 1								
<i>Expertise</i>	0.41***	0.10	0.42***	0.13	-0.02	0.11	0.45***	0.15
<i>Trustworthiness</i>	0.24***	0.09	0.09	0.19	0.61***	0.08	0.32***	0.11
<i>Influence</i>	-0.22**	(0.11)	-0.31***	(0.12)	0.62**	(0.28)	-0.11	(0.12)
<i>Material resources</i>	0.30*	(0.16)	0.51***	(0.11)	-0.21	(0.21)	0.12	(0.12)
<i>Accessibility</i>	0.20**	(0.09)	0.28*	(0.15)	0.04	(0.09)	0.08	(0.08)
<i>Problem scenario</i>	0.41**	(0.18)	0.10	(0.14)	-0.33	(0.31)	0.39	(0.26)
Level 2								
	β	SE	β	SE	β	SE	β	SE
<i>Contact gender</i>	0.19*	0.10	0.33*	0.19	0.05	0.13	0.12	(0.20)
<i>Gender match</i>	-0.14	0.09	0.02	0.03	-0.05	0.03	0.01	0.02
<i>Typical interaction</i>	0.36***	0.10	0.25	0.17	0.47***	0.12	0.28**	0.12
<i>Contact similarity</i>	-0.25	0.70	-2.96**	1.37	-0.45	0.71	-0.12	0.73
<i>School distance</i>	-0.02	0.03	-0.14	0.18	-0.02	0.12	0.01	0.15
Level 3								
	γ	SE	γ	SE	γ	SE	γ	SE
<i>Intercept</i>	-2.00**	0.92	0.13	1.03	-1.96	1.18	-3.07**	(1.04)
<i>Network size</i>	0.05	0.04	-0.10**	0.04	0.01	0.06	0.20**	(0.06)
<i>Respondent gender</i>	-0.01	0.31	-0.76**	0.35	0.34	0.53	0.42	0.33
<i>Tenure</i>	-0.02	0.05	0.11	0.05	0.03	0.05	-0.09	0.07
<i>School performance</i>	0.00	0.01	0.00	0.01	-0.01	0.01	-0.01	0.01

Notes. All model coefficients are maximum likelihood estimates with robust standard errors. Sample size for Model 1 is 760 observations, 362 contacts, and 49 respondents; for Model 2, 190 observations, 138 contacts, and 20 respondents; for Model 3, 271 observations, 195 contacts, and 24 respondents; and for Model 4, 299 observations, 210 contacts, and 25 respondents.

* $p \leq 0.1$; ** $p \leq 0.05$; *** $p \leq 0.01$.

using an extension of Cohen’s d (Cohen 1992), which conventionally calculates effect sizes across different groups in a study. The effect of the two coefficients can be measured in standardized units by dividing each coefficient by the sample-weighted and pooled standard error for the two models.² Using this method, the standardized effect for strategic framing is 0.66 and 1.32 for political framing. This effect size or difference between the two standardized effects is considered moderate based on Cohen’s (1992) criteria. A Welch’s (1947) t -test, which adjusts for nonequal variances and nonequal sample sizes, indicates that the effect of influence for political framings is also statistically larger than the effect of influence for strategic framings ($t(395) = 47.62, p \leq 0.01$).

Hypothesis 5 asserted that the effect of a contact’s accessibility would be greater when a problem was framed as strategic. Model 2 demonstrates that this hypothesis is not supported at the 0.05 level of statistical significance ($\pi = 0.28, p \leq 0.1$). Thus, although Model 1 demonstrates that contact accessibility has a significant main effect on advice seeking, these effects are not moderated by issue framing. Finally, Hypothesis 6 asserted that indefinite problem framings would lead respondents to rely on general advice-seeking tendencies, including a contact’s expertise, trustworthiness, and the typical frequency of interaction with the respondent.

The results of Model 4 provide support for Hypothesis 6. The effects of expertise ($\pi = 0.45, p \leq 0.01$) and trust ($\pi = 0.32, p \leq 0.01$) are positive and significant for indefinite problems. The effect size of expertise for indefinite framing compared with strategic framing is small, based on Cohen’s (1992) criteria, but statistically significant ($t(372) = 2.1585, p \leq 0.05$). However, the effect of trust is larger for political framings compared with indefinite framings; thus, having a definitive political frame has stronger moderating effects on trust compared with not having a definitive issue frame. This difference is statistically significant ($t(466) = 34.4474, p \leq 0.01$). We also expected that the typical frequency of interaction would have a significant positive effect on advice seeking when contacts had an indefinite issue frame. This expectation is supported ($\beta = 0.28, p \leq 0.05$). However, the typical frequency of interaction also has a positive significant effect for political framing. This appears to be inconsistent with our expectation that managers with political framings might be more selective about their contacts unless the typical frequency of interaction captures an element of trust that is not captured by the survey measure of trust in the models.

Discussion

Our findings suggest that managers’ social choices and access to cognitive, social, and material resources

depend on how they frame organizational issues and, in turn, which contacts they decide to solicit. When managers frame a problem as strategic, they appear more likely to seek advice from contacts they perceive as expert and endowed with material resources. When managers frame problems as political, they appear more likely to seek advice from contacts they perceive as trusted and influential. When managers have an indefinite frame for problems, they appear more likely to seek advice from contacts they perceive as both expert and trusted, and with whom they interact frequently. These social choices based on issue framing shape managers' ego networks and their access to social capital.

The Impact of Task Features, Individual Characteristics, and Network Structure

As suggested in prior research, the specific task or situation that managers face can have an important influence on advice seeking (Nebus 2006, Smith et al. 2012). To address the potential effects of task features, we asked respondents to indicate advice networks for two different problem scenarios. The results of Model 1 indicate that the student achievement scenario has a greater effect on advice seeking than the school bullying scenario ($\pi = 0.41, p \leq 0.05$). However, once managerial framing is taken into account, the effect of scenario on advice seeking is no longer statistically significant. This suggests that issue framing has an additional effect on advice seeking beyond task features.

Prior research also suggests that the individual characteristics of advice seekers, such as status and the ability to accurately perceive network ties and resources, may influence managers' social choices and access to resources (Freeman 1992, Janicik and Larrick 2005, Smith et al. 2012). Because our study cannot compare contacts' actual resources to respondents' perceptions of those contacts' resources, it is difficult to determine the potential effects of respondents' accuracy in perceiving network ties and resources (Freeman 1992, Janicik and Larrick 2005). To the extent that gender is an indicator of status (e.g., Ridgeway 1991), our study results are consistent with prior research on the effects of status, which indicates that the respondent's status—proxied in our study by gender—influences advice seeking (Smith et al. 2012). However, the respondent's gender is only significant once issue framing is accounted for and in particular when issues are framed strategically ($\gamma = -0.76, p \leq 0.05$).

The effect of respondent gender for strategically framed issues is among the largest across all variables and models. Specifically, being a male manager with a strategic frame is one of the largest negative influences on advice seeking. The effects of gender for strategically framed issues suggest some individual characteristics may be especially important when individuals frame an issue in a specific manner. Additionally, some work

on gender and risk taking suggests that the observed differences between men and women with strategic frames may reflect the greater willingness of men to assume the risks of going it alone or to hoard the potential accolades of improving organizational performance (e.g., Powell and Ansic 1997).

In this study, we examine network characteristics at the dyad level with measures for homophily and propinquity. As indicated in Table 5, neither homophily with regard to gender or school characteristics nor propinquity has a significant effect on advice seeking for the full sample or political and indefinite subsamples. We do find that for respondents with strategic frames, the similarity of their contacts' schools to their own has a significant negative effect on advice seeking ($\beta = -2.96, p \leq 0.05$). This suggests that strategic framers in homophilous networks might be less likely to seek advice (Renzulli and Aldrich 2005). In the study's empirical context, principals with strategic frames might purposely seek contacts with different experiences who can provide new insights about school problems (Hite et al. 2005, Leithwood and Steinbach 1995). Alternatively, principals at similar schools might be considered structurally equivalent (Burt 1992). Thus, principals with a propensity to think strategically may view principals at similar schools as competitors, in terms of both reputation and performance, and thus avoid them when seeking advice. The preference to preserve reputation or pursue independent strategies could also explain why framing an issue strategically results in principals being less likely to seek advice from influential contacts who might negatively judge a principal's chosen course of action.

The effects of homophily in school characteristics for managers with strategic frames notwithstanding, the general lack of significance for homophily and propinquity helps address an important question about the findings: Is the observed pattern of advice seeking motivated by contacts' resources, or do the patterns arise from managers' post hoc rationalization for preferred contacts? In other words, respondents who consider themselves to be strategic thinkers might justify their contact choices based on expertise and material resources; respondents who think of themselves as politically savvy might justify their contact choices based on trust and influence. If this kind of confirmation bias were the primary explanation for the observed pattern of advice seeking, then one would expect psychosocial heuristics such as homophily and propinquity to have a persistent and significant effect on contact selection (McDonald and Westphal 2003, Podsakoff et al. 2003). This was not the case.

Limitations and Future Research

A limitation of our study is the inability to fully assess the effects of network structure on managers' advice seeking given that the data are based on egocentric

nominations with overlapping nominations for only 6 of the 49 respondents. Specifically, our dyadic network measures cannot answer questions about how advice seeking and issue interpretation are affected by structural network characteristics, such as network density and closure, or by a respondent's position in the network (Burt 1992, Ibarra and Andrews 1993). Network structure determines the probabilistic set of contacts available for advice seeking (Watts 1999). Additionally, some structural network characteristics may have an effect on advice seeking. For example, individuals who are more centrally located in networks have greater access to contacts and thus may seek advice more readily. Alternatively, those in denser and therefore more homophilous networks might seek advice from fewer contacts because their historical experience in their network has taught them that the advice of their contacts is substantially similar (Reagans and Zuckerman 2001). It is also possible that some structural network characteristics influence issue interpretation. For example, those who occupy structural holes may be more likely to adopt political issue frames since, as the *tertius gaudens*, they are in a position to broker and allocate resources as well as exercise influence over third parties (Burt 1992).

Although our research cannot assess the effects of network structure on cognition, it seems unlikely that structural characteristics can fully explain the effects of issue interpretation on advice seeking. Overall network structure seems likely to affect cognition as a contextual or situational factor in much the same way that organizational contexts have been described as *strong situations* that influence cognition (Davis-Blake and Pfeffer 1989). As strong situations, organizational contexts have a substantial influence on individuals' interpretations. Yet within organizations, individuals still vary in their interpretations of organizational issues (Lant 2005). For example, individuals' interpretations may vary because of their historical experiences in organizations or their perceptions of the organization's core characteristics (Bridwell-Mitchell and Mezas 2012). This suggests that individuals' interpretations of issues as strategic or political are unlikely to be fully explained by the structural characteristics of their networks. Exactly how much issue interpretation varies based on the structural characteristics of networks is an important empirical question for future research.

Another consideration for future research is the extent to which advice seeking may differ given greater and more natural variation in contact attributes. Contacts in this study were restricted to being members of principals' formally assigned professional networks. We have conceptualized this constraint as being similar to the constraints imposed on more naturalistic networks, such as those imposed by history, geography, and institutional arrangements (Laumann et al. 1983). However, advice seeking behaviors within formally assigned networks

may be different from those that occur in other contexts. For example, the negative effects of influence for strategic framing might not be as strong among contacts outside the principals' formally assigned professional networks. Thus, it is important that future research explore the effect of issue framing on social choices and network capacity in a broader range of networks.

Conclusion

The role of issue interpretation is significant with regard to social choice and access to social capital. In particular, our framework implies that different types of social capital can be amassed to a greater or lesser extent depending on individual cognition and action. We know from previous research that overall network structure can determine social capital (Burt 1992, Coleman 1988). However, we also know from previous research that agency and choice play a role in individuals' ability to realize the benefits of social capital (McDonald and Westphal 2003, Nebus 2006, Reagans and Zuckerman 2001, Renzulli and Aldrich 2005). This article expands existing knowledge about the role of agency and choice in gaining access to social capital. Specifically, we demonstrate that the impact of agency and choice of contacts is strongly influenced by managerial cognition in the form of issue framing (Jackson and Dutton 1988, Lant 2005). Similar to studies about the accuracy of network cognition, our framework examines cognition about which contacts in a network have resources (Freeman 1992, Janicik and Larrick 2005). In addition, we highlight the importance of issue interpretation in the assessment of the value of contact resources. By affecting managers' perceptions of the value of resources and contacts, issue interpretation influences the set of resources to which a manager ultimately has access.

In particular, issue interpretation makes some resources appear more valuable. Thus, managers are more likely to seek out contacts with these resources and to potentially neglect contacts with other kinds of resources. As a result, managers only have access to a subset of potential resources available in their networks. If managers' interpretations of issues and valuation of resources match the underlying reality or actual needs of a situation, then selecting only some contacts and thus having direct access to only a specified subset of resources may not be problematic. However, if managers are incorrect in their interpretations and valuations, they risk undermining their efforts to solve organizational problems by restricting their access to resources that may be appropriate for the problem at hand. From a practical standpoint, this suggests that managers should solicit diverse perspectives on organizational problems to better assess what resources and contacts will be most valuable for generating solutions (Cross and Sproull 2004, Reagans and Zuckerman 2001).

The role of issue interpretation described here also suggests another important way to conceptualize the role of agency and choice in the actualization of social capital. In previous research on how agency impacts social capital, individuals are frequently described as mobilizing their networks or activating network ties (Renzulli and Aldrich 2005, Smith et al. 2012). The concepts of mobilization and activation accurately describe the importance of individual agency in realizing network resources, but they do not sufficiently capture the dynamics of social construction, which may be an important part of network processes (Berger and Luckmann 1966).

For example, classic work on social construction explains how social relations influence individuals' interpretation of issues or construction of situational realities (Berger and Luckmann 1966, Weick 1979). Our study provides evidence that the converse is also true: individuals' construction of situational realities influences how they construct their social relations. In other words, issue interpretation influences the set of social relations and thereby the forms of social capital that become available to individuals. We refer to this phenomenon as *network enactment*. We use the construct of network enactment to refer to the processes by which issue interpretation generates distinctive local social realities by influencing individuals' decisions about the contacts with whom they will interact. Although this study focused on network enactment in the context of the education sector, the theory may apply more broadly. Our research suggests that there is great potential for ongoing work on the role of network enactment in managerial access to social capital in a variety of organizational contexts.

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Appendix

A.1. Contact Attributes

Research on advice seeking suggests that managers have a tendency to rely on a single individual for advice about a variety of issues (Cross et al. 2001, Renzulli and Aldrich 2005). Existing research also suggests that managers often confirm or validate their reliance on preferred contacts by attributing to contacts a high level of diverse expertise, which the contacts may or may not have (Cross et al. 2001). These findings have important empirical implications for our investigation.

If managers attribute a high level of diverse expertise to their preferred contacts, respondents in this study may be likely to view their contacts as having many diverse forms of social capital. Thus a respondent who indicates that a preferred contact is very trustworthy would also be likely to indicate that the same contact has high expertise and plentiful material resources, as well as other forms of social capital relevant to our research. This means there would be a strong correlation among the five contact attributes as demonstrated in Table 4. Even without the halo effect of positive ratings of one contact attribute spilling over to other attributes, one would expect some correlation in contact attributes given that each of these attributes belongs to a single individual. In other words, the fact that attributes are ascribed to one individual contact might be considered a latent factor driving reports for each attribute (Child 2006).

In fact, the correlation among the items, as well as an internal reliability score of $\alpha = 0.79$, suggest that it could be appropriate to combine the five attributes into a single factor index (Schmitt 1996). However, a single-index approach would not allow us to examine how contact selection varies by different types of resources, as hypothesized. Furthermore, although the five attributes are empirically correlated, we do not view them as representing a single, theoretically meaningful latent construct, which is a key decision rule for the factor approach and for presuming the validity of high reliability scores (Child 2006, Schmitt 1996). Additionally, the communalities in an exploratory factor analysis, which are a measure of reliability, indicate that the proportion of variance that the factor explains in each attribute ranges from 40.4% to 75.5%. Thus, the single-factor measure is not as reliable an indicator of each attribute (Child 2006). Furthermore, confirmatory factor analysis indicates that the single-factor model is not a good fit for the data ($\chi^2 = 829.73(5)$; $p \leq 0.01$; root mean square error of approximation = 0.465, $p \leq 0.01$). Therefore, we used the five contact attribute ratings as five measures of different kinds of contact resources. As a follow-up analysis, we examined a set of models using the single-factor measure representing contacts' overall resources. The results indicated a significant effect for resources for the pooled sample ($\pi = 0.02$, $p \leq 0.01$) and strategic subsample ($\pi = 0.05$, $p \leq 0.05$), but there were no significant effects for the political subsample or indefinite subsample.

The decision to include five correlated measures in the models requires that the analysis address the issue of potential multicollinearity. Including correlated measures in an analysis does not necessarily bias the expected values of coefficients, but it can inflate standard errors and create instability in models (Kenny and Judd 1984). We address this concern by examining the standard errors in the saturated model and comparing them to five models in which each resource measure was entered separately. There was no substantial difference in standard errors between the saturated model and the other five models, which suggests that the impact of multicollinearity on our results is limited (Kenny and Judd 1984). As an additional check for multicollinearity, we examined the variance inflation factor (VIF) for all variables in the saturated model. No VIF was above 3.2, which is well below the cut-off point of 10 suggested in the literature (Cohen et al. 2003).

Table A.1 Moderation Analyses Using Interaction Term Approach

	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6		Model 7	
	π	SE	π	SE	π	SE	π	SE	π	SE	π	SE	π	SE
<i>Expertise</i>	0.337***	0.11	0.342***	0.11	0.337***	0.11	0.339***	(0.11)	0.339***	0.11	0.338***	0.11	0.337***	0.11
<i>Trustworthiness</i>	0.283***	0.09	0.277***	0.09	0.283***	0.09	0.283***	0.01	0.283***	0.09	0.283***	0.09	0.283***	0.09
<i>Influence</i>	-0.074	0.12	-0.074	0.12	-0.074	0.12	-0.073	0.12	-0.076	0.12	-0.075	0.12	-0.074	0.12
<i>Material resources</i>	0.224	0.15	0.220	0.15	0.224	0.15	0.226	0.15	0.224	0.15	0.324***	0.12	0.224	0.15
<i>Accessibility</i>	0.149	0.10	0.154	0.10	0.149	0.10	0.152	0.10	0.149	0.10	0.149	0.10	0.189***	(0.07)
<i>Problem scenario</i>	0.255	0.21	0.255	0.21	0.255	0.21	0.255	0.21	0.255	0.21	0.255	0.21	0.255	(0.21)
<i>Issue frame</i>	-0.022*	0.01	-0.022	0.03	-0.022	0.03	-0.022	0.03	-0.022	0.03	-0.022	0.03	-0.023	0.03
<i>Expertise x Issue frame</i>	—	—	0.030	0.02	0.001	0.01	—	—	—	—	—	—	—	—
<i>Trust x Issue frame</i>	—	—	-0.034**	0.02	—	—	0.280***	0.09	—	—	—	—	—	—
<i>Influence x Issue frame</i>	—	—	-0.030	0.02	—	—	—	—	0.050***	0.01	—	—	—	—
<i>Material resources x Issue frame</i>	—	—	0.019	0.02	—	—	—	—	—	—	-0.002	0.01	—	—
<i>Access x Issue frame</i>	—	—	0.008	0.01	—	—	—	—	—	—	—	—	-0.006	0.00
Level 2	β	SE	β	SE	β	SE	β	SE	β	SE	β	SE	β	SE
<i>Contact gender</i>	0.158	0.10	0.153	0.10	0.158	0.10	0.157	0.10	0.158	0.10	0.159	0.10	0.159	0.10
<i>Gender match</i>	-0.050	0.09	-0.047	0.09	-0.050	0.09	-0.048	0.09	-0.051	0.09	-0.050	0.09	-0.050	0.09
<i>Typical interaction</i>	0.351***	0.08	0.351***	0.08	0.351***	0.08	0.349***	0.08	0.350***	0.08	0.351***	0.08	0.351***	0.08
<i>Contact similarity</i>	-0.393	0.53	-0.390	0.52	-0.392	0.52	-0.399	0.52	-0.396	0.52	-0.394	0.52	-0.396	0.52
<i>School distance</i>	-0.023	0.02	-0.023	0.02	-0.023	0.02	-0.023	0.02	-0.023	0.02	-0.023	0.02	-0.023	0.02
Level 3	γ	SE	γ	SE	γ	SE	γ	SE	γ	SE	γ	SE	γ	SE
<i>Intercept</i>	-1.648*	0.93	-1.637*	(0.93)	-1.647*	(0.93)	-1.653*	0.93	-1.652*	(0.93)	-1.650*	(0.94)	-1.653*	0.93
<i>Network size</i>	0.047	0.04	0.047	0.04	0.047	0.04	0.047	0.04	0.048	0.04	0.047	(0.04)	0.047	0.04
<i>Respondent gender</i>	-0.003	0.30	-0.005	0.30	-0.004	0.30	-0.004	0.30	-0.003	0.30	-0.003	0.30	-0.003	0.30
<i>Tenure</i>	-0.018	0.04	-0.018	0.04	-0.018	0.04	-0.017	(0.04)	-0.018	0.04	-0.018	(0.04)	-0.018	0.04
<i>School performance</i>	-0.003	0.01	-0.003	0.01	-0.003	0.01	-0.003	0.01	-0.003	0.01	-0.003	0.01	-0.003	0.01

Notes. All model coefficients are maximum likelihood estimates with robust standard errors. Model sample sizes are 760 observations, 362 contacts, and 49 respondents.
* $p \leq 0.1$; ** $p \leq 0.05$; *** $p \leq 0.01$.

A.2. Moderation with the Interactions vs. Subgroups

In this study we focus on the moderating effects of issue framing. Each of the two approaches for examining moderation—the interaction term and the subgroup approach—has strengths and weaknesses. We selected the subgroup approach because of its relative strengths for our specific study; namely, it allows for more intuitive testing of the hypotheses and interpretation of the model results. However, as a sensitivity analysis for the specification of our models, we did examine models using the interaction term approach. The results are described briefly below.

Table A.1 illustrates seven HLM models. Model 1 includes, at Level 1, the five contact attributes, the scenario dummy, and the issue framing variable, which is measured as respondent k 's score for political issue framing centered on the mean political framing score for scenario i . Model 2 includes all five interaction terms at Level 1. An examination of collinearity statistics for Model 2 indicates that the VIFs for all the interaction terms and the issue framing variable are above the suggested cutoff of 10, even after the component terms were mean centered (Cohen et al. 2003). Thus, Models 3–7 include each of the interaction terms separately.

In the models, the moderating effects of issue framing are interpreted from the coefficients on the interaction terms. These coefficients should be interpreted as the increased (or decreased) effect that a contact attribute has on advice seeking given a one-unit increase in political issue framing. The moderating effect of issue framing is also interpreted from the coefficients on the component terms. These coefficients are sometimes called the main effect. However, they are better described as *simple* effects because, with the interaction term included in the model, they are the conditional effects of the component term when the moderating variable equals zero (Baron and Kenney 1986, Edwards 2008, Jaccard and Turrisi 2003). For our analysis, this means that the coefficients on the component terms are the effect of a given contact attribute when an issue frame is entirely strategic (e.g., when political framing equals zero). Note also that the interpretation of the main effects for other variables (e.g., those without interaction terms in the model) should be undertaken with caution because the significant effects for their interaction terms in other models is evidence that the moderated effect of the variables should be controlled for (Edwards 2008).

The results of Model 3 provide support for Hypothesis 1 because there is no significant moderating effect for political issue framing but there is a positive and significant simple effect for expertise ($\pi = 0.337, p \leq 0.01$), which is the effect of expertise when an issue frame is entirely strategic. The results of Model 4 provide support for Hypothesis 2 because there is a positive and significant moderating effect for political issue framing on trust ($\pi = 0.280, p \leq 0.01$); the simple effect of trust is marginally significant and negative. The results of Model 5 support Hypothesis 4 because there is a positive and significant moderating effect for political issue framing on influence ($\pi = 0.05, p \leq 0.01$); the simple effect of influence, when an issue is entirely strategic, is not significant.

Hypothesis 3 is supported by Model 6, in which there is a positive and significant simple effect for material resources ($\pi = 0.324, p \leq 0.01$) but no significant moderating effect for political issue framing on material resources. Model 7 provides support for Hypothesis 5 because of the positive and

significant simple effects for access. Hypothesis 6 asserts the effects of an indefinite issue frame. This hypothesis cannot be directly assessed from the coefficients of Models 3–7 because the construction of the framing measure is such that an indefinite frame is indicated by values near the midpoint of the scale, and the coefficients in the models illustrate marginal effects across all values of the scale or when the value is zero. However, Model 1 examines the main effects of contact attributes, controlling for issue framing. One might argue that controlling for issue framing is similar to respondents not having a definitive issue frame. If so, the results of Model 1 support Hypothesis 6 because of the positive and significant main effects of expertise ($\pi = 0.337, p \leq 0.01$), trust ($\pi = 0.283, p \leq 0.01$), and typical interaction frequency ($\beta = 0.351, p \leq 0.01$).

Endnotes

¹Proportions do not total 100% because of nonresponse.

²The standardized effect is calculated as $\beta_1 / \sqrt{((n_1 - 1)se_1 + (n_2 - 1)se_2) / (n_1 + n_2 - 2)}$, where n is the Level 1 sample size.

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