

ORGANIZATIONAL PERFORMANCE AND SOCIAL CAPITAL: A CONTINGENCY MODEL

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ABSTRACT

This study develops a model of the causal impact of social capital on organizational performance, with particular attention to specifying the contingencies that transform some kinds of network ties into social capital or social liability. The study unpacks the “black box” linking social structure and firms’ goal attainment by turning to mid-level theories of group heterogeneity and group processes. Hypotheses were tested using data from a national survey of investment clubs. The findings indicate that net increases in instrumental ties at the individual level produce social capital at the organization level in two ways: by increasing the information pool available to decision makers, and increasing their willingness to engage in constructive debate about that information. The combined effects produce increased profits for the organization.

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INTRODUCTION

As social capital theory has come into increasing use in organizational research, there have been growing efforts to understand the contingencies which govern the relationship between social structure and goal attainment (Leenders & Gabbay, 1999; Gabbay & Leenders, this volume). With increasing clarity about the definition of social capital – a resource which accrues to actors through network ties (Adler & Kwon, 1999) – attention has shifted to identifying the conditions under which social structures represent assets or liabilities for firms. This study seeks to contribute to the debate by examining the mechanisms by which certain kinds of social relationships at the individual level facilitate or impede the attainment of objectives at the firm level.

Specifically, this paper will argue that social capital effects are contingent on the content of network ties: that is, on the nature of relationships among organization members, whether primarily instrumental or affective. The data will show that when it comes to decision making in complex environments – a task common to many firms in the global economy – instrumental network ties among individuals provide a distinctive source of social capital for organizations by enhancing financial performance. I trace this outcome to two sources: group heterogeneity and task orientation. Recruitment and selection based on weak, instrumental ties increases organizations' compositional diversity (McPherson & Smith-Lovin, 1987; Blau, 1977) and commitment to task performance (Elsass & Graves, 1997). This optimizes decision quality by maximizing informational resources and “constructive controversy” (Tjosvold, Wedley & Field, 1986). In contrast, groups based on affective ties can become “overembedded” (Uzzi, 1996), limiting the pool of information available for decision making, and inhibiting debate in favor of social cohesion. By testing these theories about group composition and motivation – drawn from other areas of organizational research – in a social capital framework, this study will shed light into the “black box” linking social structure and organizational performance.

It is worth noting the unique data set used in this analysis, since it is unusually well suited to research on the contingencies affecting social capital. I focus on investment clubs – organizations composed of 10 to 15 people who pool their money to invest in the stock market. While they have not been studied in the academic literature before, an estimated 11% of the U.S. population is involved in an investment club (National Association of Securities Dealers, 1997).² Though voluntary, investment clubs are formal organizations in every sense: they have hierarchical leadership structures, most are incorporated, and all must file corporate tax returns with the IRS. Like other business organizations, their main business is to make decisions so as to maximize profits. Thus, they can

contribute to organizational research in much the same way as other small businesses.

For the purposes of social capital research in particular, investment clubs have the felicitous property that most have been founded recently and the founding members are still active participants.³ This makes it possible to reliably measure the content of network ties among group members, and – since those ties are still active – to study how they have shaped organizational performance. Finally, performance in these organizations can be measured in clear, externally valid terms – financial returns – that enhance the generalizability of the model to other organizations, and help us quantify the impact of social capital.

PREVIOUS LITERATURE AND REMAINING CONCEPTUAL ISSUES

The Impact of Social Capital on the Creation of Financial Capital

A central insight of social capital research has been that the impact of social structure – whether network ties will turn out to be an asset or a liability – depends heavily on the nature of a firm's objectives (Gabbay & Leenders, 1999). For example, Gabbay's (1997) study of network marketing found that while strong ties were beneficial at the inception of business, they eventually impeded firms' expansion. However, few studies have directly assessed the impact of social capital on financial performance.

Those studies which have addressed financial performance suggest that we must attend to multiple contingencies, starting with the nature of relationships among actors. Though we already have a language to describe the intensity of network ties – “strong” or “weak” (Granovetter, 1973) – there have been increasing calls to more closely specify the content or quality of those ties (e.g., Gulati & Westphal, 1999). Thus far, research addressing this issue has classified network ties into two “ideal types”: instrumental bonds, such as those among co-workers, and affective bonds based on similarity/attraction processes, such as those between family and friends (Podolny & Baron, 1997; DiMaggio, 1992; Krackhardt, 1992).

Though the two categories often overlap, there is evidence that distinguishing between them is useful as a way of entering into an exploration of the contingencies affecting the formation of social capital and its impact on organizational performance. For example, Uzzi's studies of the garment and banking industries (1997 and 1999, respectively) illustrate the value of these distinctions in quantitative terms by showing that some kinds of network content

lower firms' costs for materials and capital. He argues that when organizations perform tasks requiring economic rationality and market competition – conditions that apply to investment clubs, and to many other firms – then instrumental, arms' length ties may provide the most social capital. In contrast, ties based on strong, affective community bonds may hurt firms financially, restricting their options and their access to information about the market. Burt anticipates this finding in an earlier theoretical work, stating that “efficiency mixes poorly with friendship” (1992: 24). In a similar vein, Woolcock (1998) notes that the economic development of nations – measured in bottom line terms such as GDP – is limited when network ties among the population remain at the level of “amoral familism,” in which strong affective bonds within families predominate. To develop and prosper financially, Woolcock argues, nations must develop social capital in the form of broad networks of weak instrumental ties linking individuals who are not related.

Given the importance of financial performance for most organizations, this area deserves further attention from social capital researchers. The existing research suggests the following hypothesis:

H1: Increases in the relative quantity of instrumental ties among individual members will increase an organization's financial performance.

*Contingencies Affecting the Impact of Network
Ties on Financial Performance*

A major concern of this study is to formulate and test a model of the conditions under which social structure conveys social capital or liability for organizational performance. In this effort, it will be necessary to open the “black box” of contingencies that may affect the relationship between individual-level networks and firm-level outcomes. This implies examination of group-level characteristics and processes. The existing literature suggests that decision making and the quantity of information available are particularly important variables. For example, a recent study of research and development teams found that the structure of social relationships among team members affected their level of consensus in decision-making, which in turn affected their performance; teams which disagreed about product implementation were more successful than those that experienced high levels of consensus (Kratzer, Van Engelen & Leenders, 1998). Similarly, Gargiulo and Bernassi (1999) found that strong and socially-cohesive network ties severely limit the flow of information into a firm, preventing managers from optimizing their organization's fit with the environment.

These findings suggest that social networks convey social capital when they maximize information flow and “constructive controversy” (Tjosvold, Wedley & Field, 1986). But in order to model these effects, we need to understand the mechanisms through which social networks have these effects. For further insight into these connections, research in other domains of organizational sociology directs our attention to issues of compositional heterogeneity and task orientation.

Compositional Heterogeneity and Access to Information

Research in organizational demography indicates that social networks affect the information pool available to firms by driving the selection and recruitment processes that draw individuals into organizations (Jehn, Northcraft & Neale, 1997). Strong, affective ties produce demographically homogenous groups, in terms of qualities such as race, gender or age (McPherson & Smith-Lovin, 1987; Blau 1977). Such groups have correspondingly homogenous sources of ideas (Granovetter, 1973), which can result in social liability in rapidly-changing competitive environments. In contrast, weaker instrumental ties draw together individuals from a wider variety of social and functional backgrounds, creating a larger toolkit of ideas from which organizations can draw; numerous studies have found this to be a major source of competitive advantage (Watson, Kumar & Michaelson, 1993; Ancona & Caldwell, 1992; Eisenhardt & Schoonhoven 1990; Nemeth, 1986). This research implies that social networks produce social capital in part through the mechanism of group heterogeneity. This suggests the following testable hypothesis:

H2: Increases in the relative quantity of instrumental ties among individual members will provide social capital for organizations by causing increases in group heterogeneity.

Thus, group heterogeneity provides a crucial link between social structure and organizational performance by constituting an asset for decision making. The greater the number of instrumental ties in an organization, the larger its information pool, and the better it is likely to perform in a market environment.

Task Orientation and Decision Making

Not only does variation in the content of network ties affect *what* organization members know, it also affects their willingness to disclose and debate the information they have (Adler & Kwon, 1999; Krackhardt & Stern, 1988). For example, affective bonds among individuals militate against the expression of diverse opinions in decision making groups (Beach, 1997). In effect, network ties based on similarity/attraction exert a kind of “centripetal force” that

encourages a socially comfortable consensus at the expense of decision quality. The ability of affective ties to cloud the judgement of organization members has been noted particularly in studies of boards of directors: strong social bonds between executives and board members can produce significant liabilities for organizations by dampening the board's willingness to exercise oversight authority (Gulati & Westphal, 1999; Pfeffer, 1992; Middleton, 1987). As a result, Powell & Smith-Doerr write, "the ties that bind may also be the ties that blind" (1994: 393).

Willingness to sacrifice some degree of social cohesion for the sake of decision quality is a hallmark of task orientation, a quality of work groups defined as "clear acceptance on the part of the individual of the salience and legitimacy of standards of excellence in performance" (Mullen & Copper, 1994: 225). In other words, task commitment involves adherence to instrumental ends. In a meta-analysis of 66 studies of organizational performance – including organizations as varied as business firms, the military and sports teams – Mullen and Copper found that affective ties often proved to be a social liability, by distracting individuals from goal attainment. In support of this view, DiMaggio (1992) argues that organizations derived from family or friendship networks operate based on particularistic social roles rather than universalist task norms – a mode of interaction that may promote consensus at the expense of organizational performance. These findings suggest the following hypothesis:

H3: Increases in the relative quantity of instrumental ties among individual members will provide social capital for organizations by causing increases in task orientation.

In addition, instrumental network ties may produce task orientation – and thus social capital – for organizations in a second, indirect way, through group heterogeneity. Research by Elsass and Graves (1997) indicates that demographically heterogeneous task groups experience very low similarity/attraction processes among individual members, who thus become task-oriented by default. That is, in the absence of demographic traits that could serve as a point of commonality, individuals build group cohesion around their shared task.

METHOD

Sample Selection

To test the three hypotheses, I surveyed 3,000 investment clubs drawn from the membership database of the National Association of Investors Corporation, a non-profit organization which provides educational materials to a total of about 30,000 investment clubs nationally.⁴

The main criteria for selecting this organizational domain were: (1) salience and observability of prior network ties among members, (2) variance in those ties both within and between organizations, and (3) comparability among organizations in terms of task characteristics and outcome measures. Investment clubs provide an unusually good testing opportunity for this study due to several unique characteristics. First, the U.S. stock market boom of the 1990s has given rise to a groundswell of new organizations: the average club was founded about 4 years prior to the survey (52 months, *s.d.* = 74 months). In addition, turnover in membership is quite small: only 1.5% of groups had lost any of their original members at the time of the survey. Thus, networks of recruitment and selection are highly salient, with a readily-observable impact on the organizations' activities.

Though voluntary, investment clubs meet Scott's (1992) criteria for formal organizations: collectivities designed to accomplish a specific goal, with a relatively high degree of formalization in terms of structure and relations among members. Like many other formal organizations, investment clubs have a hierarchy and division of labor among members: annual elections select a president, vice-president, treasurer and secretary whose duties are defined by a legal charter. At each club's monthly meetings, members spend about two hours deciding which stocks to buy or sell, using the money amassed from each member's monthly contribution, averaging \$25 per person. The group thus owns a portfolio in common, and is legally equivalent to any other financial partnership.

For the purposes of organizational research, investment clubs can contribute to knowledge in much the same way that other studies of small or non-traditional organizations have done (see Allmendinger & Hackman's, 1995 study of symphony orchestras for a particularly successful example). In fact, investment clubs probably have more in common with major corporations than most other small organizations: like other corporations investment clubs' major activity consists of making decisions about how to spend time and money, and their performance is measured in terms of profit. These factors suggest that findings using a sample of investment clubs can generalize to a variety of other corporate entities.

In terms of developing social capital theory, investment clubs are also appealing in three respects. First, they are natural, intact working groups in which there is a great deal of variation in network ties among members. In fact, pre-testing of the survey identified five basic types of network ties involved in selection and recruitment into investment clubs: two kinds of instrumental ties, formed through work and school; and three kinds of affective ties, based on friendship, family relationship and community ties, such as being neighbors.

Investment clubs are also characterized by compositional heterogeneity: an estimated 11% of the U.S. population belongs to an investment club (NASD, 1997), and membership data gathered by the national investment club association (NAIC, 1999) indicate a high level of demographic diversity. For example, approximately 60% of investment club members are women. There is also wide variation on characteristics such as age and occupational status, with members ranging from teenagers to octogenarians, and from executives to farm workers.

Finally, investment clubs make an appropriate sample for social capital research due to variation in members' motives, particularly with regard to task orientation. On the one hand, investment clubs provide an efficiency for individuals who wish to supplement their wealth through investing: the club format lowers the financial and time commitments required, compared to investing individually.⁵

This efficiency is particularly attractive for the numerous Americans, whose pension benefits – once guaranteed by their firms – are now mostly in the form of 401(k) plans with uncertain payouts (U.S. General Accounting Office, 1996). But in addition to these economic imperatives, there are strong affective motivations for joining an investment club, most notably those of “thrill seeking” (Statman, 1997: C1) or legitimized gambling. Investing together need not signal instrumental motivations, but rather a desire to participate in a form of social organization which is both historically specific and high – status – in other words, fashionable. In this way, investment clubs can be likened to the bowling clubs and fraternal organizations that were the preferred forms of voluntary association during the 1950s. These multiple motives provide measurable variations in task orientation among investment clubs.

Procedure

The sample was systematically selected by starting from a random entry in the membership database of the National Association of Investors Corporation and choosing every 10th club name. Each club received a packet containing two survey instruments: one designed to glean group-level information, and 15 copies of a survey designed to gather data from individual club members. The club presidents filled out a four-page survey consisting of 30 multiple-choice and numerical fill-in-the-blank questions about club performance and organizational structure. Individual survey participants each filled out a four-page survey including 31 multiple-choice and Likert-style questions about their demographic background and investing behavior, both in and outside of the club. (See Appendix for survey questions.) A total of 1279 usable responses

resulted from this survey, a response rate of 43%. Of these, 467 (38%) were based primarily on instrumental networks among members, while 757 (62%) were based primarily on affective ties. The average rate of individual participation in the study within groups responding was 70% of the membership (s.d. = 0.18). While it was not possible to compare the sample frame for this study with the entire population of investment clubs, analysis of the non-respondents indicated no difference in terms of composition, size or location from clubs that did participate in the survey.

Measures

Dependent Variable: Financial Performance. The dependent variable in this study was the rate of return on investment clubs' stock portfolios. This captured performance independent of the amount of money members contributed to the portfolio, and the length of time over which the portfolio had been building, both of which varied considerably in this sample. Calculating the rate of return for a stock portfolio involves two steps, both of which are standard among investment clubs as well as in the formal financial sector.

The first step is measuring return on investment – a calculation that compares the total amount of cash invested to the current market value of the portfolio. While stock prices fluctuate almost constantly, the overall performance measure provides a stylized picture of steady growth; essentially, it treats the portfolio like a bank account by showing the compound interest rate that would have had to be paid on the initial cash investment in order for it to result in the current market value of the portfolio. Most clubs choose to represent investment growth on an annualized basis. This measure also adjusts for transaction costs – brokerage fees are subtracted from the market value of the portfolio – and penalizes clubs for not being fully invested; idle cash drags down overall portfolio performance. This is because of appreciation: even unsuccessful investments earn more, typically, than the minimal interest accrued by cash idling in brokerage accounts.

The second part of calculating financial returns is to compare them to the stock market as a whole. This is how the performance of mutual funds, pension funds and other professionally – managed portfolios are measured. Though there is some variability in the choice of yardsticks for market performance, the Standard & Poor's 500 Index – which includes 500 firms in a broad range of industries – is widely considered the best proxy (Malkiel, 1990). Having calculated the overall performance for an investment club portfolio, the next step is to subtract the performance figure for the S&P 500 Index over the same time period. Because this measure is time-sensitive, the market benchmark is not a

single number against which all portfolios are compared. Thus, performance results will vary not only based on the returns of the stocks in a portfolio, but also based on the market returns over the “lifetime” of the portfolio.

Independent Variable: Net Instrumental Ties

Though there is debate in the literature as to how to measure social capital (Leenders & Gabbay, 1999), I opted for a straightforward approach by simply calculating the net number of instrumental ties linking organization members. The individual-level survey asked investment club members how they knew each other prior to joining the club; respondents could select multiple responses from a list of five options, including two kinds of instrumental ties – through work and school – and three kinds of affective ties – friendship, family relationship and community ties, such as being neighbors. Rather than trying to adjudicate between multiple answers, I created an aggregate measure for each club by subtracting the total number of affective ties from the total number of instrumental ties reported.

Contingency: Group Heterogeneity

To compose a measure of group heterogeneity, I drew on four demographic variables shown in previous research to have a significant impact on investing behavior: gender, age, income and investment experience.⁶

Gender has been found to influence individuals’ sources of investing information (Lewellen, Lease & Scharblum, 1977), as well as asset allocation: women typically invest more conservatively and earn lower profits than men (Barber & Odean, 1998; Jianakoplos & Bernasek, 1998). In a large panel study, Barsky et al. (1997) found that age, income and years of investing experience have a U-shaped relationship to investment risk, with middle-aged, middle – income individuals of average experience being the most conservative.

I operationalized gender composition as a continuous variable, using the entropy measure developed by Teachman (1980). Entropy is measured as follows: $H = - \sum p_i (\ln p_i)$. If the levels of the variable consist of I categories, the proportion of events in the *i*th category is expressed as p_i . The entropy measure is the negative sum of the product of each proportion times its natural log. The proportions in this case were the percentage of men and women in each club. The closer the measure gets to 1, the closer the group is to gender balance (half men, half women); a value of 0 indicates that the club is single-sex. I ran a second analysis, using a dichotomous measure of gender composition (1 = mixed, 0 = same-sex) in the structural equation model. The results were substantively identical with those found using the continuous measure, but I opted for the continuous measure because it allowed me to incorporate the issue

of proportions (Kanter, 1977) into the model. That allows me to distinguish the effects of varying levels of gender diversity, and to avoid confounding mixed groups with one token woman or man with mixed groups that were evenly balanced between men and women.

As with gender, diversity measures for age and income – both categorical variables – were calculated using Teachman's (1980) entropy index, creating a continuous indicator. Diversity in investing experience – which was measured as a continuous variable at the individual level – was operationalized using the coefficient of variation (Allison, 1978), in which an aggregate measure of diversity is produced by dividing the standard deviation of a set of individual values by the mean of those values. Formally, $CV = \frac{s}{\bar{x}}$. The closer the coefficient gets to zero, the closer the group is to perfect homogeneity. To test for the appropriateness of aggregating individual responses to the group level, I calculated the eta squared for each variable, which indicates whether two individuals within a group are more similar than two members of different groups. The results exceeded the threshold level of 0.20 suggested by Georgopoulos (1986), indicating that aggregation is acceptable. The index has a coefficient alpha of 0.91.

Contingency: Task Orientation

Like group heterogeneity, task orientation was treated as a latent variable, based on multiple measures drawn from previous research. There is no single set of accepted indicators for task orientation; many researchers construct their own measures, based on the idiosyncratic characteristics of the task being studied (e.g. Bettencourt, Charlton & Kernahan, 1997; Walther, 1995). Others employ a variety of multi-factor instruments including the SYMLOG (Bales & Cohen, 1979) analysis system (e.g. Lion & Gruenfeld, 1993), and the Team Climate Inventory (e.g. Kivimaki et al., 1997; Agrell & Gustafson, 1994), which includes several items designed specifically to tap task orientation. All the approaches have four key measurements in common: quantity and variety of information individuals contribute for group discussion; individuals' willingness to engage in constructive debate; and their commitment to high levels of task performance (Burningham & West, 1995).

Using this literature as a model, I developed four self-report indicators of task orientation in investment clubs. Quantity of individuals' contribution to group discussion was measured by asking respondents to rate their agreement on a Likert scale with the statement "I speak frequently in club meetings." I then calculated an average score on this item for each club. I performed the same procedure for individuals' willingness to engage in constructive debate, which was tapped by the question "I express my views even when they differ

from the majority opinion.” For the variety of information contributed to group discussion, I first asked individuals to identify their primary source of investing information from a list of publications assembled through pre-testing of the survey. I then calculated an entropy index (Teachman, 1980), described above, to measure diversity in those information sources. Finally, I measured commitment to task performance by calculating the percentage of individuals in each club who said that making money (rather than social contact or education) was their primary motivation for joining an investment club. To test for the appropriateness of aggregating individual responses to the group level, I calculated the eta squared for each variable, which indicates whether two individuals within a group are more similar than two members of different groups. The results exceeded the threshold level of 0.20 suggested by Georgopoulos (1986), indicating that aggregation is acceptable. This index had a coefficient alpha of 0.93.

Analytical Strategy

I tested the three hypotheses linking social capital to group performance using confirmatory structural equation modeling (Joreskog, 1979; Bollen, 1989). This technique allowed me to create a visual representation of complex and unobserved group process variables (like task orientation) through the creation of factors based on multiple measures, and to account for both indirect and direct effects. (Table 1 shows correlations among the variables used in this analysis.) I modeled these relationships using Amos (Analysis of Moment Structures) software (Arbuckle, 1997) and used the standard form of estimation – maximum likelihood. I evaluated the fit using the RMSEA (Root Mean Square Error of Approximation) index (Browne & Cudeck, 1993). Though there is no agreement about what constitutes a “correct” measure of fit in structural equation models, the RMSEA index has the advantage of being associated with several heuristics that make it easy to interpret. While a value of zero represents a perfect fit, in practice values of 0.08 or less are thought to indicate a reasonable error of approximation (Browne & Cudeck, 1993).

Additional Analyses

I conducted additional analyses to explore the possibility of selection bias in the findings on the relationship between instrumental network ties and organizational performance in investment clubs. Two alternative explanations suggested themselves. The first was that organizational performance might be driving selection and recruitment, biasing network ties in the group toward

Table 1. Correlations Among Measures of Network Ties, Heterogeneity, Process and Performance.^a

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(1) Net Instrumental Ties	1.00								
(2) Gender Heterogeneity	0.34**	(1.00)							
	0.00								
(3) Age Heterogeneity	0.24**	0.02	1.00						
	(0.00)	(0.41)							
(4) Income Heterogeneity	-0.05	-0.12**	0.29**	1.00					
	(0.70)	(0.00)	(0.00)						
(5) Heterogeneity in Investing Experience	0.05	0.02	0.21**	0.13**	1.00				
	(0.06)	(0.55)	(0.00)	(0.00)					
(6) Profit Motive	0.19**	0.18**	0.03	0.08**	0.11**	1.00			
	(0.00)	(0.02)	(0.26)	(0.00)	(0.00)				
(7) Express Dissent	0.11**	0.02	-0.17**	-0.10**	0.09**	0.05	1.00		
	(0.00)	(0.01)	(0.00)	(0.00)	(0.00)	(0.69)			
(8) Diversity in Idea Sources	0.16**	-0.04	0.20**	0.29**	0.05	0.08	-0.08**	1.00	
	(0.00)	(0.10)	(0.00)	(0.00)	(0.07)	(0.01)	(0.00)		
(9) Participation	0.10**	-0.07*	-0.24**	0.15**	0.12**	0.01	0.62**	0.19**	1.00
	(0.00)	(0.01)	(0.00)	(0.00)	(0.00)	(0.76)	(0.00)	(0.00)	
(10) Performance	0.08*	0.09*	-0.01	0.00	0.23**	0.08*	0.15**	0.33**	0.15*
	(0.03)	(0.01)	(0.79)	(0.88)	(0.00)	(0.03)	(0.04)	(0.02)	(0.02)
Mean	4.33	0.22	0.94	1.05	0.85	26.11	3.23	1.08	3.09
Standard Deviation	4.59	0.29	0.35	0.33	0.32	25.22	0.30	0.38	0.33

^a. ** $p < 0.005$ * $p < 0.05$ $N = 1245$

greater instrumentality. That is, high performance in an investment club might attract new members whose primary motivation was instrumental, rather than instrumental ties themselves causing high performance. A second alternative account would involve selection bias in the sample of investment clubs chosen for this study. This would occur if low-performing organizations based on instrumental ties dropped out of the population at a higher rate than low-performing organizations based on affective networks. I tested both possibilities, and found that the data do not support either contention.

In the first case, I regressed organizations' financial performance on the rate at which new members entered the club, controlling for the departure of previous members. The causal relationship was negative and significant, though modest in size ($-0.11, p < 0.05$). It suggests that not only does high performance not drive recruitment, but the lower the financial performance in an investment club, the more new members it attracts; and these new members are not replacing others who may have departed as a result of low performance. This economically counterintuitive result may be due to the observation made in the task orientation literature that high-performing organizations make trade-offs in the name of task performance – for example, by sacrificing social cohesion in favor of “constructive controversy” (Tjosvold, Wedley & Field, 1986; Mullen & Copper, 1994). This framework suggests that high performing organizations may be less socially pleasant – and perhaps less attractive to new members – than their lower-performing counterparts. These trade-offs between social cohesion and optimal task performance have been observed repeatedly in small groups research as far back as Bales (1953), and extending to studies of “groupthink” (Janis, 1972) and job design (Hackman, 1990).

In the second case, I tested the possibility that my sample might be biased by a higher propensity to disband among low-performing clubs based on instrumental ties. I conducted a phone survey of 24 clubs that had stopped paying membership dues to the national investment club organization within the last two years.⁷

Organizations based on instrumental ties disbanded at approximately the same rate as groups based on affective networks; however, they broke up for different reasons. Lack of participation or member commitment was the primary reason for disbanding for all clubs in the sample, with clubs based on instrumental networks facing an additional set of problems not mentioned by the other organizations: work-related instability due to layoffs, business travel and job transfers. For example, one high-performing group composed of U.S. Navy officers had to disband because most were transferred out of state or overseas as part of their military obligations. None of the disbanded clubs reported that performance was a factor; in fact, a number of instrumentally-based clubs

reported disbanding in spite of members' perceptions that the group was performing well.

In other words, instrumental ties posed a social liability to some organizations, while at the same time offering a preponderance of social capital for the majority. These findings underscore research showing that a single set of social network ties can be a source of social capital in one set of circumstances and a source of liability in others (Leenders & Gabbay, 1999).

RESULTS

Figure 1 shows the structural equation relating the measures of instrumental network ties, group heterogeneity, task orientation and financial performance. Path coefficients are standardized and the RMSEA index (Browne & Cudeck, 1993) is 0.05, indicating a good fit. The total sample size for this analysis was 1245 clubs. The C^2 is 23.31, with 13 degrees of freedom.

Table 2 summarizes the direct, indirect and total effects of each variable on group performance, with total effects in descending order of magnitude. Table

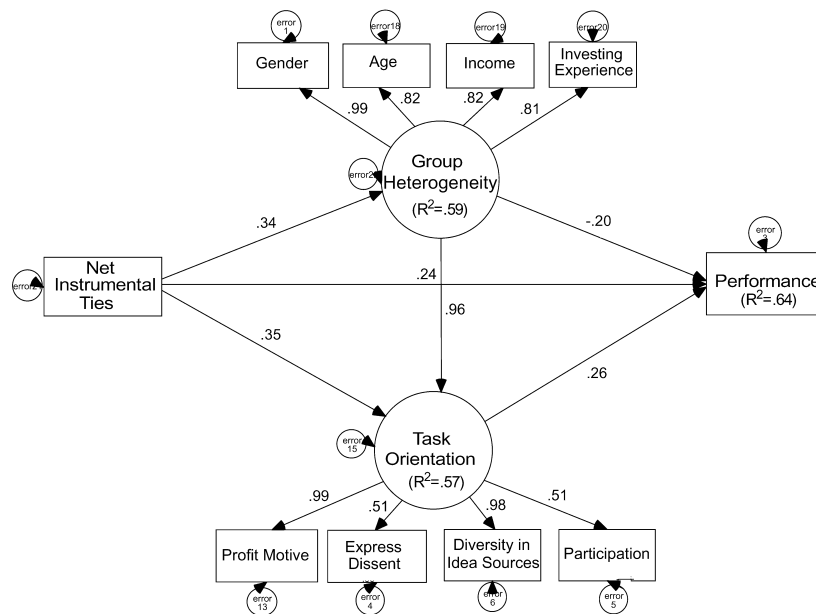


Fig 1. Structural Equation Model for Group Performances.

Table 2. Direct, Indirect and Total Effects on Group Performance.

Variable	Direct Effect	Indirect Effect	Total Effect
Net Instrumental Ties	0.24	0.11	0.35
Task Orientation	0.26		0.26
Group Heterogeneity	-0.20	0.25	0.05

3 shows the standardized parameter estimates and explained variance in each latent construct.

As Table 1 shows, the data support Hypothesis 1: increases in the net number of instrumental ties at the individual level cause organizational performance to increase. In fact, net instrumental ties have the largest effect of any variable in the model when direct and indirect effects are totaled (0.35); this provides support for the social capital approach to explaining organizations' goal attainment. In addition, the importance of the indirect effects of instrumental ties on organizational performance (0.11 total) suggests the value of examining the "black box" of contingencies linking social capital and financial capital. In support of Hypothesis 2, the net number of instrumental ties among individuals provides social capital to organizations through the mechanism of group heterogeneity. However, this relationship is complex and contingent. As a means of recruitment and selection, instrumental ties produce heterogeneous groups, in terms of characteristics such as gender, age, income and investing experience; this is consistent with prior theory and research on the impact of networks on group composition (McPherson & Smith-Lovin, 1987; Blau, 1977). However, instrumental ties provide a mix of social liability and social capital through this mechanism. On the one hand, the direct effects of increased group heterogeneity on organizational performance are negative (-0.20), consistent with results in the literature on organizational demography (Williams & O'Reilly, 1998). On the other hand, this liability is overcome by the indirect effects of heterogeneity on performance, through increases in task orientation, which has a significant positive impact on profits (0.26). Finally, in support of Hypothesis 3, increases in net instrumental ties at the individual level provide social capital by increasing task orientation (0.35).

DISCUSSION AND IMPLICATIONS FOR FUTURE RESEARCH

I tested three hypotheses representing a model of the contingencies through which social structure becomes an asset or a liability for organizational

Table 3: Standardized Parameter Estimates and Explained Variances for Structural Equation Model of Investment Club Performance.^a

Part A:		Structural Equation Model		
Dependent Variable	Net Instrumental Ties	Group Heterogeneity	Task Orientation	Performance
Net Instrumental Ties		0.34* (0.08)	0.35* (0.10)	0.24** (0.04)
Group Heterogeneity			0.96** (0.14)	-0.20* (0.07)
Task Orientation				0.26* (0.12)
R ²	–	0.59	0.57	0.64

Part B:		Measurement Models ^b	
Latent Variables Indicators	Group Heterogeneity	Task Orientation	R ²
Gender	0.99* (0.18)		0.89
Age	0.82* (0.13)		0.77
Income	0.82** (0.04)		0.75
Investing Experience	0.81* (0.15)		0.75
Profit Motive		0.99** (0.05)	0.90
Express Dissent		0.51* (0.10)	0.48
Diversity in Idea Sources		0.98** (0.14)	0.87
Participation		0.51* (0.08)	0.50

^a Numbers in parentheses are standard errors. Model $X^2 = 23.31$ ($df = 13$); RMSEA = 0.05. * $p < 0.05$ ** $p < 0.005$ $N = 1245$ for all cases

^b The variables Net Instrumental Ties and Performance are defined as equivalent to their sole indicators.

performance. The model drew on mid-level theories of group composition and group process. I posited that instrumental ties among individuals produce social capital at the organization level by increasing the information pool available to decision makers and increasing their willingness to engage in constructive debate about that information; I predicted that these effects would increase

profits for the organization. Using data from a national survey of investment clubs, I tested the hypotheses with a structural equation model (Bollen, 1989; Joreskog, 1979).

The results of this model suggest that network ties at the individual level have a powerful impact on organizational performance, and ultimately on firms' competitive advantage in the marketplace. The data indicate that increasing the net number of instrumental networks among organization members promotes organizations' financial performance both directly and indirectly, by increasing group heterogeneity and task orientation. However, increases in compositional heterogeneity produce both social liability and social capital, suggesting that we must carefully specify intervening mechanisms when positing relationships between social structure and firms' goal attainment. Future research should continue to unpack this "black box," enlarging our understanding of the contingencies shaping the impact of social networks.

In addition to specifying some conditions affecting the impact of social capital on organizational performance, a second major contribution of this study has been to identify the content of network ties as an important theoretical and measurement issue for future research. The findings indicate that in order to evaluate whether a particular social structure will develop into social capital or social liability, we must first know something about the nature of the relationship among actors. In particular, it is important to distinguish between instrumental and affective network ties as "ideal types" (DiMaggio, 1992). While the two are not mutually exclusive, they do generally appear to emerge from different kinds of social structures and to have significantly different consequences for organizational functioning.

This study points to the need for further research on the role of time in social capital research, by showing that beginnings matter. The findings suggest that the nature of social networks among organization founders, whether primarily instrumental or affective, carries over into the firm's subsequent activities, creating path dependent consequences. This recalls Stinchcombe's (1965) seminal work on founding conditions – the circumstances surrounding the birth of new organizations – and their profound effect on organizational structure and goals. In particular, variations in the content of social networks affect the motives and demographic characteristics of organization members. The study also suggests that future research should attend to processes of selection and recruitment when examining how social capital is created and maintained.

While this research is unusual in its use of a sample of voluntary organizations, investment clubs are in fact small businesses in which the workings of social capital can be studied and generalized to other kinds of firms. In addition to possessing the nominal characteristics of formal organizations (Scott, 1992),

investment clubs are fundamentally doing the same work as much larger corporations: trying to make a profit in the marketplace. In the process, investment clubs' primary activity is to make decisions about how to spend time and money – a task shared by most organizations currently in the literature. In addition, this sample has the unique advantage of allowing us to study variations in the content of network ties among organization members, at a time when the organizations are fairly new, and the differing impacts of instrumental and affective ties on social capital can be clearly distinguished.

As social capital theory comes into increasing currency within organizational research, it faces the challenges of creating causal models that specify the circumstances under which some kinds of social networks aid firms in achieving their goals. This study has attempted to contribute to the development of the field by highlighting some contingencies affecting the transformation of social structure into corporate social capital, including network content, group heterogeneity, and task orientation. By drawing in research from other areas, such as group demography and decision processes, this study advances the larger project of positioning social capital within organization theory as a broad analytical framework with the potential to integrate and contribute to a variety of scholarly domains.

NOTES

1. Department of Sociology, Box 1916, Providence, RI 02912; Brooke_Harrington@brown.edu. The author wishes to thank Lotte Bailyn, Gregory Elliott, David Frank, Shaul Gabbay, Peter Marsden, David Meyer and an anonymous reviewer for comments that greatly improved this manuscript.

2. No information was provided about how the sample was selected, although it was described as "nationally representative" and included 1468 individuals, including participants who currently owned investments and those who did not. This is the only study to approximate the scope of the investment club phenomenon in the U.S. See note for further discussion.

3. Investment clubs as an organizational form have existed for about 100 years, but remained a relatively obscure hobbyist movement until the 1990s, when the strong gains in the U.S. stock market led to the establishment of tens of thousands of new clubs (O'Hara & Janke, 1998).

4. It is not clear what proportion of total U.S. investment clubs NAIC represents; not all investment clubs belong to NAIC. Though all investment clubs must register as small businesses with the Internal Revenue Service, this agency's records do not distinguish between investment clubs and other financial organizations, such as accounting firms. NAIC is the only organization that represents U.S. investment clubs, and thus is the only source of aggregate-level data.

5. While the average monthly contribution of an investment club member is \$25, the average price of a stock on the New York Stock Exchange is about \$35 (Thaler, 1993),

not including commissions. The level of financial commitment, combined with the effort involved in doing research on individual investments, is quite substantial. Investment clubs provide an alternative by spreading both the financial risk and the effort of doing research among many people.

6. Since all of this research has been done by finance scholars, the dependent variable is typically the riskiness of investment decisions.

7. While a total of 45 clubs left NAIC during this period, many of the phone numbers and addresses for club contacts were no longer valid. Thus, the data are based on the final sample of 24. In terms of composition, size and location, the clubs that could not be contacted did not appear to be significantly different from those included in this study.

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APPENDIX: SURVEY SCALES

The following indicators were used to compose the variables in the structural equation model:

Net Instrumental Ties

This variable was calculated by subtracting the total number of “yes” answers to the first three questions – indicators of affective ties – from the total number of “yes” answers to the last two questions, which are indicators of instrumental ties.

1. I was a friend of other members prior to joining this investment club.
2. I am related to other members of this investment club.
3. I was a neighbor of other members prior to joining this investment club.
4. I worked with other members before joining this investment club.
5. I attended school with other members before joining this investment club.

Group Heterogeneity (alpha = 0.91)

1. Your Gender: Female ____ Male ____ (Female coded as 1)
2. What is your age, approximately?

Under 21	1
21–29	2
30–39	3
40–49	4
50–59	5
60–69	6
70–79	7
80 and above	8

3. Into which range does your annual household income fall?

Less than \$25,000	1
\$25,000–\$49,999	2
\$50,000–74,999	3
\$75,000–\$124,999	4
\$125,000–\$199,999	5
\$200,000–\$499,999	6
Over \$500,000	7

4. For how long have you been investing? (Include experience outside the club.)
___ years*Task Orientation (alpha = 0.93)*1. Making money is my primary reason for belonging to this investment club.
Y__ N__ (Yes coded as 1)

2. I express my views even when they differ from the majority opinion.

Strongly Disagree				Strongly Agree
1	2	3		4

3. Where do you *most often* get ideas about new stocks to present to the club?

Please circle the one most important source of information:

Opinions of broker/financial adviser	1
Opinions of stock analysts (i.e. Value Line)	2
Tips from friends and relatives	3
Facts from media reports	4
Using company's product	5
Club discussion	6
Your personal portfolio	7

4. I speak frequently in club meetings.

Strongly Disagree				Strongly Agree
1	2	3		4