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Source: *Political Psychology*, Sep., 1998, Vol. 19, No. 3, Special Issue: Psychological Approaches to Social Capital (Sep., 1998), pp. 567-584

Published by: International Society of Political Psychology

Stable URL: <https://www.jstor.org/stable/3792178>

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Social Capital, Social Networks, and Political Participation

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Social Capital is created through the patterns of interdependence and social interaction that occur within a population, and we attempt to understand the participatory consequences of these patterns relative to the effects of human capital and organizational involvement. The production of social capital in personal networks was examined with the use of social network and participation data from the 1992 American study of the Cross National Election Project. The results suggest that politically relevant social capital (that is, social capital that facilitates political engagement) is generated in personal networks, that it is a by-product of the social interactions with a citizen's discussants, and that increasing levels of politically relevant social capital enhance the likelihood that a citizen will be engaged in politics. Further, the production of politically relevant social capital is a function of the political expertise within an individual's network of relations, the frequency of political interaction within the network, and the size or extensiveness of the network. These results are sustained even while taking account of a person's individual characteristics and organizational involvement. Hence, the consequences of social relations within networks are not readily explained away on the basis of either human capital effects or the effects of organizational engagement.

KEY WORDS: social capital; social networks; political participation

The positive relationship between education and political participation is one of the most reliable results in empirical social science. Better educated citizens are more likely to be engaged by the political process, and they are more likely to become involved in various political activities. Moreover, as Wolfinger and Rosenstone (1980) demonstrated, the relationship between participation and education is more than an incidental residue of a generalized relationship between social position and political engagement. Rather, education is the individual characteristic that is perhaps best able to explain variations in relative levels of political activity within most populations. Why is education so important?

As educational levels increase, so do the skills and resources that support higher levels of political participation (Verba, Schlozman, & Brady, 1995). Viewed from a different vantage point, individual education provides the intellectual and cognitive skills that reduce the costs of participation (Downs, 1957), thereby shifting the incentives in favor of individual engagement. Well-educated citizens are more likely to possess a knowledge base that makes it easier to unravel the intricacies of the political process, and they are more likely to possess the cognitive skills that make it easier to absorb and process complex political information (Rosenberg, 1988). In the spirit of Becker's (1964) analysis, we might say that education creates the human capital resources that lead to effortless engagement within the political system.

Individual knowledge and expertise are undeniably important aspects of citizen engagement, and the relationship between education and participation is important evidence in this regard. But the importance of education and human capital for individual citizen engagement might be considered in several additional contexts. First, more highly educated individuals are more likely to be located socially in ways that maximize their exposure to other people who also have higher levels of education (Huckfeldt & Sprague, 1993). Second, and as a partial consequence, the possession of politically relevant human capital may be strongly correlated with the production of politically relevant social capital. Thus, the individual relationship between education and participation might be a consequence not of human capital effects alone, but of social capital effects as well. Hence, unless we take account of the consequences of "social capital in the creation of human capital" (Coleman, 1988), we may incorrectly specify the relationship between human capital and political participation.

What is social capital, and how is it produced? How does social capital become relevant to political participation? What role do social networks play in creating and sustaining politically relevant social capital? These are the main questions that we address in this paper. Building on the observation of Verba et al. (1995) that the contextual literature does not address "the specificities of the networks through which individuals are mobilized" (p. 134), we give deliberate attention to social networks in the creation of politically relevant social capital. Our analyses are based on social network and participation data collected as part of a national election study in 1992 (Huckfeldt, Beck, Dalton, & Levine, 1995).

Social Capital and Social Networks

How are social networks related to the creation and maintenance of social capital? Social capital has been addressed as trust in social relations (Fukuyama, 1995), as civic engagement created through participation in voluntary associations (Putnam, 1995a, 1995b, 1995c), as a social fabric that creates a willingness to cooperate in the development of physical capital (Ostrom, 1994), as an explanatory variable in the generation of human capital between generations (Teachman et al.,

1997), and as an aspect of social structure that facilitates particular forms of action and cooperation (Coleman, 1987, 1988; Greeley, 1997).

Although a great deal of analysis and discussion have focused on an alleged decline in social capital (Fukuyama, 1995; Putnam, 1995a, 1995b, 1995c), little empirical work has been devoted to an exploration of how it is produced and sustained across varying contexts (Greeley, 1997). Yet this is Coleman's mandate in his synthesis of (1) the sociological actor who responds to norms, obligations, and expectations that are specific to a network of social relations, and (2) the economic actor who is purposeful and self-interested in the pursuit of goals (1988, p. S96; see also Popper, 1985; Simon, 1985). Indeed, Coleman resurrected the concept of social capital, in large part based on the insight of Granovetter (1985) and others that individual goals and social influence are best seen within the context of recurrent patterns of social relationships. In other words, social capital is produced by the intentional activities of individuals who are connected to one another by ongoing networks of social relationships. The behavior of Coleman's actor is purposeful, informed by the particular social contexts that undergird the development of social organization. As with other forms of capital, social capital is productive, "making possible the achievement of certain ends that in its absence would not be possible" (1988, p. S98).

We build on Coleman's view to argue that social capital is realized through networks of political communication, thereby enhancing the likelihood that individuals will become politically engaged. Hence, Coleman's concept of social capital may help to explain why citizens participate in politics when it is seemingly irrational at the individual level to do so (Downs, 1957). Moreover, because the possession of human capital is in some settings correlated with the production of social capital, an analytic separation between the two may make it possible to avoid an overemphasis on the self-contained expertise of the citizen and hence an atomistic model of citizenship.

Our effort builds on the analysis of civic skills put forward by Verba et al. (1995), in particular on their analysis of the skills that people acquire through various forms of civic engagement. But there is still a problem in understanding how these processes, or "specificities of the networks" (Verba et al., 1995, p. 134), occur at the individual level. That is, how do networks of social relations provide incentives for civic engagement? And how do social networks operate in ways that are different from the individual-level background characteristics that are typically used within traditional social status models of participation? This is the challenge provided by Coleman: using the concept of social capital to understand the role of individuals within microenvironmental processes.

Individual Purpose and Socially Embedded Politics

Political activity cannot be meaningful unless it is informed, and the cost of information is a primary cost of political participation (Fiorina, 1990). How should

I vote? Where should I vote? For whom should I vote? How else, and for what purpose, should I become politically engaged? These are the questions that motivate political engagement, and the answers are not necessarily inexpensive. Indeed, left to their own devices, individuals may quickly find that the costs of information swamp the realistic expectation of any significant benefit arising from participation. The economies to be realized through the use of socially obtained information were recognized quite prominently in Downs' (1957) early analysis of information costs, and it is our intention to revisit them in the context of social capital.

Social capital is the product of regular and recurrent social interaction, and it "inheres in the structure of relations between actors and among actors" (Coleman, 1988). Thus, social capital is more than individually held knowledge or skills, even though the production of individual-level expertise may be a primary individual-level consequence of the presence of social capital within networks of relationships (Coleman, 1988). Moreover, by focusing on the social relations that give rise to the production of social capital, we emphasize the horizontally constructed networks that undergird the analyses of Putnam (1993) and others.

Social capital, like physical or human capital, is not completely interchangeable; it is not fungible (Coleman, 1988, p. S98). The social capital that develops in a particular neighborhood setting, allowing a parent to feel that children are safe playing in a nearby park unattended, may not travel to a park in another part of town. And it may or may not translate into strategic advice on convincing the police to provide extra park patrols. In other words, the particular relevance of social capital must be studied in specific contexts and settings.

Our primary concern is with "politically relevant social capital"—that is, social capital that facilitates political engagement. By politically relevant social capital, we mean a particular type of social capital that is produced as the consequence of political expertise and information that is regularly communicated within an individual's network of social relations. Building on the work of Downs and Coleman, we expect that politically relevant social capital should enhance the likelihood of individual engagement in politics, enabling citizens to become engaged in ways they might otherwise not. Moreover, we expect these social capital effects to operate independently of involvement in formal organizations, and independently of education and other measures of politically relevant human capital.

By arguing that only some social capital is politically relevant, we are also arguing that some is not. When a group of co-workers exclusively talk about sports at their regular lunchtime gatherings, their interaction may very well produce a set of obligations and expectations that could be defined as social capital. At the same time, unless these networks of relationships are transformed to accommodate political discussion and communication, they are unlikely to be relevant politically—they will produce little in the way of political consequence. It is possible to conceive of an individual, located within an extensive network of social relations, who seldom communicates about politics. In comparison to a social isolate who is

similarly disengaged from political communication, such an individual is perhaps better situated to obtain political information and expertise through the accumulation of multiple interaction opportunities, and we will consider this possibility in the analyses that follow.

We begin with the assumption that social capital is produced through networks of relationships, and that an absence of such relationships is the equivalent of no production of social capital. Politically relevant social capital, in turn, is created as the consequence of *political* interaction within these networks. The specific dimensions of social capital that create a heightened potential for political relevance include the number of individuals in one's network, the level of political knowledge and expertise among the people in an individual's network, and the frequency of political interaction with others in the network.

Measuring Social Capital

Politically relevant social capital is measured in terms of communication about politics within an individual's recurrent networks of social relations. We obtained data on individuals and their networks from the 1992 American study of the Cross National Election Project. In this post-election national survey, 1,318 main respondents were asked to provide the first names of individuals with whom they discussed important matters. After they had provided four names, or after they had run out of names to provide, they were asked if there was someone else, not previously named, with whom they discussed the events of the 1992 presidential election campaign.¹

On the basis of this name generator, ego-centric networks (which included up to five discussants) were defined for our respondents. Table I shows the distribution of network size for the sample. The median size of the networks was three discussants, and about 60% of the respondents named three or fewer discussants. At the extremes, nearly 9% did not report any discussants, while almost 22% reported five discussants. Because the network was not defined solely or even primarily in terms of politics, we were able to examine the political expertise and information potential that was contained within our respondents' everyday networks of social relations.

After a network was thus identified, the main respondent was asked a battery of questions about each discussant. All the information thus obtained was based on

¹ The first name generator was read as follows: "From time to time, most people discuss important matters with other people. Looking back over the last 6 months, I'd like to know the people you talked with about matters that are important to you. Can you think of anyone?" The interviewer followed up an affirmative response with, "Is there anyone else you talk with about matters that are important to you?" for up to four names. The presidential election name generator was then read: "Aside from anyone you have already mentioned, who is the person you talked with most about events of the recent presidential election campaign?" for a total of five possible discussants named in the respondent's personal network.

Table I. Overview of Personal Network Size

Number of Political Discussants	Frequency	Percent
0	109	8.48
1	224	17.42
2	198	15.40
3	240	18.66
4	236	18.35
5	279	21.70
Total	1,286	100.00

the knowledge and perception of the main respondent, and we used it to provide various discussant characteristics, including their levels of education, their levels of knowledge about political matters, and the frequency of political discussion between the respondent and the discussant. We used these data to construct three measures related to the production of politically relevant social capital in the respondents’ personal networks: network size, political interaction frequency, and network expertise.

The first measure is related to the average frequency of interaction regarding politics within a particular network. Coleman (1988) emphasized the importance of time spent in interaction and discussion as being central to the production of some types of social capital (pp. S109–S110). If a given respondent interacts with his or her discussants about political matters on a frequent basis, we expect that there is a greater opportunity for the communication of political information and expertise. Respondents rated their discussion frequency with each discussant on a scale ranging from 0 (never) to 3 (often).² The particular values for each discussant were used to create an average frequency for the network as a whole, rescaled on a 0,1 interval. Hence, the resulting measure is the mean perceived frequency of political interaction with each member of an individual’s network. This standardized measure of political interaction frequency allows a comparison to be made between respondents that is independent of the size of their networks. Our expectation is that, as the frequency of political interaction with discussants increases, so should the production of politically relevant social capital, thereby enabling the respondent to become more fully engaged in a wider range of political activities.

A measure of political expertise within networks was developed using similar procedures, based on main respondent reports regarding their discussants’ levels of education and knowledge about politics. Ratings of education level were coded 1 = less than a high school education, 2 = high school, and 3 = college or more. Respondents rated their discussants’ level of knowledge about politics on a scale

² The survey item measuring the frequency of interaction between the respondent and his or her discussants was “When you talk with [name of discussant], do you discuss political matters: (1) often, (2) sometimes, (3) rarely, or (4) never?”

ranging from 1 (not much) to 3 (a great deal).³ These two items were added together for each discussant, and a discussant mean was calculated for the network as a whole, rescaled on a 0,1 interval. Once again, this final calculation makes possible a standardized measure of discussant quality that is independent of network size. We expect that, as the mean political expertise within a network increases, so should the generation of politically relevant social capital, thereby resulting in an enhanced likelihood of political engagement.

Finally, the extensiveness or size of a network might be important to the development of politically relevant social capital in several ways. First, and most directly, network size should serve to multiply the frequency and expertise of individual discussants. But just as important, network size may result in social capital benefits that are independent of the particular characteristics of discussants considered singly. If we assume that larger networks are less likely to be fully interconnected, then larger networks should be more likely to include independent sources of information and expertise, thereby increasing the diversity and richness of the information transmitted regarding politics (Granovetter, 1973; Huckfeldt et al., 1995). Finally, even if an individual seldom talks about politics, and even if he or she is surrounded by other individuals who are particularly inexperienced with respect to politics, the proliferation of contacts stochastically increases the odds that politically consequential information will be communicated. Hence, along several dimensions, people embedded in larger networks are more likely to be exposed to the information and skills that facilitate political activity (Verba et al., 1995).

Social Structures and Human Capital

Who can doubt that the production of social capital is facilitated by social structures such as voluntary associations, the workplace, and various membership organizations (Coleman, 1988)? The alternative is to suppose that Putnam's (1993) horizontal networks of social relations are produced as the sole consequence of individually defined idiosyncratic preference. Clearly, citizens who choose to join organizations and voluntary associations have an opportunity to meet more people, to develop more extensive systems of social relationships, and hence to become more fully engaged in civil life (Verba et al., 1995). At the same time, however, some individuals are more likely to be organizationally engaged than others. Hence, we have a complex set of relationships between the individual (human capital) characteristics related to organizational activity, the production of social capital that is likely to be encouraged by such activity, and the relative consequences of human capital, organizational activity, and social capital for political engagement.

³ The item measuring the discussant's level of knowledge about politics was "Generally speaking, how much do you think [name of discussant] knows about politics? Would you say: (1) a great deal, (2) an average amount, or (3) not much at all?"

The purpose of the present effort is to understand more completely the microenvironmental processes underlying the production of social capital. In other words, what are the network conditions that facilitate the production of social capital between persons in socially embedded contexts, regardless of whether this production takes place at the encouragement of social structures such as membership organizations? Thus, we begin the analysis by examining the relationship between social network construction and membership in voluntary associations (Putnam, 1994), as well as the relationship between organizational activity and various measures of human capital.

A measure of individual organizational involvement was constructed as a count of the organizations to which the respondent reported belonging, resulting in a value from 0 to 14.⁴ This variable captures a wide range of possible organizations and voluntary memberships, such as professional and work-related associations, religious organizations, and support groups. In line with well-established research, we expect that persons who join more organizations will be more politically engaged and report participation in a greater range of types of political activities (Verba et al., 1995). More important for this study, this measure sheds light on the relative importance of social networks, individual characteristics, and organizational involvements in encouraging political involvement.

Does this specification completely untangle the influences that result from the separate but interrelated social structures of voluntary associations and personal networks? Not entirely. We do not know, for example, to what extent a person's social network overlaps with relationships in membership organizations. But by taking into account a person's reported memberships in organizations, we are able to unravel at least some of the effects attributable to these two types of structural relations, as well as to understand their contributions relative to individual predictors of political engagement.

Several individual-level variables were included in the analysis, both to locate individuals in the social structure and to provide human capital measures of individually based civic capacity and expertise. In light of Burt's (1990) compelling analysis showing that network size declines as a function of age,⁵ we included age as a predictor of social capital production. We also included a variable for whether the respondent is white, in order to consider whether minority status has an effect

⁴ The organizations that a respondent may report belonging to include labor unions; business or professional associations; farmers' associations; women's rights groups; church or religious groups; environmental groups; public interest groups; fraternal organizations (lodges or sororities); sports or gun clubs; neighborhood associations; veterans' organizations; civic groups (PTA or Board of Education); ethnic, racial, or nationality associations; support groups; and any other type of organization not listed previously.

⁵ Respondents' ages ranged from 18 to 92 (respondents less than 18 years of age were dropped from the sample).

on the production of politically relevant social capital in personal networks.⁶ Other control measures that are crucial to include are the traditional socioeconomic variables that are the foundation of the political participation literature: the respondent's income and education.⁷

In summary, the production of politically relevant social capital through networks of social relations is affected by various individual-level factors and by organizational affiliations and memberships. All three sets of factors—individual characteristics, networks of relationships, and organizational involvements—are considered in our analyses. To understand the production of politically relevant social capital in personal networks, we must also consider the joint relationships that are present among various measures of individually based civic capacity and expertise (human capital), organizational membership and involvement, and the construction of networks of relations among individuals.

The first step in understanding the production of politically relevant social capital within networks of social relations is to consider the influence of various individual characteristics on the social structure of organizational membership. Table II regresses the measure of organizational membership on several characteristics of respondents (age, income, level of education, minority status, and whether the respondent reported working for pay). All these variables show discernible effects on the likelihood that respondents are organizationally involved. As people earn more income, attain higher levels of education, become employed, and get older, they report joining more organizations. Moreover, minorities are more likely to report organizational memberships.

None of this is too surprising. Various individual-level measures produce increased likelihoods of organizational affiliation. The close relationships between organizational affiliations, human capital, and the other individual-level measures makes it even more apparent that conceiving social capital wholly in terms of organizational involvement runs the risk of creating a measure of social capital that is simply a function of individually defined characteristics and expertise. In short, we run the risk of creating measures of social capital that are, in fact, the simple residue of human capital.

Social Capital, Social Structures, and Human Capital

Clearly, the individual characteristics related to human capital are significant predictors of organizational membership. But do they also predict the production of social capital within networks of social relations? The location of an individual

⁶ Respondents were coded as 0 = minority status, and 1 = white. Respondents who reported that they were Latino were coded as minority status.

⁷ Income was an ordinal measure of the household income, coded as 0 = less than \$15,000, 1 = \$15,000–\$34,999, 2 = \$35,000–\$50,000, 3 = \$50,000–\$75,000, and 4 = more than \$75,000. Education was measured in years of education reported, with a ceiling of 20 years.

Table II. Influence of Human Capital on Reported Organizational Memberships

Independent Variables	Coefficient (SE)	<i>t</i>	<i>P</i> > <i>t</i>
Income	.3081** (.0479)	6.431	.000
Work for pay	.3444** (.1209)	2.848	.004
Education	.1876** (.0214)	8.783	.000
White	-.5397** (.1547)	-3.488	.001
Age	.0176** (.0034)	5.117	.000
Constant	-1.2095** (.3572)	-3.386	.001

Note. Coefficients estimated using OLS. Number of observations = 1,125; $R^2 = 0.1658$; $F(5, 1125) = 44.48$; adjusted $R^2 = 0.1621$; Prob > $F = 0.0000$; root MSE = 1.7994.

** $p \leq .01$.

in the social structure is at least partially defined relative to the characteristics of the individual. For example, highly educated individuals are more likely to be surrounded by other highly educated individuals (Huckfeldt & Sprague, 1993). In this way, conditions are enhanced for the production of social capital through shared patterns of interaction among people who are *already likely* to be politically well informed and expert at the individual level. Similarly, people who belong to organizations are more likely to interact with other members of these organizations, and to the extent that members of the organizations are more likely to be engaged in political matters, they are also more likely to interact with people who are more fully engaged by politics. In other words, politically expert individuals may realize a significant advantage in the production of social capital for the simple reason that they are better positioned to exploit the availability of other individuals who are also politically expert.

Thus, the next step in examining the generation of social capital in social networks is to consider whether human capital and the social structure of organizational membership influence the previously specified dimensions of social capital. In Table III, all three dimensions of politically relevant social capital developed in this study are regressed on the human capital and organizational membership variables, and the results are somewhat complex.

The level of the respondent's education is the only variable that is positive and statistically discernible across all three dimensions of politically relevant social capital. As a person's level of education increases, we see that a higher level of politically relevant social capital is generated within their networks of social relations, across all three dimensions. This finding is consistent with other information we have about networks: Citizens located in diffuse networks that extend beyond very closely cohesive groups are more likely to be highly educated, organizationally involved, and exposed to information from more social groups (Huckfeldt et al., 1995). Similarly, as Table III suggests, individuals with higher levels of education are also likely to benefit from a higher level of politically relevant social capital within their networks.

Table III. Influence of Human Capital and Organizational Membership on Three Dimensions of Politically Relevant Social Capital

Independent Variables	Political Expertise of Networks ^a	Political Interaction Frequency with Discussants about Political Matters ^b	Personal Network Size
Organizational memberships	.0074** (.0027)	.0034 (.0032)	.0868** (.0257)
Income	-.0018 (.0043)	.0147** (.0053)	.1511** (.0420)
Work for pay	-.0183 (.0108)	-.0003 (.0131)	.0235 (.1045)
Education	.0139** (.0020)	.0088** (.0024)	.0802** (.0190)
White	.0001 (.0142)	-.0130 (.0172)	.4148** (.1340)
Age	.00003 (.0003)	.0011** (.0004)	-.0122** (.0030)
Constant	0.4773** (.0323)	0.4365** (.0392)	1.4651** (.3092)
N	1,031	1,031	1,125
R ²	0.071	0.0447	0.1029
F	13.05	7.99	21.37

Note. Coefficients estimated using OLS. Standard errors are given in parentheses.

^aThe political expertise of the networks was developed by adding the discussants' level of education and their knowledge about politics. The level of education was coded as 1 = less than high school, 2 = high school, and 3 = college or more. The discussant's level of knowledge about politics was coded as 1 = not much, 2 = average amount, and 3 = a great deal. The value for each discussant was added together, creating a single value for all the discussants in the network, with a ceiling of 30. The final variable was calculated by dividing this value by the number of discussants the respondent reported, multiplied by 6 (the range of individual discussant expertise values).

^bThe frequency with which the respondent discusses politics with each discussant was coded 0 = never, 1 = rarely, 2 = sometimes, and 3 = often. The individual values for each discussant in a respondent's network were then added together to create a single value of up to 15 for that network. The final variable was created by dividing the cumulative value by the number of discussants reported, multiplied by 3 (the range of possible values for each discussant).

***p* ≤ .01.

Whether respondents reported working for pay does not produce a statistically discernible effect in explaining the production of social capital. Likewise, whether respondents reported being white or of minority status does not appear to influence the quality or the frequency of political interaction within their networks, but it does explain differences in network size (minority respondents reported smaller networks).

A respondent's age produces statistically discernible effects on political interaction frequency and network size, but not on network expertise. Table III shows that older age predicts more frequent political interaction within social networks, and, in keeping with Burt's (1990) results, smaller network size. As a person gets older, these results suggest, the relative frequency of political interaction with a particular discussant increases, but the number of discussants decreases. However, age is *not* a predictor of the political expertise within networks.

The social structure of organizational membership is significant and positive in explaining two dimensions of politically relevant social capital: network expertise and network size. People who report belonging to more organizations are more likely to have larger networks, and the average member of their network has a higher level of political expertise. Interestingly, and perhaps not surprisingly, the number of organizational memberships reported does not covary with the reported frequency of political interactions between respondents and their discussants (see Mondak & Mutz, 1997).

The effect of income is positive and statistically discernible in explaining two of the dimensions of politically relevant social capital: political interaction frequency and network size. Higher income individuals are more likely to have larger networks, and they are more likely to talk about politics more frequently within their networks.

Social Capital and Political Participation

Thus far we have examined the influence of human capital and various other individual-level characteristics on organizational membership. All produced statistically discernible effects, including income, education, age, working for pay, and minority status. We then looked at the effects of these individual characteristics and organizational memberships on the production of three dimensions of politically relevant social capital. Here the analysis becomes more complicated, with these measures producing less consistent patterns of effects. Indeed, education is the only variable that has a consistent and discernible effect across all three dimensions of politically relevant social capital.

The final step is to use this conceptualization of social capital as an analytical tool for considering whether it helps to explain “the achievement of certain ends that in its absence would not be possible” (Coleman, 1988, p. S98). In terms of our analysis, does it enhance the likelihood of political participation? As a dependent criterion variable, we used an index of participation in the 1992 election campaign. This measure is built on the assumption that a citizen who is more engaged politically will have more political actions available in their repertoire, consistent with Coleman’s (1987, 1988) assertion that social capital facilitates particular actions. Because we are concerned with the development of politically relevant social capital, and social capital is not interchangeable, it follows that one significant by-product of politically relevant social capital is a proclivity to become engaged in a wider range of political activities during the 1992 presidential campaign. The participatory activities included in the measure are (1) working for a party or candidate, (2) attending meetings or election rallies for any party or candidate, (3) displaying a political yard sign, bumper sticker, or campaign button, (4) donating money to a political party or candidate, and (5) voting in the 1992 presidential election. Hence, the resulting measure varies from 0 to 5 activities reported.

What are the consequences of social capital for political participation? To address this question, we regressed the index of political participation on the three measures of social capital as well as on the individual characteristics and organizational membership variables. The results of the regression are shown in Table IV. All three dimensions produce discernible effects in influencing citizens to be engaged in a broader repertoire of political participation. In other words, the production of social capital encourages citizens to become more engaged politically, through their participation in a broader range of traditional political activities. This is true even while controlling for citizens' membership in various business, professional, and voluntary organizations, as well as their personal characteristics. The ordinary least squares (OLS) regression reveals crisp *t* statistics for each of the social capital variables, and the coefficients for the three dimensions of social capital all lie in the expected positive direction.

In short, as political expertise within the network increases, so does individual involvement in politics. Similarly, as the frequency of political interaction within the network increases, so does the likelihood of participation. Finally, when individuals are located within larger networks of social relations, they are also more likely to participate in the campaign.

As expected, the index of the number of organizations to which the respondent belongs also produces a discernible effect. In line with other research on political participation, individuals who are joiners appear to develop skills that make them more likely to become politically engaged in a wider range of political activities (Coleman, 1988; Verba et al., 1995). Although this finding is not surprising, it is noteworthy that the production and effect of politically relevant social capital occurs *apart* from the influence of joining membership organizations.

The three individual-level variables—the respondent's income, age, and education—performed in line with expectations based on the political participation literature. Income, when controlling for other personal characteristics such as education and age, does not produce a discernible effect. However, education and age do produce discernible effects. Higher levels of education result in engagement in a wider range of political activities, and older people are also more likely to be active politically (Verba et al., 1995). Once again, however, our social capital measures produce effects that are independent and separate from the effects of individually defined civic capacity.

Separate Dimensions and Contingent Effects

This analysis has examined three dimensions of social capital—political expertise, frequency of political interaction, and network size—and it has shown that each has an effect on the level of individual political engagement. Is it plausible to suppose that the three dimensions of social capital operate independently to affect political engagement? Can we really define political expertise, communication frequency, and size as three separate dimensions of these networks of relations

Table IV. Influence of Politically Relevant Social Capital on Political Participation
Controlling for Membership in Organizations and SES

Independent Variable	Coefficient (SE)	<i>t</i>	<i>P</i> > <i>t</i>
Political expertise of network	.7756** (.2028)	3.824	.000
Political interaction frequency with discussants	.9824** (.1550)	6.340	.000
Personal network size	.0469* (.0226)	2.074	.038
Organizational memberships	.1317** (.0160)	8.249	.000
Income	.0211 (.0261)	0.809	.419
Education	.0294* (.0124)	2.374	.018
Work for pay	-.061 (.0647)	-0.943	.346
White	-.0365 (.0850)	-0.430	.668
Age	.0062** (.0019)	3.200	.001
Constant	-0.9756** (.2202)	-4.430	.000

Note. Coefficients estimated using OLS. Number of observations = 1,031; $R^2 = 0.2044$; $F(9, 1021) = 29.15$; adjusted $R^2 = 0.1974$; Prob > $F = 0.0000$; root MSE = .92443.

* $p \leq .05$, ** $p \leq .01$.

that are each independently responsible for the production of politically relevant social capital? Perhaps not, and hence it is worthwhile to pursue a strategy that makes the effect of each dimension contingent on each of the others.

A comprehensive attack on the problem would be to add four interaction terms to the Table IV model: three two-way interactions between each of the separate network properties and one three-way interaction. The problem with such a strategy is that it runs afoul of an observational dilemma—collinear regressors—and hence we are unable to pursue it. One alternative specification of the model includes each of the three dimensions as well as two two-way interactions: an interaction between network size and network expertise, and an interaction between network size and political discussion frequency. This specification is particularly compelling if one asserts, as we do, that network size is a crucial dimension of social capital production. In an analysis not shown here, the model produces two discernible effects—one for network expertise and another for the interaction between network size and the frequency of political discussion. Thus, such a model would support an interpretation suggesting that the political relevance of social capital can be conceived along two dimensions—one related to the expertise of communication and another related to the volume of communication.

If one is willing to discard econometric caution entirely, a third specification can be estimated, which includes each of the three dimensions as well as their three-way interaction. In an analysis not shown here, this model produces a coefficient for the interaction term that is positive and statistically discernible, but with the addition of the interaction term, independent effects for each of the three dimensions are, at most, marginally discernible. Moreover, the sign for network size lies in a reversed direction. In summary, although it is entirely plausible that there are important interdependent effects that result from network size, network

expertise, and frequency of political discussion, the observational limitations of correlated regressors keep us from resolving this problem.

Conclusions and Implications

What is the political relevance of social capital? Social capital is only created through the interactions and patterns of interdependence that occur within a population, and it is specific to the relationships that exist among the members of a group or population. Thus, social capital cannot be defined on the basis of individual characteristics, or even on the basis of individual organizational memberships, because social capital is not possessed by individuals. Rather, it is produced through structured patterns of social interaction, and its consequences for individuals must be assessed relative to these patterns of interaction. Moreover, it is important to understand the consequences of these patterns of interaction in order to specify correctly the relationship between human capital and political participation and the consequences of organizational involvement for political activity.

In this paper, we have examined the manner in which networks of social relations serve to orient people with respect to their engagement in politics (Segal & Meyer, 1974). Further, we have attempted to build a foundation for studying the production of social capital in personal networks, an important concept of interest in understanding citizen engagement (Coleman, 1988). We begin with the assumption that networks of social relations are primarily responsible for the communication and transmittal of political information and expertise among and between groups and individuals (Granovetter, 1973, 1985; Huckfeldt & Sprague, 1995). Moreover, we consider social capital as a by-product of these social interactions that enhances individual civic capacity and political expertise, thereby allowing individuals to become more fully engaged in politics (Coleman, 1988). To combine the insights of Coleman and Downs, we argue that social capital serves to enhance human capital on the cheap.

Our results suggest that politically relevant social capital is indeed generated in personal networks; that it is a by-product of the social interactions with a citizen's discussants; and that increasing levels of politically relevant social capital enhance the likelihood that a citizen will be engaged in politics. Further, the production of politically relevant social capital is a function of the political expertise within an individual's network of relations, the frequency of political interaction within the network, and the size or extensiveness of the network. These results are sustained even while taking account of a person's individual characteristics and organizational involvement, and hence the consequences of social relations within networks are not readily explained away on the basis of either human capital effects or the effects of organizational engagement.

At the same time, however, we acknowledge that our results are vulnerable to an argument based on the simultaneity of political involvement and politically relevant social capital. People who are politically engaged are oftentimes exposed

to other people who are similarly engaged, and indeed they might be expected to seek out associates who share their political passions and interests. We have addressed these issues in different contexts (Huckfeldt et al., 1995; Huckfeldt & Sprague, 1995), and they warrant a more extended examination in the present context. But the reader should be advised that similar issues confront studies of organizational effects on political involvement, and indeed even studies of the participatory consequences of individually defined civic capacity. If people who are politically engaged seek out others who are similarly engaged, then the *direct* consequences of individually defined civic capacity are still less than clear. It might indeed be the case that the true significance of individually defined civic capacity is that such individuals locate themselves in networks of relationships that sustain political engagement. Hence, even if we accept the importance of individually defined motivation, ignoring social capital may very well misspecify the political consequences of human capital.

We do not intend to diminish the importance of organizational involvement for political engagement, but these results would seem to call into question an excessive focus on organizational involvement and its consequences for the production of social capital (Putnam, 1995c). The present debate over the purported decline of organizational involvement would not be the first time that an excessive focus on formal organizations has overlooked the importance and irrepressibility of informal relations such as those we are studying (Kornhauser, 1959; Tonnies, 1887/1957; Wirth, 1938). At the same time, organizational involvement has profound consequences, both for informal relations and for political engagement, and we do not intend to argue otherwise (Mondak & Mutz, 1997).

We have stressed the importance of social capital that is politically relevant, but we would be remiss in not emphasizing that, even when network expertise and the frequency of political discussion are taken into account, the size of the network enhances the likelihood of individual political engagement. Other work suggests that larger networks of association—networks that reach beyond the small, cohesive confines of a friendship clique—tend to expose individuals to larger and more heterogeneous climates of opinion (Huckfeldt et al., 1995; Pappi, Huckfeldt, & Ikeda, 1998). Hence, the size and construction of these networks appear to be crucial factors affecting the relationship between citizens and political systems, and additional questions quite naturally arise. Does the political diversity within these networks influence the production of social capital? Does political heterogeneity and disagreement offset the positive effects on engagement by increasing individual levels of political disagreement and ambivalence? In summary, the individual consequences of the social capital generated through networks of social communication are not always straightforward or obvious, and we have only begun to understand the political consequences.

Finally, our analysis supports the argument that particular types of politically influential social capital are produced through networks of interaction among individuals. In particular, politically relevant social capital is generated within

networks of social relations because of the expertise of discussants, the frequency of political discussion, and network size. Moreover, the presence of this politically relevant social capital produces the “achievement of certain ends that in its absence would not be possible” (Coleman, 1988, p. S98). Those ends are an enhanced level of political engagement among the individuals who are located in these networks, and hence social capital produces an important political consequence by encouraging wider participation in democratic processes.

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