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A Network Perspective on State-Society Synergy to Increase Community-Level Social Capital

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Abstract

"Can state—society synergy be created in the short run, or does it require historically deep institutional and normative foundations?" In other words, what role can an outside party—such as a government or state actor—play in constructing social capital when it is not a permanent fixture of the existing interrelationships within a community? Taking a network perspective, this exploratory research examines community-level social capital outcomes of a government-led intervention. Operationalized as social networks, social capital is measured as an increase to the strength of weak ties and reduction in redundancy among exchange relationships. Findings suggest that state—society synergy has the potential to increase bridging social capital in communities. In addition, communities with higher levels of cohesion and connectivity pre-intervention results in greater increases to social capital, and although trust plays a crucial role in development of social capital, the influence organizations are perceived to have does not.

Keywords

social networks, state-society synergy, social capital, national service

Evans (1996) asks, "Can state–society synergy be created in the short-run, or does it require historically deep institutional and normative foundations?" (p. 1119). In other words, what roles can an outside party—such as a government—play in constructing social capital when it is not a permanent fixture of the existing interrelationships

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within a community? A careful survey of the extant literature suggests that it is yet unclear exactly which type of government agency is best suited as a collaborator within communities in the construction of social capital. At the heart of this question is the degree of autonomy and embeddedness that a public agency possesses and how that characteristic affects its relationship with the nonprofit community. Some suggest that we must look at the state's internal structure and, more specifically, the character of the state–society relations (Evans, 1996).

In this article, the state–society relations are operationalized by the interactions that evolve at a systems (that is, network) level. Relations that involve the exchange of resources and knowledge among the public, private, and nonprofit sectors are the norm and certainly the latest trend in successful social service models (Gulati & Gargiulo, 1999; Isett & Provan, 2005; Mandell, 2001; Monge et al., 1998; Westley & Vredenburg, 1997). Networks of community organizations working for a common purpose are thought to increase community capacity to meet social needs (Monge et al., 1998; Parker & Selsky, 2004). The benefits of multisectoral community networks include the following: (a) They pull diverse groups and resources together, and (b) they address issues that no group can resolve by itself (Witte, Reinicke, & Benner, 2002). Blau and Rabrenovic (1991) found that in the nonprofit sector

interorganizational linkages are more important than bureaucratic hierarchies for controlling and coordinating work . . . linkages are used to integrate programs within a community, coordinate client services, obtain resources, and deal with governmental agencies . . . organizations in the nonprofit sector have more complex links than those in the profit-making sector. (p. 328)

Under the auspices of collaborative governance, the nonprofit sector (operationalized here as civil society) commonly plays the role of expert in the facilitation of social capital outcomes among such partnerships, leaving it unclear whether the government (in this article, operationalized as the state) can successfully play a similar role. The research question that is explored in this article is as follows: Can the state, acting on its own or through the nonprofit sector, implement public policy in communities to increase levels of social capital at the macro (community) level?

This article will examine community-level social capital outcomes of a state-led intervention—that of the implementation of the National and Community Service Act (1993) that created a new type of relationship between civil society and the state. Specifically, this bill established the AmeriCorps programs and in turn the direct provision by the state of personnel to work in the nonprofit sector. Under the auspices of the Corporation for National Service (CNS), AmeriCorps volunteers have since been placed in a variety of positions in many communities, funded partly by the nonprofits with whom they work and partly by the federal government. This shift has intensified the collaboration between the sectors and underpins the phenomenon of increased collaborative governance. A stated goal of the CNS reflects the focus on engaging

community networks to improve social capital. One section of the mission statement of the CNS reads as follows: "The Corporation will foster civic responsibility, strengthen the ties that bind us together as a people, and provide educational opportunity for those who promise to serve" (CNS, 2002).

Much of the literature that looks at the role of the state in civil society defines both the *state* and *civil society* in various ways, depending on context. Muukkonen (2009) asserts that there are, namely, almost a dozen different meanings for it, depending on the culture and discipline that is using the terms. For this research, the state is regarded as formal public institutions, that is, the government. Civil society is referred to as community organizations and the people within them, largely making up the nonprofit sector, that "includes not only all kinds of autonomous associations, co-operatives, social movements, mutual help and other informal groups but families and informal personal networks, too" (Muukkonen, 2009, p. 686). Specifically, in this research the state refers to the AmeriCorps National Civilian Community Corps (NCCC; a federally funded and managed program that is part of the CNS) and civil society refers to the nonprofits with which they partner to address social policy problems.

This article is organized into six sections. The first explores the debate regarding the appropriate role of the state in creating social capital, the second section reviews how proponents of state–society synergy envision the role of government be implemented, the third section discusses how social networks are operationalized as social capital, the fourth section describes the methods, the fifth section presents the social network analysis (SNA), and finally the article ends with a discussion of the findings.

The State–Society Synergy Debate

Americans characteristically "lack a sense of state for many understandable historical reasons" (Skocpol, 1997, p. 349). Feelings of suspicion and threats of oppression by the state cloud the minds of many Americans. The assertion that the state might work for the people—building community by fostering the growth of voluntary associations, resulting in social capital within civil society—is often met with skepticism. However, "those who say that American's modern system of social provision have choked off—or crowded out—voluntary activity in civil society could not be more wrong" (Skocpol, 1997, p. 18). In fact, Skocpol (1997) highlights "recent research which underscores the importance of the U.S. federal government in promoting a vibrant civil society" (p. 16).

This idea that the state can work together with civil society as the facilitator, provider, or enabler of policy that results in social capital has been coined *state–society synergy*. State–society synergy asserts that active government and mobilized communities can enhance each other's developmental efforts (Evans, 1997). This synergy provides mutually supportive relations between the sectors, possibly leading to outcomes associated with increased levels of social capital. For example,

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Huntoon (2001) found that such state–society synergy increased social capital of organizational leaders and the organizations as representatives of individuals. In addition, community development practitioners have demonstrated the role that the state might play in social capital construction (Potapchuck, Crocker, Schechter, & Boogaard, 1997).

Although scholars such as Huntoon (2001), Potapchuck et al. (1997), Skocpol (1997), and Warner (1999, 2001) argue for a central role for government to help construct social capital, Etzioni (1993) and Fukuyama (1995) argue that the state is inherently ill suited for such a task. Although proponents of social capital, such as Fukuyama (1995, 2002), would agree that developing horizontal ties between community members is the preferred way to develop the interconnectedness necessary for construction, he would not agree with the idea that a state intervention would increase the propensity for people to create these horizontal ties. He asserts that the strength of social capital construction lies in the nonprofit sector and that these groups should "recognize that what they're doing is an important component to building a modern, democratic, society. It is important to build as much of a civic infrastructure as possible" (Fukuyama, 2002, p. 75). From this viewpoint, the government should be an outside actor whose role is not to participate in the construction of social capital.

In addition, there are barriers that exist to the creation of this synergy and its potential outcome of increased social capital. For example, it is questionable whether communities must possess a certain level of social capital already for synergy to occur. If this is the case, then these positive outcomes may be out of reach for most groups. However a constructability perspective is more optimistic, in which case a community's ability to complement the state, tapping into its available stock of social capital (be it small or large), is the foundation for which higher levels of social capital can result (Evans, 1997). Other barriers include such features within society such as the degree of inequality (putting synergy out of reach for certain populations), the inflexible nature of government institutions, and political regimes and the basic patterns of interest conflicts in society (Evans, 1997).

Although most social capital literature aligns with Fukuyama in denying a positive role for the state, others (Huntoon, 2001; Warner, 1999, 2001) disagree. Huntoon (2001) found that the state can effectively construct social capital at the community level. She claims that "policy objectives not obtainable as a result of direct action by government may be reached by creation of social capital by associations . . . voluntary and charitable associations can provide a channel for government in fostering social capital" (p. 157). Warner (2001) likewise asserts, "Local government, directly or through support to participatory community-based intermediaries, can promote the development of community social capital" (p. 387). Most pivotal to the development of such partnerships is the need for a level of public capital infrastructure from within the community. In "areas where such social capital infrastructure is weak, government can help build it by decentralizing programs to the neighborhood level" (Warner, 2001, p. 187).

If State-Society Synergy Is Possible, What Shape and Structure Is Most Appropriate?

When synergy is successful, the most successful government intervention is thought to embody a facilitative, participatory structure and involves participants as partners, not clients, in program design. Warner (2001) found that "formal government institutions represent important resources in terms of funding, power, and expertise . . . where these resources can be decentralized and control shared with local residents, the impact on social capital development and governmental transformation can be dramatic" (pp. 189-190). Huntoon (2001) explains that the role of government providing a channel for the creation of social capital is a delicate one because this is a public good that the government does not traditionally provide directly. Therefore, "voluntary and charitable associations can provide a channel for government in fostering social capital" (Huntoon, 2001, p. 157). This channel between the state and voluntary and charitable associations is the focus of this research.

The favored shape and structure of state–society synergy is one where the state acts through the nonprofit sector to facilitate the construction of social capital. Evans (1997) describes a type of synergy called complementarity where "the state provides the necessary ambience, but public agencies are not directly linked to societal actors" (p. 180). In this way, the "state's contribution to social capital is general and from a distance" (p. 180). This method of provision of resources and rules by the state provides capacity for communities to improve their social capital, without directly providing any services, leaving it up to citizens to do the work. This structure is the model that the AmeriCorps NCCC plays out in implementation.

An important element of this synergy is the possibility that, in given situations, government regulations or financial support can strip the nonprofit organization of its uniqueness and replace it with required bureaucratic standardizations and thus threatens to replace the empathy and activism that is the norm of the nonprofit sector. If this were true, the government, by weakening the character of the nonprofit organizations, would be contributing to the atrophy of the very entity-civil society-it seeks to improve. Smith and Lipsky's (1993) research highlights that nonprofits can reflect the government agencies (both federal and local) that provide their funding, resulting in a loss of characteristics that identify the uniqueness of the nonprofit sector. Thomson and Perry (1998) note that "when you have federal funding as the prime source, the community tends not to own that project and see it as just another government program" (p. 405). Others argue that government must shift its role from controller, regulator, and provider to a new role of catalyst, convener, and facilitator (Crocker, Potapchuck, & Schechter, 1998). Conceptually, government can help build social capital in infrastructures where it is weak by decentralizing programs to the neighborhood level in collaboration with the nonprofit sector (Schneider, 2007; Smith & Lipsky, 1993; Warner, 2001).

National Service as the Vehicle Used by the State to Construct Social Capital

How can the state provide the framework to increase social capital in a community? The AmeriCorps NCCC program provides an example of how the state provides the necessary framework to foster state-society synergy, using organizations within the nonprofit sector to funnel programs through, without having direct intervention with the recipients of services (the model purported by Evans as most appropriate). AmeriCorps is managed under the CNS and consists of several different branches, including VISTA, State and National, Education Award Programs, Promise Fellows, and the NCCC. The NCCC is a relatively small public program, in comparison to other AmeriCorps (and alternative government) programs, in size; however, the NCCC is the most expensive of the AmeriCorps programs. Given this context, the evaluation of this program is important to its sustainability, especially in light of prior evaluation of this program resulting in less than positive outcomes. The NCCC is a 10-month, full-time community service program for men and women aged 18 to 24. Each volunteer applies for the program and is assigned to a campus. After a 6-week training period (at a Corps Member Training Institute), volunteers are dispersed throughout their region to work on projects jointly designed in advance by the NCCC and sponsoring communities. The NCCC places teams of 10 to 12 volunteers in communities beset by environmental, educational, public safety, or human needs problems. For 6 to 8 weeks, the NCCC members work with a national or local nonprofit organization or a government agency, engaging in various defined community service activities. On the completion of a volunteer's term of service, an education grant is awarded to the volunteer.

Sponsoring communities (representing civil society) request that an NCCC team assist them in a community service project in one of the areas listed above. For the purpose of this research, the term *sponsoring community* was chosen because a non-profit organization or government agency must be awarded a grant through the CNS, which allows it to sponsor a NCCC team into their community. These sponsors include nonprofits such as Habitat for Humanity, Communities in Schools, and Power Up! and occasionally government agencies such as the US Forest Service. The sponsoring community includes many different members, depending on the type of project, demographics of the community, and size/structure of the nonprofit. In this research, these sponsoring communities represent civil society.

As suggested by Huntoon (2001) and Skocpol (1997), the state can work with civil society to formulate the necessary framework to foster social capital in communities. The NCCC is such a state program; it works through the nonprofit sector to create the necessary synergy to increase social capital. One might ask whether the volunteers deployed to communities represent the state simply because they are supported by the government. The answer is yes, although indirectly representing the state as a result of the synergy created between the coordination of the state working with the nonprofits where the volunteers are placed. The state's role is in the decision to fund and sponsor such programs, made up of volunteers who work under the supervision of a sponsoring

community. Although the primary role of these volunteers is to engage in direct service, for example, building trails or tutoring children, there is also the possibility that the interaction between the volunteers, the sponsoring community, and the community they are serving can develop into a process of network building. Therefore, the state is providing the framework for the coordinating activity that is generated by the nonprofit sector, a structure to encourage participation, and a legitimacy to this activity that makes it meaningful—hence, the creation of a state–society synergistic relationship.

This study evaluates the changes in social capital in three communities when such state–society synergy is established. Social capital is operationalized as social networks, that is, the horizontal and bridging ties between organizations within the communities where the volunteers are assigned. It is hypothesized that the social networks will be affected by the resources and framework provided by the state, through the nonprofit community organizations and volunteers that implement these resources.

Social Capital as a Framework to Evaluate State-Society Efforts

Before Putnam (1995b, 2000) popularized the concept of social capital; it was first introduced by Bourdieu (1986) and Coleman (1988). Bourdieu (1986) defined social capital as "the aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships in a group" (p. 248). More than a simple network of ties, Bourdieu continued, social capital depends on the development of relationships that "are at once necessary and elective, implying durable obligations subjectively felt (feeling of gratitude, respect, friendship, etc.)" (1986, pp. 249-250). For Bourdieu, "The volume of social capital possessed by a given agent . . . depends on the size of network connections he can effectively mobilize and on the volume of the capital possessed in his own right by each of those to whom he is connected" (1986, pp. 241-258).

Sociologist James Coleman defined social capital in a functional way, based on the makeup of two components—some aspect of social structure and the facilitation of action by individuals within the structure. Like physical and human capital, social capital allows the accomplishment of activities that would not be possible in its absence. Coleman wrote that "social capital is defined by its function . . . with two elements in common: [it] consists of some aspect of social structures, and facilitates certain action of actors . . . with the structure" (1988, p. 95). Putnam (1995a) built on Coleman's work defining social capital as "the features of social organizations, such as networks, norms, and social trust that facilitate coordination and cooperation for mutual benefit" (p. 65). In 1995, Putnam suggested that a decline in social capital was threatening the US social fabric. Although Putnam's work still has a primary focus on norms and trust as measures, he now more clearly grounds his understanding of social capital in a network-based approach (Täube, 2004).

Although most will agree that social capital is a positive quality, this might not always be true. Social capital is often viewed as beneficial when groups of people are highly connected and strongly related. Negatively, this action could serve as a means of excluding those that might seem undesirable to a certain group. Portes and Landolt (1996) argue that social capital "may restrict the opportunities of outsiders to a community and may inhibit personal freedom" (pp. 18-22). Exclusion can serve to foster stereotypes and limit accesses to resources available only to group members. This type of exclusionary social capital is evidenced in organizations like fraternities and county clubs. Historically, people have fought against the continuation of exclusion as an acceptable practice in these types of organizations. Social capital if constructed around this concept of group membership implies that only those who are deemed reliable and beneficial to the greater community should gain entry. However, if we take a close look at the goals of social capital, we will see that most scholars refer to its benefits as a community effect, not a particular group effect. The idea that a closed network of people can foster community-level social capital is debatable (Burt, 2001). This research explores the alternative to closed networks and investigates how greater variance (diversity) within a network can increase social capital. This type of social capital, examined in terms of its network structure diversity, is henceforth called in this article *bridging social capital*, which should be distinguished from social capital as a monolithic term.

For this article, social capital is defined structurally as "the aggregate of the actual or potential resources which are linked to the possession of a durable network of more or less institutionalized relationships of mutual acquaintance and recognition" (Bourdieu, 1997, p. 50) and is referred throughout the article as bridging social capital. To Stone (2001),

[conceptualizing] social relations as networks enables us to identify the structure of social relations (for example whether people know one another, and what the nature of their relationship is) as well as their content (e.g., flows of goods and services between people, as well as norms governing such exchanges). (p. 6)

A focus on network characteristics allows us to take advantage of the explanatory force behind the "bonding, bridging, and linking" typology of social capital.

Operationalizing Social Capital as Social Networks

Recent work has focused on social networks as a proxy to social capital (White, 2002) and whether social networks are an indicator of social capital (Lin, 1999, 2001). Social networks are sets of individuals or groups who are connected to one another through socially meaningful relationships (Wellman & Berkowitz, 1988). When studying social capital at the community level, it is necessary to develop measures that account for the aggregate level of social capital, derived from the way that people interact within the community.

The theory behind social networks as social capital is eloquently explained by Granovetter (1973) through his strength of weak ties theory. This theory asserts that we benefit by increasing the number of weak ties in our networks, with the assumption

that weak ties are connections to others that can increase diverse opportunities for idea formation, resource exchange, and access to hard-to-reach populations or bridging social capital. Although it is common to surround ourselves with strong ties that include people very similar to us in beliefs, values, and access to resources, it is through weak ties that we begin to diversify our networks and create avenues for accessing more varied resources. Identifying potential partners with different missions but similar target populations is one strategy to develop new weak ties that will benefit a network. Therefore, a nonprofit that forms relationships with organizations that have access to resources that they do not will benefit from increased access to resources.

However, it is important not to assume that more connections to others alone results in an increase in social capital. Large collaborative networks require resources to develop and nurture relationships with others; however, this approach can quickly use up scarce resources and burn out even the most enthusiastic network member. The challenge of this concept is articulated by the *law of N-squared*, that is, as network ties increase in number, they run the risk of overwhelming the ability of its members to actively participate in the network (Krackhardt, 1994).

Another network theory, the structural holes theory (Burt, 1992), explains the way community networks might interact in such a way to balance the goals of creating more bridges without jeopardizing efficiency. Structural holes are indicators of nonredundancy between two contacts. The basic premise behind the theory is that redundant ties in a network decrease the effectiveness and efficiency of that network. Purposeful selection of network partners that span multiple subgroups, in contrast, can reduce overall redundancy and increase efficiency.

Burt (1992) and Granovetter (1973) each cantered that open networks with more structural holes and weak ties make for better connected networks. The benefit of a well-designed network is information in three forms: access, timing, and referrals. Each of these gives the actors a competitive advantage if they can coordinate their network to give them the best opportunity to attain all three. These conclusions are reflected in the literature. For example, Burt (1992) has found that the more structural holes the network maintains, the more efficiently and effectively the network will be run (and he concludes that this is an increase in social capital). Others have found support for this argument and the value of studying networks (Ahuja, 2000; Janicik & Larrick, 2005). Concurrently, Granovetter (1973) found that the more likely an organization (like a nonprofit) will be to find financial support, access hard-to-reach populations, and form partnerships beneficial to its mission (e.g., increased social capital). His thesis has been confirmed empirically in many studies (Ashman, Brown, & Zwick, 1998; Hansen, 1999; Lin & Dumin, 1986; Lin, Ensel, & Vaughn, 1981).

Traditionally, social capital was identified in network terms by the level of density within a network. That is, a traditional assumption was that networks with higher density scores possessed higher degrees of social capital. However, simply measuring the density of a network as a measure of social capital is a rather uneven tool for analysis (that is, simply knowing that an actor in the network has many network connections does not accurately tell us whether that actor increases that potential for social capital in the community). This research chooses to build on this observation, that the distribution of the network is as important to social capital as the density of the network. The observation supports the traditional assumptions that a high heritage of density and transitivity can lead to better construction of social capital but adds to this theory by asserting that placement of the organizations (around structural holes), the strength of the connections, the diversity of the networks, and the amount of trust that actors possess cumulatively produce a more complete, nuanced measure of social capital in a community.

A strategy based on increasing diversity (weak ties) while actively working to reduce redundancy (choosing partners that provide links to many different subgroups) can lead to improved levels of bridging social capital in a network. An approach such as this, coupled with strategic evaluation of potential network members' ability to share resources and contribute to overall cohesion, can lead to measures of connectivity that inform better ways of collaborating.

These theories are operationalized in this research to evaluate the impact of the NCCC program on community networks. Used as measures of bridging social capital, change to the network is assessed over time based on change to the number of weak ties and structural holes. Bridging social capital is improved when more weak ties exist in the network, coupled with lower levels of redundancy. The logic of this is that many weak ties increase diversity and access to community resources, whereas lower levels of redundancy ensure effective and efficient use of scarce resources. It is proposed that the combined outcome will result in higher levels of bridging social capital.

Method

Applying an exploratory approach, this research seeks to answer the primary research question: Can the government, acting on its own or through the nonprofit sector, implement public policy in communities to increase levels of social capital at the macro (community) level?

Based on the network theories described above, the following propositions are tested:

- Proposition 1: The intervention of NCCC (acting as the state) within a community will result in an increase in the number of weak ties, in turn strengthening the level of bridging social capital within the community.
- Proposition 2: The intervention of NCCC (acting as the state) within a community will result in a reduction of redundancy among ties in a network, in turn strengthening the level of bridging social capital within the community.
- Proposition 3: Communities with higher levels of density and transitivity preintervention will show greater levels of change to their levels of bridging social capital (operationalized as more weak ties, with less redundancy).

• Proposition 4: Trust and influence will correlate with the strength of ties, indicating their importance in the facilitation of social capital by the state.

Study population. Evaluation of three community networks that hosted AmeriCorps NCCC teams occurred within a 1-year time frame. These three communities were chosen from a convenience sample. Working with the CNS, a list of potential communities was developed. Only communities in the central region of the United States that had not previously hosted a NCCC team were considered. In addition, projects chosen had anticipated start dates of at least 6 months away. A list of seven potential communities was compiled, four agreed to participate, but only three were assigned a NCCC team. The three sponsoring communities selected for this study were a Montana nonprofit that runs a Noxious Weed Removal Program (MT), a Wyoming Youth Camp that provides education about environmental protection (WY1), and a Wyoming Boys & Girls Club that provides an after-school program for youth (WY2).

The changes to the social networks of these sponsoring communities are of particular interest. Under study here are the effects of the implementation of these policies in terms of the changes to community networks, specifically how these networks change after a NCCC team works in partnership with a nonprofit or government agency in a specified community. Implementation of this program in a community requires that the sponsoring nonprofit tap into their community networks to provide work, food and housing and service learning opportunities to the volunteers.

The state–society synergy implementation. The synergy between the state and civil society was the collaboration between the NCCC (as the state) and the three sponsoring communities (as civil society). Each was shaped by requirements negotiated between the NCCC program and the sponsoring organization. Requirements in these cases stipulated that in exchange for the placement of youth volunteers in that community, the sponsoring organization provide housing, food, service learning opportunities, and community recognition to the volunteers. Preliminary interviews conducted during pilot testing of the survey instrument suggested that these requirements strongly encouraged the sponsoring organization to reach out to others within the community for help prior to the arrival of the NCCC teams. For this reason, the intervention period is considered the months prior to a team arriving and the 6 months following completion of the project.

Data collection. A mixed-methodology approach including in-depth structured interviews and surveys were administered to gather data on the nonprofits and their collaborations with other organizations to support their program work. These data were used to analyze network structure in the time period prior to collaborating with the NCCC program and then again 6 months after the collaboration ended, providing a up to a 1-year time frame to assess changes to community-level social capital. In these comparisons, social capital (operationalized as tie strength and redundancy) is considered the intermediate outcome (rather than an end outcome). SNA was used to analyze the data (more below).

	Complete network		Core network survey respondents	
	Pre (n)	Post (n)	Pre (n)	Post (n)
WYI	85	86	15	15
WY2	83	93	11	15
MT	106	122	10	13

Table 1. Size of Nonprofit Community Networks

Note: n = cell number. WYI = Wyoming Youth Camp that provides education about environmental protection; WY2 = Wyoming Boys & Girls Club that provides an after-school program for youth; MT = Noxious Weed Removal Program.

Interviews. Interviews were first conducted with the staff and volunteers working at each of the three nonprofits selected in the study to identify organizational structure, historical accounts of progress, staff turnover, board member information, accomplishments, budgeting issues, operating procedures, programming, and partnerships already in place. In total, 20 interviews were conducted (7 in MT, 8 in WY1, and 5 in WY2). Interviews were held with staff of each nonprofit partner including the executive director and office managers, volunteers who work with the nonprofit, and community partners. The interviews were summarized in a set of field notes for each community, which later provided the contextual understanding necessary to develop the network survey instrument and helped inform interpretation of results.

Network surveys. Following these interviews and to document existing community networks—partnerships and collaborations between the nonprofit and their supporting community—surveys were administered at two time points. At Time Point 1, staff from each nonprofit were asked to complete a network survey. The survey asked respondents to identify partners they interacted with regarding the work that the NCCC team would complete. This list was considered the initial network boundary-the set of organizations that are considered network members for the purpose of analysis. This identified list of partners was then asked to respond to the same survey (replicating a snowball sampling technique). Table 1 details the number of partners listed in each community and the potential respondents to each survey. WY 1 had 15 respondents at Time Point 1 and 15 at Time Point 2, WY 2 had 11 at Time Point 1 and 15 at Time Point 2, and MT had 10 at Time Point 1 and 13 at Time Point 2. WY 1 generated 85 partnerships at Time Point 1 and 86 at Time Point 2, WY2 generated 83 partnerships at Time Point 2 and 93 at Time Point 2, and MT generated 106 partnerships at Time Point 1 and 122 at Time Point 2. A partnership is identified when a respondent lists another organization as a partner and then answers network questions about that partner. In total 36 network surveys were completed at Time Point 1 and 43 network surveys were completed at Time Point 2.

Although each of these respondents mentioned their own set of partners, the analysis was conducted on what we termed the *core networks*—the sponsoring nonprofit and their direct network partners (see Table 1)—That is, only the core network members



Figure 1. Core network preintervention, MT MT = Noxious Weed Removal Program.

were asked to respond to the survey, not all of the additional partners identified by these core members. This is a common data-collection technique in network analysis, as the boundary of the network must be closed at some point, unless unlimited resources allow to continually survey newly nominated partners. Respondents were asked a series of 14 relational questions about the network members identified in the first part of the survey. These responses provided information about the frequency, quality, and type of interactions within the community, including resource exchange, client referrals, and knowledge exchange. Survey administration was repeated 6 months after the intervention (Time Point 2) with all members of the core network; the average response rate was 86%. Change related to the intervention was captured through questions that emphasized responses regarding change "as a direct result of the NCCC partnership," allowing us to attribute change to the intervention.

Network graphs represent these community networks. For each community, a graph was generated that represents the full network (the core partners and all of the organizations they identify as partners) and a smaller graph representing the core network itself. In these graphs, the circles represent the actors and the lines represent a relationship between the actors. Figures 1 and 2 are network visualizations of MT's



core and complete networks, respectively. In both figures, the ego organization (the Noxious Weed Program) is emphasized.

Similar graphs were generated for WY1 and WY 2. The network visualizations give us an idea of the denseness of these networks, but SNA allows us to specifically aggregate different network relations.

Measures and analysis. The data derived from the interviews and surveys were analyzed using SNA, a methodology used when gathering and analyzing data that explain how people connect to one another. This method elucidated the structural makeup of collaborative relationships (Scott, 1991; Wasserman & Faust, 1994). A software tool, UCINET (Borgatti, Everett, & Freeman, 2002) was used in the analysis.

Weak ties were identified by frequency (how often organizations interacted) and intensity (how many different types of interactions the organizations have with one another). To measure weak ties using frequency and intensity, a cumulative score was determined based on nine variables from the network survey, including committee memberships, sharing of facilities, two questions on financial exchanges, program interactions, sharing of clients, material exchanges, nonmaterial exchanges, and frequency of contact. Using the UCINET matrix algebra function, the variables were combined to create one strength score for each dyadic tie. The average score of each dyadic relationship was compared to the average strength score for the entire network. Any number greater than the entire network average was considered a strong tie, whereas any number below the average was considered a weak tie. Using UCINET, the constraint score was calculated as an indicator of redundancy. Constraint is a measure of the extent to which an organization has ties to organizations that have ties to one another. Low constraint means that more structural holes exist and therefore less redundancy exists. The formation of a new weak tie often creates a bridge to a new group of partners (the exception is a new tie developed within the same subgroup as other weak ties). A smaller number of ties connecting all subgroups, in turn, is often associated with a lower constraint score.

In addition to strength of ties and structural holes, other network statistics operationalized in the analysis provide a contextual understanding of the findings. These include measures of density and transitivity. In network studies, social capital is often operationalized merely as density; that is, the more connections that are present, the more social capital that exists. The density statistic used here, in contrast, measures the general degree of interconnectedness of a network based on the ratio of observed links among nodes to the total number of possible links. Higher density is considered an overall indicator of cohesion and interaction within a network and is often associated with greater awareness of others and faster rates of diffusion within a community. Here, density is only used to help understand the context of the network changes because, as Burt (1992) notes, "Increasing network size without considering diversity can cripple a network in significant ways" (p. 17). Transitivity is a measure of the ability of the network to share and exchange resources, obtained by determining the number of transitive triples in the network. A transitive triple exists when three sets of partners are completely connected (Wasserman & Faust, 1994). Finally, autocorrelations were performed (in UCINET) on these networks with trust and influence as the attribute variables. UCINET autocorrelation "relates a dyadic variable (an actor-by-actor matrix) to a monadic variable (a vector representing an intervalscaled attribute of each actor). For example, if the dyadic variable is "who works with whom, and the monadic variable is trust, the procedure tests whether a working relationship is patterned by trust (e.g., organizations prefer to partner with other organizations who they consider trustworthy)" (Borgatti, Everett, & Freeman, 2002). These tests were performed to see whether the attributes of trust and influence are correlated to the strength of ties within the networks. For these tests, a Geary autocorrelations was used, which means that smaller p values indicate statistically significant autocorrelation.

Findings

Weak ties. Although WY1 reported the largest number of core network members preintervention, the network saw very little change overall. It did not report the addition of any new network ties to its core network that could be attributed to the NCCC intervention, a possible result of their geographically isolating location and the systematic way by which they already strategize to create their network (see Limitations below for further discussion of this result). In contrast, both WY2 and MT increased the number of weak ties within their networks postintervention. The new weak ties to the WY2 network included two media organizations, one university, and one nonprofit that is a shelter for families in need. The new weak ties to the MT network include two government organizations and one food bank. In the postintervention survey, the Noxious Weed Program's director indicated that three connections were developed as a result of having the AmeriCorps NCCC intervention. These connections affected the changes to the strength of ties and to the number of bridges and structural holes, which is discussed in a later section of this article. Although the number of new weak ties is small for each community, the percentage of change in both WY2 and MT is impressive. WY2 increased its number of weak ties by 30% and MT by 60%. These findings support the first proposition that increased weak ties can result from a government intervention. Figure 3 illustrates these changes.

Redundancy. In all three cases, redundancy decreased within the networks, as indicated by lower constraint scores. Although none of the organizations reported the loss of any ties, their overall redundancy scores decreased because of the increase in number of total available partnerships. In other words, as expected according to Granovetter's assumptions, with the increase of weak ties, the number of bridges increased, creating connections to more available subgroups of potential partners and creating more structural holes that Burt has found to increase social capital. None of the newly established network ties in any community were to an existing subgroup of partners. If that had been the case, then the constraint score would have risen, increasing redundancy. The summation of these changes is illustrated in Figure 4. In this figure, it is clear that the most amount of change occurred in the MT and WY2 networks. MT increased its number of weak ties by 130% and WY2 by 60%, which indicate large





WYI = Wyoming Youth Camp that provides education about environmental protection; WY2 = Wyoming Boys & Girls Club that provides an after-school program for youth; MT = Noxious Weed Removal Program.





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proportions of change (however, not a large absolute number of ties). This finding suggests that in MT and WY2 the network was expanded in terms of network connections, albeit those that are considered weak, which, according to Granovetter (1973), indicates that now these communities have increased availability to resources. Similarly, the number of bridges increased in these two communities, indicating that there are new connections to subgroups within the network. The implication of this finding is that in MT and WY2 entire groups of relations are now within their reach because they have fostered ties with at least one other actor in those subgroups. For example, by



Figure 5. Summation of change

forming a new weak tie to the Food Bank, the Noxious Weed Program could potentially access those actors that are connected to the Food Bank. If network data gathering continued, we would begin to see which actors are now connected, by a bridge, to the Noxious Weed Program and vice versa through the Food Bank.

The finding of an increase in structural holes in MT and WY2 further supports these implications. For each new bridge created, new structural holes were created between the nonprofits and the other actors in the subgroups. According to Burt (1992), this puts these nonprofits at an advantage in terms of possessing information benefits. At first, each of these bridges connects the nonprofit to at least one actor in the subgroups. In the future, the nonprofits will have to consider whether it is in their best interest to maintain less redundancy and only retain this one connection to the subgroup or whether they should begin to foster relationships with others in the subgroup, they are increasing redundancy and decreasing structural holes.

These findings support the second proposition that reduced redundancy can result from a government intervention. Figure 4 illustrates these changes pre- and postintervention.

Density and transitivity. As Figure 5 shows, density and transitivity preintervention were highest in the MT and WY2 communities by more than half in both cases. MT has relatively high percentages of both density and transitivity, which indicates a more

cohesive network than those with lower scores. Generally, information is assumed to flow better in networks with high density and transitivity statistics. Each community studied possesses many particular characteristics that affect these results. It is not surprising that WY 2 had no change, given the low degree of network connections preintervention. The generally high transitivity and density scores for both WY1 and MT can be considered an indication of the potential for a community to create the synergy that is possible in state–society synergy.

These findings support the third proposition that communities with higher levels of density and transitivity preintervention result in higher levels of increased weak ties and reduced redundancy.

Trust and influence. In each of the studied communities (some more prominently than others), the key players identified by degree and betweeness (e.g., their number of network connections) scores did not reflect the organizations identified as being highly influential or trusted. To understand these relationships, UCINET autocorrelations were performed on these networks with trust and influence as the attribute variables.

To develop the scale of trust for the actors in the networks identified, the following question was asked: "Suppose you were looking for partners and/or collaborators for a joint project. Please indicate which of the organizations on this list you are certain will do what you require (what you believe they should do) even without writing a contract to clearly specify their obligation." This question was adopted by recommendation from Prell (2003) to elicit a scale of trustworthiness. The final scale varied among communities, depending on the number of actors in the network. The mean and standard deviation of the scaled numbers were determined. Anything above one standard deviation was considered highly trusted (and coded as 2) and anything below one standard deviation was considered least trusted (and coded as 0). Those scores that fell between -1 and +1 standard deviation of the mean were considered medium trusted (and coded as 1). These codes (0, 1, and 2) were inputted as attribute data in UCINET and used as the vector data for correlating to the strength of ties (based on frequency and intensity). Correlations between position and trust/influence were calculated for each network. The Geary autocorrelation value ranges from 0 to 2, and if values of any one zone are spatially unrelated to any other zone, the expected value will be 1. Values less than 1 indicate negative spatial correlation and values between 1 and 2 indicate positive spatial autocorrelation. The autocorrelations that resulted were all positive, meaning that stronger ties correlate to more trusted organizations. This did not, however, indicate that those with more central positions or those with more perceived influence in the network were trusted, just that stronger ties correlated to trusting relationships.

For example, in the MT network, several organizations stand out as key players. The Montana Natural History Center, the Missoula Flagship Program, the City of Missoula Parks and Recreation Department, and the University of Montana's Environmental Studies Department all exhibit high degree and betweeness centrality scores. This fact indicates that these actors have the highest number of connections and connect the most amounts of subgroups. However, different network actors stand out as being the most influential and trusted in the network. In terms of key influential



Figure 6. Trust, influence, and centrality in a key player network, MT

players, the Missoula County Noxious Weed District and the Noxious Weed Program share the spot with the City of Missoula Parks and Recreation and the University of Montana Environmental Studies Department. The four most trusted organizations include the same list as influential organizations, except that the Montana Native Plant Society replaces the City of Missoula Parks and Recreation Department organization. Figure 6 shows a visualization of the key player network in MT.

The MT network visualization is interpreted as follows: The lighter colored (yellow) nodes signify the most central players, the boxes signify the most trusted organizations, the largest nodes signify the most influential organizations, and the dark lines illustrate the pairs of organizations who have the most trusting relationships. This picture shows that every organization is a member of the trusted network; there are no isolates. The University of Montana's Environmental Studies Department can be considered the key player in this network because it has possesses all three attributes that indicate prominence: trust (a box), influence (larger node), and centrality (yellow node). The next three key players include the City of Missoula Parks and Recreation Department (large indicating its standing as an influential player and its lighter color of yellow indicating it is a central node), and both the Noxious Weed Program and the Missoula County Noxious Weed District possess two key traits: They are centrality positioned and considered influential.

The finding that trust is so strongly correlated with the strength of ties is an anticipated finding, whereas the finding that centrality and influence is not correlated to strength of ties is surprising. Because the key trust players were often different from key centrality players, we can conclude that *trust* is the leading indicator of network

	Cody	Missoula	Lander
Influence/strength correlation	1.061 (p = .336)	I.154 (p = .188)	I.07I (p = .225)
Trust/strength correlation	1.675 (p = .003)	I.769 (p = .076)	I.286 (p = .076)

Table 2. Trust/Influence Correlations^a With Strength of Ties

^aThe Geary autocorrelation value ranges from 0 to 2, and if values of any one zone are spatially unrelated to any other zone, the expected value will be 1.

connections, regardless of the size or flow of a network. Furthermore, we can also conclude that influence is not a significant factor in the strength of ties. Organizations seem to value trusting relationships more than relationships that result in partnerships with highly influential people (see Table 2). However, in several cases (WY2 was the most obvious exception), the most trusted organizations are also the most influential organizations. A key finding of this analysis, however, is the observation that trust plays a more important role than influence and centrality in these networks, meaning that trusted actors in a network are not necessarily those that are also influential or central to the network. These findings only partially support the fourth proposition that trust and influence will correlate with the strength of ties. Only trust is correlated with strength of ties.

Limitations

Several limitations to this research require attention. As mentioned previously, data on end-outcome measures of success for each community would greatly strengthen these conclusions and in turn add empirical credibility to the strength of weak ties and structural holes theories. In future research, such types of data are planned to be collected. Second, the reliability of these findings is questionable. As case studies, the findings are not generalizable and it is unclear whether the same results would occur in other communities. Data with a larger sample size, and a more comprehensive set of variables, would strengthen what is at present only an exploratory study of these concepts and increase the external validity. Finally, the absence of new weak ties in the WY1 network may appear as a failure within this model. However, this raises an important question regarding whether this model is an appropriate way to access improvements to social capital for all communities. Although WY1 did not indicate any new network connections, the respondents initially indicated the highest number of partners within their core network, compared to WY2 and MT. Given WY1's isolation in a wilderness area and the methodical way by which they selected partner organizations to get involved in the camp, it became evident that they did not view increasing weak ties as an appropriate goal for their nonprofit. In fact, the executive director emphasized the many longstanding partnerships and the success of them. He stated that networking was not important to his nonprofit community network, unless an existing client organization exited the community (and, thus, opened a spot for a new client to attend the camp).

Discussion

Several lessons can be drawn from these results that inform our research question of whether the state is capable of increasing social capital in communities.

Lesson 1: As proxies for bridging social capital, strength of ties increased and redundancy decreased in communities with an NCCC intervention.

The strength of weak ties and structural holes theories state that an increase in weak ties, bridges, and less redundancy leads to higher levels of bridging social capital. In this way, networks themselves can be seen as a proxy or surrogate for bridging social capital (Burt, 1992). Measuring social capital in this way suggests that bridging social capital increased in two of these communities as a result of the AmeriCorps NCCC/ nonprofit collaboration (the state-society synergy). One might question whether this represents an adequate measure of social capital. Although it is unquestionably true that an end-outcome measure, such as performance measures for the nonprofit communities, would be a rigorous accompaniment, such corroboration is currently beyond the scope of this article (and admittedly a limitation to this research). Rather, the increase in social capital here represents an intermediate outcome. This type of mediating variable is an important one to study; however, some kind of end-outcome measure such as a measure of the change in the nature/extent of the problem (for example, the elimination of noxious weeds, mentorship or boys and girls, etc.) would add rigor to this research. This research adheres to Burt's (1992) and Granovetter's (1973) theories arguing social networks can serve as a proxy as measurement of social capital. That said, what conclusions can be drawn from the finding that more weak ties, bridges, and structural holes exist postintervention in these communities?

These studies confirm the benefits of open networks that emphasize bridging social capital. The conclusion is not drawn, however, that these changes in the network could not have happened without the intervention of the AmeriCorps NCCC program. The assumption that other changes to the network occurred during this same time period (and continuously) is made. Changes other than those that were a result of the Ameri-Corps NCCC were not measured.

Lesson 2: Network diversity, density/transitivity matter.

The cases described in this study show multisectoral networks with business, nonprofits, and government agencies as partners. Quite often, only a network with a high degree of diversity can possess the innovative capabilities or capacities to produce sustainable results. Both MT and WY2 increased their network size by creating new connections within the network. Each of these new connections (perhaps with the exception of other social service nonprofits) increases the variety of resources available to the network, adding the benefits mentioned above. For example, WY2 stated that it hoped to form a new relationship with Northwest College that would create an internship program in the School of Education to encourage college students to come to work for WY2 as staff members. The NCCC intervention resulted in the identification of Northwest College as a new partner (in this case, to find housing for the NCCC members). This new connection, considered a weak tie by WY2, could possibly develop into a relationship of multiple facets (including an internship program). It is impossible to say that this will definitely occur, but the new partnership could open doors for this kind of collaboration.

Like diversity, density and transitivity were important characteristics of the network examined in this study. Both MT and WY2 possessed higher network density and transitivity scores than WY1 preintervention. These communities also exhibited greater change in terms of weak tie and structural hole creation. These results indicate that a community that already possesses high levels of cohesion and flow is better able to foster social capital construction. A common question in the social capital literature is as follows: Can communities with low stocks of social capital successfully increase their stock of social capital? Or does it take an already high level of social capital to increase the stock? The findings of this research indicate that it does take an already high level of social capital to increase the stock of bridging social capital.

An unanswered question of this research is how reliable these results are—That is, will the same result happen in other communities (a limitation of this research)?

Lesson 3: Trust is more important to the evolution of network connections than influence or centrality.

Theory and data analysis suggested that trust is significantly correlated to the strength of ties (Calton & Lad, 1995; Cross, 2001; Hansen, 1999; Hindmoor, 1998; Levin, 1999; Purdue, 2001; Tsai, 2000; Tsai & Ghoshal, 1998). Moreover, not surprisingly, ties to more trusted partners were more likely to be considered strong ties. Influence was also measured, but the association was not significant. This leads to the possibility that when an organization chooses network partners, trust might play a more important role over who is perceived as influential or central to the network.

Centrality did not play a pivotal role in the success of each community. In fact, in some cases (e.g., Walmart in the WY2 community) an actor identified as central in several ways (degree and betweeness) has little correlation with the trust and influence of that organization. This example indicates that possessing a large number of connections does not affect the amount of trust and influence an organization possesses. For example, Walmart was identified by many organizations as a partner in WY2, albeit one with less intense ties to most of these organizations. However, Walmart was ranked eighth out of 11 on the scale of trust. That is, when asked whom they trusted, the organizations in the WY2 network ranked Walmart low. This suggests that Walmart is active in the community and is known to most members, but most members do not have faith that Walmart will, in the language of the questionnaire, "do what you require (what you believe they should do) even without writing a contract to clearly specify their obligation." In other words, when two nonprofits choose to

engage in a trusting partnership, decisions and social contracting often happen in an informal environment. On the contrary, when a nonprofit engages in a relationships with a large corporation (e.g., Walmart), the negotiations often move from the local setting to the national headquarters, leading one to believe that trust alone is insufficient for a working contract. This opens the question of whether the private sector could play a similar role to the state in constructing social capital (a question for later consideration).

What does this all mean for future efforts by the state to increase social capital in communities? Holistically, these analyses provide a broad picture of understanding of network changes as a result of state–society synergy. Although the role of the state in increasing social capital in communities is generally met with skepticism, this exploratory research opens the door for future research in the area, by thinking about social capital as an increase to the network connections among organizations in a community. This research is modeled after the widely supported framework of the state as a facilitator of this synergy, with civil society as the key mechanism for delivery of the activity. In this perspective, these bunch of young volunteers are the bridge between the state and civil society, acting on behalf of the state, in partnership with civil society to foster social capital.

Although the role of the state in the creation of social capital continues to be debated, this research adds to the growing literature that asserts a positive role for the state. Although public budgets continue to be cut, it becomes harder and harder to justify programs such as those administered by the CNS. Although studies have asserted that such programs have positive effects on the volunteers who participate in them, little research has been done to look at the community-level impacts of these programs. More research is needed to demonstrate that these programs can result in a positive state–society synergy, beneficial beyond their limited budgets.

Finally, although there is great promise in a networking approach as a way to increase social capital in a community, we should be careful not to assume that all communities are alike, nor appropriately predisposed to respond to interventions designed to improve community networks. It is more realistic to assume that some communities may already have healthy networks that need little improvement. In such a situation, we may be misguided in attempting to measure success by looking for changes to the network; a network model that differs from the one introduced here might be more appropriate for measuring change. In turn, this research is an exploratory look at these concepts and their potential to measure social capital at the macrolevel.

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Bio

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