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Service implementation network engagement: An Indicator of policy advocacy?

Eric Chenier

Eric Rousseau Chenier

Candidate

School of Public Administration

Department

This thesis is approved, and it is acceptable in quality and form for publication:

Approved by the Thesis Committee:

Dr. Kun Huang   , Chairperson

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Dr. Mario A. Rivera

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Professor James Jimenez

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SERVICE IMPLEMENTATION NETWORK ENGAGEMENT:

AN INDICATOR OF POLICY ADVOCACY?

BY

ERIC CHENIER

BACHELOR OF ARTS IN POLITICAL SCIENCE

THESIS

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B.A. Political Science 2009

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ABSTRACT

Service implementation network engagement and its effects on the likelihood that organizations will engage in collaborative policy advocacy is studied. The research was based on a centrally governed mental health service network in Bernalillo County New Mexico. The study population consists of one for-profit network administrative organization (NAO) contracted by the state and 33 mental health service providers representing all three sectors. Based on earlier research, several hypotheses are developed regarding the roles of resource dependence, organizational embeddedness in cliques, and the bonding model of network organizing.

The hypotheses are tested using multiple regression quadratic assignment procedure (MRQAP). The study generated two important findings. First, similar dependence on the NAO, based on service linkages, is found to be negatively related to policy advocacy. Second, those specific organizations who both share a clique with the NAO and who are similarly dependent upon the NAO find themselves to be more likely to engage in dyadic relations of policy advocacy.

Based on limited interview data, a qualitative analysis was undertaken. This analysis, more specifically, attempts to shine some light on the content of policy advocacy. The analysis finds that organizational decisions to engage in policy advocacy can be best understood from a bottom up approach starting with the development of social capital and understanding the dynamics of resource dependence in a centrally governed network. This analysis is followed up with a discussion, focusing on theoretical and practical implications and suggestions for further research.

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CHAPTER 1 INTRODUCTION

Organizations tend to interact in several different ways exchanging information
and resources in hierarchical and market arrangements (Powell 1990). When
organizational exchanges occur in a non-market and non-hierarchical manner their
interaction tends to form a type of collective action (pg. 322). This type of collective
action comes in the form of network exchanges where participants share in the resources
devoted and the benefits received. The focus of collective action, in the literature, tends
to be centered on network collaboration for knowledge and administrative purposes
(Rethemeyer & Hatmaker , 2007; Owen-Smith & Powell , 2004; Alexander , 2000;
Amirkhanyan, 2008) and policy advocacy (Varda, 2010; Kelleher & Yackee , 2008;
Johns Hopkins University, 2008). For the purposes of this paper I will focus on two
network types: first, networks owing their existence to the need to provide products or
services, which are known as service implementation networks (Milward & Provan,
2006); and second, networks created in the pursuit of policy change where the actors
have a shared interest. These are known as policy networks (Isett, Mergel, LeRoux,
Mischen, & Rethemeyer, 2011).

The various explanations for the existence of public sector networks relate to the
need to resolve a wide array of administrative issues. These issues include the need for
organizations to transfer knowledge (Provan & Contractor, 2008) the need to exploit
relations in the race to innovate (Powell , 1998), and the need to garner resources
(Casciaro & Piskorski, 2005 ; Alexander , 2000). Other explanations describe inter-
organizational relations as a way to determine difficult policy issues or address the need
to solve "wicked" problems (Rittel & Webber , 1973; O'Toole, 1997; Weber &

Khademian , 2008). Some of these networks, such as emergency management, are mandated to work together (Milward & Provan, 2006).These concepts are related to resource dependence theory and they attempt to describe interorganizational relations as a way for one organization to exploit the resources of other organizations. In the context of "wicked" problems, for example, organizations depend on other organizations' resources, in a sense, to solve problems which are too big, complex, or boundary spanning.

Both service implementation and policy network structures are based on dyadic (two connected actors) interactions commonly motivated by interdependences based on the overall network need to solve problems (managerial or policy). Furthermore, dyads in a network, formed by interorganizational dependences, may form webs of interdependence across network types. For example, relations that are garnered based on service implementation dependences may be related to, or lead to, dependences which are based on policy advocacy. Even though both types of interactions have been looked at through the lenses of resource dependence, social capital, and others; in the past, they have been researched independently of each other (Rethemeyer & Hatmaker , 2007). The major thrust of this thesis will be to gain an understanding of the relationship between networks formed for service implementation and their possible effect on the structure of networks formed for policy advocacy reasons within a network governed by a network administrative organization (NAO). In other words, this research will examine to what extent the structure of service implementation networks spill over into the structure of policy advocacy networks in a centrally governed network.

This analysis is at the network level and is situated within the definition of a whole network which, according to Provan, Fish and Sydow (2007) consists of three or

more organizations that formed to attain a common goal and are arranged in a mostly non-hierarchical way. Furhthermore, this research will focus on interactions between organizations in smaller network partitions; more specifically, cliques and can be defined as a group of three or more maximally connected actors. (Rowley, Greve, Rao, Baum, & Shipilov, 2005).   The boundaries of the network were determined by organizations in contractual relationships with the NAO in a health and human services network. This network, while organized formally, with contracts and institutionalized practices, may have substructures which are in and of themselves informal networks that are not bound through formal means. The network may have further divisions including network partitions or cliques which serve purposes that may or may not be entirely in line with the goals of the NAO. While the NAO and its network was created primarily for the purposes of managing and confronting a "wicked" problem, namely serious mental health, it is our proposition that network structures, which are present within the more formal NAO connected service implementation network, will be present within less formal network structures (i.e. in the absence of contractual arrangements) such as policy advocacy. Furthermore, service implementation network membership may play an important role in determining the likelihood that an organization will engage in collaborative policy advocacy.

For the most part, research examining relationships between different network structures, including policy advocacy, has been absent from public administration scholarship. Some exceptions to this were illustrated in an early review of literature on interorganizational relations (Galaskiewicz , 1985). This study stated that the problem of political mobilization leads researchers to find that "(a) organizations within political

coalitions tended to have interorganizational relations among themselves prior to coalition formulation and (b) the mobilization of individual organizations was often a function of their centrality in resource networks" (pg. 15). Galaskiewics review noted earlier research which found that coalition formulation was dependent upon internal linkages in the community, that preexisting structures lead to speedy issue response, and that centrality was a predictor of organizational mobilization. Most of these studies were egocentric and in other fields. This is why we are examining this topic from a "whole network" perspective in the frame of public administration scholarship.

One major thrust of this research is to use statistical tools to answer questions regarding whether or not service implementation networks are related to policy networks. After asking whether or not these spillovers occur, and if we can say with confidence that they do, it will become important to begin to understand why they occur. Answering Isett et al. (2011)'s call for more practitioner engaged scholarship we begin to expand theory on why these structural spillovers occur using qualitative methods based on agency executive interviews. As Isett et al. stated (pg. 69) "theory strongly grounded in practitioners' experience equals relevance".

The remainder of this thesis will discuss prior network research which has focused on policy advocacy networks, and will then discuss relevant research focusing on service implementation networking. These two streams of research have largely been considered in isolation of each other and I will seek to close this gap by showing statistical evidence that service implementation networking has a statistically significant relationship to policy advocacy. One of the weaknesses of this research is that we do not have longitudinal data which would be useful in determining whether one network

structure leads to another. The next section of this thesis and the later qualitative analysis (after the quantitative findings are presented) will attempt to correct for this by providing a theoretical backdrop including possibilities for how service implementation networks lead to policy networks. This will be followed by a presentation of hypotheses, an operationalization of the variables, and the methods section which will discuss our usage of multiple regression quadratic assignment procedure (MRQAP) with double Dekkar semi-partialling. I will then present the findings of the quantitative section with analysis followed by the qualitative findings and analysis. I will conclude with a general discussion of the findings, attempt to fit these findings in the larger context, and finish with suggestions for further research.

Policy Networks

There are several different studies that focus on why and how organizations engage in policy advocacy. Mosley (2010), drawing from resource mobilization theory and resource dependence theory, commented that "organizations will become involved in advocacy if they have both incentives to do so and resources that provide the capacity to mobilize" (pg. 60). One of the resources organizations can draw from, as noted by Mosley, is the level of professionalization in an organization and its associated links with professional networks. Though useful this research is focused on independent policy advocacy not collaborative policy advocacy.

Others (Kelleher & Yackee , 2008) have focused on organizational involvement in policy advocacy as, in some cases, being dependent on contact with government managers in the form of contract negotiation. The main thrust of their study showed that organizations which regularly contract with the government will have more opportunities

to influence government managers, and thus will be more effective in their policy advocacy/lobbying efforts. Few of the studies in this line of research have focused on the "whole network" when it comes to policy advocacy and instead have been egocentric. One notable exception to this is deLeon & Varda (2009) where the focus was on building a theoretical model which would help to explain the characteristics of policy advocacy networks. The thrust of their paper focused on describing policy advocacy networks based on properties present within the network such as diversity, reciprocity, power structure, embeddedness, trust, decision making, and leadership.

<div align="center">Service implementation Networks</div>

Another stream of research focuses on organizations that join networks to deliver products and implement services collaboratively (Isett, Mergel, LeRoux, Mischen, & Rethemeyer, 2011). Early theories of organizational network engagement were based on extensions of the literature on interorganizational relations including transaction cost and resource dependence theory (Provan & Milward , 1995). For example, Galaskiewicz (1985) stated that "interorganizational relations take place in three arenas: resource procurement and allocation, political advocacy, and organizational legitimation. Likewise, Alexander (2000) affirmed that organizations were able to garner resources through their linkages. The linkages she cited include grants, contracts, donated professional services, referred clients, and media attention. These linkages can be fostered by clients, staff, and board members.

Some of these earlier theories have been amended from their original versions with the integration of the network perspective. A case in point is Casciaro and Piskorski's (2005) modification of resource dependence theory focusing on how power

imbalance, and mutual dependence effect constraint absorption (giving the rights to control resources to the dependent actor). Their findings were different from earlier studies since the authors' analysis concentrated on dyadic relationships where earlier studies only looked at one side of the power structure. They found that the probability of engaging in constraint absorption operations, as measured by mergers, was negatively affected by power imbalances and that constraint was positively affected by mutual dependence. This raises the possibility, in the context of this study, of whether organizations are more likely to engage in network relationships, such as advocacy, if they share similar dependence in relation to the NAO. This may be especially true when the NAO is dominant and comes from the for-profit sector. Evidence related to this supposition can be found in Rowley et al. (2005) where they found a positive relationship between clique exit and size diversity. Expressly, large dependence differences between members within a clique led to clique exit.

Borgatti and Halgin (2011)'s bonding theory emphasizes that groups of nodes can work together and in essence form a single node. They stated that organizations "by working together they can accomplish more than they could alone" (pg. 7). Organizations in this configuration can use the bonding ties between them to act as if they were transferring the capabilities of other nodes to each other. Organizations can use the solidarity ties to coordinate their power to extract better deals with a common negotiating partner. This is the logic behind "unionization". Drawing from this theory we can expect organizations that are similarly situated in terms of their dependence on the NAO to have the tendency to bond together to counteract the power of the NAO. More expressly organizations that have similar dependence on the NAO may be more likely to engage in

dyadic relationships of policy advocacy finding the common need to counteract the power of the NAO. This leads me to posit the following hypothesis.

H1: Similar dependence between organizations on an NAO within a centrally governed network will increase the likelihood of dyadic engagement in policy advocacy.

Another area of research related to service implementation networks looks at the comparative advantages of network structure along with other types of organizational structure. O'Toole (1997) remarked on earlier research stating that hierarchical forms of administration can "push back" weaknesses that individuals have in the decision making process, converting these weaknesses into organizational strength. Part of arranging organizations in hierarchical form is to divide organizations into individual subunits with the focus on individual issue areas ignoring problems which lay outside of a subunit's purview. The problem with this structure, as O'Toole commented, is that it does not take into account issues which are complex and not easily broken down into individual problem areas. Rittel and Webber (1973) called this a "wicked" problem because, as they stated, when it comes to complex public policy issues it makes no sense to talk about "optimal solutions". The most recent authors discussing "wicked" problems (Weber & Khademian , 2008) made the point that complex issues can be best handled with management networks which are composed of a diverse set of actors who bring a wide spectrum of resources to bear on cross-cutting problem areas.

This spectrum of diversity may include actors who carry resources outside the original resources the NAO sought when they initiated the network. Furthermore, partitions and cliques initiated in the original network may have incentives to carry on

with outside activities. For example, groups of organizations within the governance network with similar NAO dependencies may have the incentive to share the resources they have to garner the resources from the environment they need. Organizational obtainment of needed resources may require participation in collaborative policy advocacy. To put it another way, sub-structures initiated by the governance network may carry over to form advocacy networks.

H2: Similar engagement in cliques with the NAO will result in a higher likelihood that organizations will engage in dyadic relationships of collaborative policy advocacy.

H3: When two organizations are embedded in a service delivery clique that includes the NAO, similar dependence on the NAO will result in higher likelihood that these two organizations will engage in collaborative policy advocacy.

The propositions in H2 and H3 are directed at understanding whether prior similar engagements with the NAO will lead to policy advocacy or if there are other contributing factors such as similar dependence on the NAO. If the null hypothesis for hypothesis 2 turns out to be true or if it is found that there is a negative relationship it will be interesting to gain further understanding of the content of the NAO's engagement in network cliques. Likewise, if there is evidence supporting hypothesis 3 it will be interesting to gain a greater understanding of the underlying dynamics.

CHAPTER 2 SOCIAL CAPITAL

The two streams of research cited above have, for the most part, considered advocacy networks and service implementation networks separately. These streams have not looked at the reasons for engaging in policy advocacy networks as a direct affect of engagement in service implementation networks. If we contend that engagement in service implementation networks is related to other types of networking such as policy advocacy, then there is good reason to believe that networking of any kind between organizations will create potential structures of advocacy. Explicitly, it is not enough to ask whether one network type is related to another but we must also ask how and why this occurs. One possible reason for this is that organizations who engage in service implementation networks are likely to develop social capital. In other words, initial engagement in service implementation networks may lead to the development of trust, norms of reciprocity, and reputation (Powell , 1990) which are features of social organizations and are, furthermore, elements of social capital (Putnam, 1995). This capitol is likely spent on advocacy with service implementation network structures persisting, but may be organized informally or be partitioned with less connection to the NAO.

Figure 1 Theoretical model illustrating a service implementation network

Error! Reference source not found.This network may build social capital and may lead to policy advocacy networks. Much of the service implementation structure remains intact. The transference of structure is most likely based on relationships of trust, reciprocity, reputation and norms.
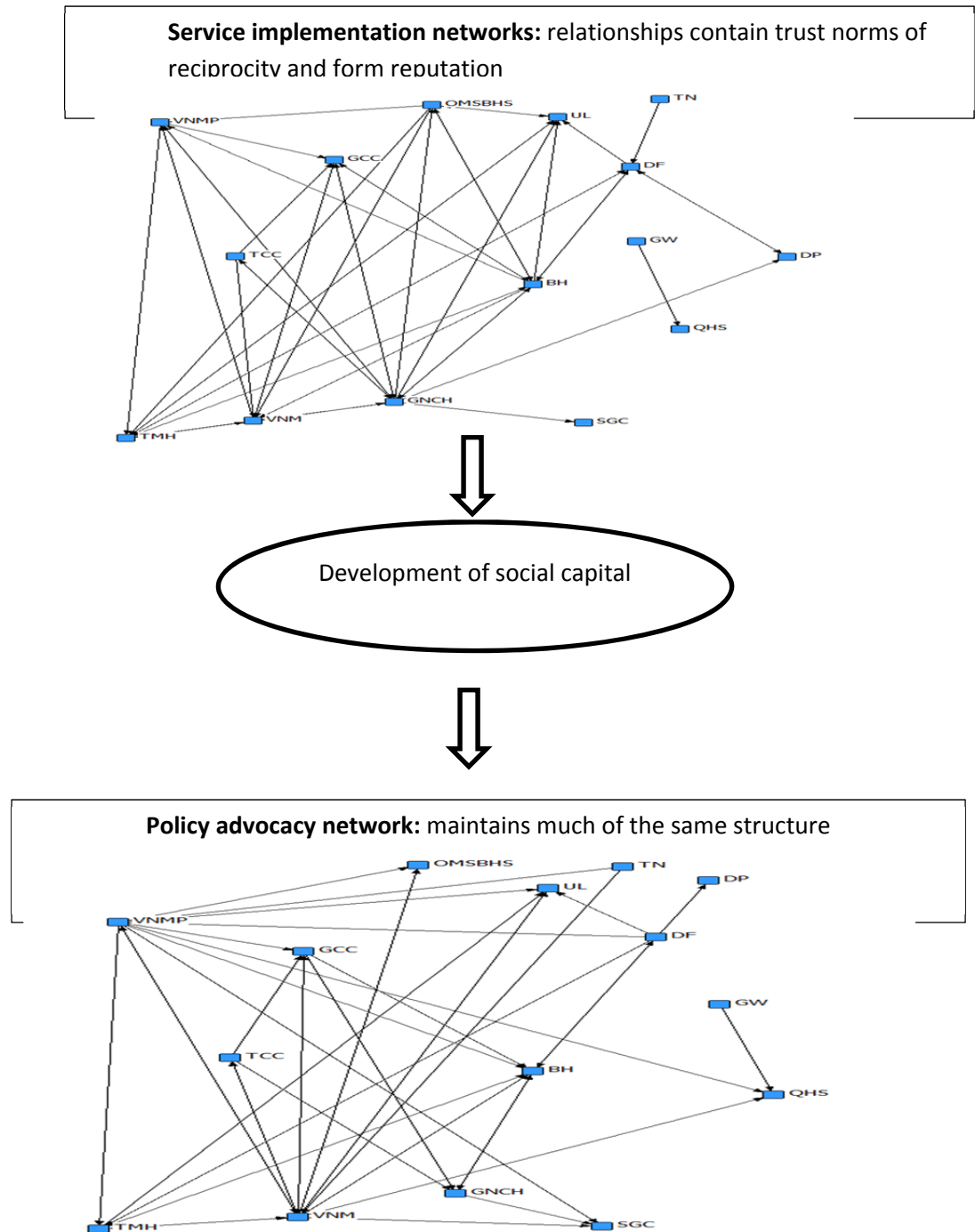
It may be that the existence of ties within advocacy networks requires the inclusion of a certain amount of attributes brought over from engagements in collaborative networks. These attributes include trust, norms, reciprocity and reputation but may also include perceived amounts or types of power. For nonprofit organizations to engage in advocacy they have to be assured that they do not face the threat of being perceived as politically driven, and they have to know that they will not face negative consequences from the state, donors or grantees as a result of their engagement in advocacy. The perceived threat of negative consequences explains the need for relationships based on informally built relational attributes such as reputation or trust. For example, Huxham (2003) observed the negotiation process will likely be more difficult if there is a lack of trust or there are perceived power disparities. Explicitly, in the absence of previous social capital building relations, advocacy relations may be less likely or will have a higher likelihood of floundering.

There may be several relational attributes leading to the spillover of structures from service implementation networks to advocacy networks. The first of these is norms based on either reciprocity or trust. The development of norms in a network is important because as Kogut (2000 p. 410) noted they generate a "structure that dissuades rule breaking". Furthermore, Kogut pointed out that network structure is generated by rules guiding the decisions that are made in cooperative arrangements. Structures of networks are, in other words, shaped by the rules of cooperation and the competing values that are present within the network. In the context of this study norms may play an important role in organizations' decisions of who to cooperate with in advocacy networks based on rules established in previous cooperative arrangements.

Ostrom (1997) remarked that "many norms are learned from interactions with others in diverse communities about the behavior that is expected in particular types of situations" (Pg. 9). Ostrom went further when she explained the norm of reciprocity as a family of strategies which are to (1) identify other players, (2) make a decision as to who else may be a potential cooperator, (3) a decision to cooperate at least initially (4) a decision not to cooperate with those who do not reciprocate, and (5) an inclusion of retribution for those who betray trust. Ostrom's research was applied to individual human behavior but may serve as a good heuristic in understanding organizational behavior in a network setting since organizational leaders are individual persons acting on behalf of their organizations, thus, individual-level theories will apply. Organizations may base the types of connections they have with others on the norms learned through their interactions in diverse communities. For instance, organizations may be engaged in activities that seek to identify other cooperators, engage in cooperation themselves, and do this with the expectation that others will respond with like behavior. These norm building activities may originate in the service implementation network governed by the NAO and continue in other network partitions that are not as formal.

Trust, being closely related to the norm of reciprocity, has also been recognized as playing an important role in the facilitation of social capital (Varda, 2010) and is one of the critical elements affecting interorganizational relations (Powell , 1990). Lambright, Mischen, and Laramee (2010) noted that trust is important in networks because network cooperation is based upon interdependence and there are fewer hierarchical relations which ensure continued cooperation. The authors reported that successful past cooperation had a significant positive relationship to trust between dyads. They attributed

these findings to the idea that through past cooperation we learn whether a partner will act in our best interests. If we extend their findings here we can expect that organizations with past relationships of trust may be more likely to engage in other types of relationships. More expressly, organizations that trust each other based on past experiences may be more likely to engage in policy advocacy together. This is consistent with Ostrom's (1997) framework for the norm of reciprocity. Gulati (1995) found that organizations are more likely to form alliances through repeated interactions because of trust and that this is a stronger predictor of inter-firm alliance than is equity. Again if we extend Gulati's findings we can see, theoretically, that more interorganizational trust may lead to a propensity to advocate together. Conversely it may also be that a lack of trust will lead to less cooperation.

Reputation is another relational attribute which may have an important role to play in determining whether the structure of a service delivery networks will carry over in the formation of policy advocacy network structures. Reputation is closely related to the norms of reciprocity and trust in that if one does not reciprocate or is untrustworthy they may end up with a bad reputation. Furthermore as Powell (1990, p. 326) stated "the reputation of a participant is the most visible signal of their reliability". If actors within a service implementation network gain a reputation for being unreliable or untrustworthy they may find themselves excluded from networks developed for policy advocacy reasons. Conversely, if actors have reputations with desirable qualities they may be more sought after within the network and may be more likely to engage in collaborative advocacy efforts.

To generate an understanding of the governance network and its origins, it will be helpful to hang our conceptualization on Enroth (2011)'s framework for networks. Enroth noted that, for analytical purposes it is best to look at networks using a bottom up approach. That is, we should see networks not as part of already existing political boundaries and institutions but as a collection of independent wills to govern. These independent wills are collected into a broad range of actors such as "social movements, corporations, associations, organizations and institutions" (p. 32). These actors are again collected as individual wills to govern and aggregated into networks. If we incorporate the situation of the network under study into Enroth's framework we can come to a summation of the theories brought to bear so far. First, whether spurred on by the NAO or through unilateral means, individual actors will seek out others forming dyads based on the need to implement services. These dyads, not existing in a vacuum, will form networks generated by resource interdependencies. As interorganizational rapport is built, social capital (i.e., trust, norms of reciprocity, and organizational reputation) will develop structures within the service implementation network. This structure will spill over to form new networks that can be based on policy advocacy. These new networks may be less formal and less dependent on the NAO. Since policy advocacy networks are not as dependent on the NAO and can be directed toward the wider authorizing environment (i.e., donors, citizens, the media, interest groups, and government funders) (Moore , 2000) they may be less centralized as well.

H4: Policy advocacy networks, being less dependent upon the NAO, will be less centralized than service implementation networks.

Network dyads based upon interdependencies will eventually form network substructures or partitions through the processes described above. The organizations within these substructures, also known as cliques, (defined as a subset of group members who are directly connected to each other; and all the actors must have no direct common link to any other actor, Kilduff and Tsai, 2003, p.46) will be more likely to maintain their dyadic interactions, formed in the service implementation network, when they engage in policy advocacy networks.

H5: Organizations with membership in one or more service implementation clique will be more likely to engage in collaborative policy advocacy together.

One way to measure whether the structure of service implementation networks spill over into policy advocacy networks is to measure simmelian ties between cliques otherwise known as clique overlap. Provan and Sabastian (1998) found that networks with a higher level of clique overlap (two independent cliques share one or more actors) were more likely to have a higher level of effectiveness. Furthermore, Krackhardt (1999) noted that a binding tie between two cliques has to adhere to a higher degree of constraint due to the norms that are present within both cliques. In other words, clique 1 and clique 2 will develop sets of norms independently. The actor binding the two cliques together will have to adhere to norm constraints apparent in both cliques. As already discussed, decisions as to who an individual actor may cooperate with may be based on trust, norms of reciprocity, and reputation thus leading to structure. Therefore, actors with membership in one or more cliques are uniquely situated. Their position can give us

valuable insights into service implementation network structure and whether it is related to structures of policy advocacy.

CHAPTER 3 METHODS

The study was based on a survey of the Bernalillo County (which includes the Albuquerque Metropolitan Area) mental health service network in New Mexico. The intended purpose of the study was to examine inter-agency collaboration at a whole network level within a centrally governed health and human services network. In 2009 The New Mexico Interagency Behavioral Health Purchasing Collaborative decided to hire PH New Mexico to replace WO New Mexico as the statewide entity to manage mental health services for roughly 70,000 New Mexicans. The population that PH serves is highly diverse including many Medicaid recipients and minorities.

The transition to the new general contractor has not been smooth. Provider agencies within the network have faced delays in reimbursement from PH for the services that they have rendered. In response, in October 2009 the Collaborative issued a statement of non-compliance letter to PH. The statement required a directed corrective action plan, $1 million in sanction payment to providers, damages and the costs of a state monitor (www.hsd.state.**nm**.us/.../**2010**/BHSD-**Collaborative**-OHNM-1-**27**-10.pdf, accessed on 10/15/10). This coupled with turbulence from Medicaid, the largest payer of publicly-funded mental health services who is facing a $360.6 million shortfall in FY 2012, is making for an uncertain environment. Furthermore, these issues have led to the state directing PH to implement a 3% reduction across a number of Medicaid providers and practitioners. Additional reductions to pharmacy dispensing fees, hospitals and outpatient hospital services are effective in FY10 as well (New Mexico Legislative Finance Committee, 2010; Boyd, 2010).The rough transition to PH, coupled with the

fast-deteriorating state behavioral health budget situation, is likely to aggregate the uncertainty and intensify the resource pressure on service providers (Cunningham, Bazzoli, & Katz , 2008).

Network Approach

This research was based upon a mixed method design including a network survey with follow-up interviews. Our network sample and boundaries were determined through a directory that was provided by WO New Mexico. From this directory we identified 34 adult seriously mentally ill (SMI) network service provider agencies by calling each agency and confirming their contractual relationship with PH. We also confirmed each agency's executive director contact information and that the predominant clients served are adults with serious mental illness (i.e., severe depression, bipolar disorder, or schizophrenia). After PH assumed responsibility over the system in 2010 we asked the Region 3 (Bernalillo County) Director of PH to double check our list. This verification process narrowed our list of agencies down to 33 which included 19 nonprofit, 10 for-profit, and 4 public agencies.

We also obtained a letter of support for our study from the Chief Executive Officer of the New Mexico Behavioral Health Collaborative. The Collaborative is the state agency who oversees the statewide behavioral health services contract with the statewide agency PH New Mexico. The letter of support turned out to be a valuable tool to secure the cooperation of the agencies that were surveyed.

In the summer of 2010 surveys were sent to the executives of the 33 identified mental health service providers. We used Dillman's (2007) method for administering

mail surveys. We first sent out a wave of pre-study notices a week prior to the mailing of the actual survey. One week later we mailed the surveys which included a cover letter, the support letter, the survey, and a postage prepaid return envelope. After two weeks we sent a second round of survey packages to the non-respondents. After several rounds of reminder letters, a third wave of surveys, reminder phone calls, and meeting with agency executives we received 31 responses which accounts for a 93.9% (31/33) response rate.

After collecting the survey responses we conducted follow up interviews with 7 respondent agency executives in the fall of 2010. The interviewed executives represented two for-profit and five nonprofit agencies. We developed a set of open ended interview questions and used the same questions with all of the agencies but included some small changes throughout the process based on earlier answers. We created the questions based on answers that we received from the survey respondents. The interview questions were vetted by two senior mental health researchers. Each of the interviews lasted for about one hour and was audio recorded to ensure accuracy. During the interview notes were taken by hand to record respondents' gestures that were not picked up by the audio recording. Each interview recording was then transcribed verbatim. Atlas.ti (2011), a qualitative research software program, was used to analyze and code the transcripts. Collaborative policy advocacy was one of the major themes that emerged from the cross transcript coding.

Measures

Based on Provan and Milward's (1995) seminal study we developed a roster-matrix questionnaire. Respondents were given a grid with each of the 33 organizations

listed on the vertical axis. On the horizontal axis four types of relationships (sharing information about service innovation, sharing resources, policy advocacy, and referral) were listed. We asked respondents to place a check in a box next to the name of an agency corresponding to the type of network relationship they were involved in if they had the interaction with said agency within the last twelve months. Respondents were also asked to draw a circle around the check if they had frequent interaction with the agency. In the instructions section we defined policy advocacy as collaboratively advocating for mental health policy action on behalf of clients and/or service provider agencies. Sharing resources was defined to include things like sharing physical facilities or collaborating in joint programs etc. Sharing information about service innovation was defined as sharing information on mental health service innovations, such as cultural competence, evidence based practices, and new treatment methods. Lastly, the referral relationship was not defined due to its self-explanatory nature. The three non-advocacy variables were operationally defined as representing service implementation networks.

Variable Operationalization for MRQAP-DDSP

Independent Variables. To create three of the independent variables (shared resources clique overlap, shared information clique overlap, and referrals clique overlap) we first entered survey responses from the 31 roster matrices forming 31 x 31 matrices representing each of our three variables. We confirmed the three types of ties by symmetrizing the matrices by product (Provan, Huang, Milward, 2009), which replaces cells Xij and cell Xji in the matrix by Xij*Xji, i<j. In other words we only count the tie if it has been confirmed by both actors. A clique analysis in UCINET was then run. One of the outputs is a new 31 x 31 matrix saved as clique overlap. This matrix is an actor-by-

actor clique co-membership matrix where a value of k in row i column j represents the number of cliques that vertices i and j are co-members. Values in the i-th diagonal represent the number of cliques that i is included within.

Another variable (multiplex cliques used in table 4) was created by symmetrizing the root matrices of shared resources, shared info about service innovation, and referrals and then adding them together. This matrix, the sum of the first three variables, was then run through the clique analysis operation in UCINET. From this an actor-by-actor clique co membership matrix was created. This variable, Multiplex (clique overlap), is a variable taking into account the three types of service implementation ties that we measured. This variable was used in the multiplex models.

Another independent variable was created by using the matrix algebra function in UCINET 6 to add sharing information and referrals together creating a new multiplex matrix. I then ran a clique analysis which identified 18 cliques. Then, by hand, I identified all of the organizations who shared a clique with the NAO which accounted for 13 out of the 31 organizations. This created a new attribute which was then ran through the attribute to matrix function in UCINET 6. This resulted in a new network matrix which was used as a control variable called NAO clique co-membership (multiplex). I decided to use NAO clique co-membership (multiplex) as an independent variable because if organizations are locked into a clique with the NAO it would be expected that they would engage in policy advocacy together. It should be noted here that resource sharing was not included within this multiplex variable because there were no cliques where the NAO was a member.

Two other variables similar to NAO clique co-membership (multiplex) were created. The first was created by running a clique analysis on the referrals variable identifying each clique and the members thereof. I then, by hand, identified each organization that shared a clique with the NAO. If an organization was in a clique with the NAO they were coded as a 1 and a 0 if not. This attribute array was then run through the attribute to matrix function in UCINET. This new variable was called NAO clique co-membership (referrals). I ran the exact same operation on the sharing information matrix to create the variable NAO clique co-membership (sharing information). These variables were used in the first regression which tested each type of tie separately without the multiplex variables. Again I did not run the same operation on shared resources because there were no cliques within that network that included the NAO.

The next independent variable was created to measure similar dependence on the NAO. In the survey organizations were asked to report the percentage of their 2010 budget that their contract with PHNM represented. The data was then run through UCINET 6's attribute to matrix function using absolute difference. In other words, subtracting the differences in two organizations' percentage of budget that came from the NAO, I created a variable that measured the degree of similarity in two organizations' dependence on PHNM. This variable was labeled NAO dependence and was used because it is expected that similar dependence on the NAO may result in organizations working together in policy advocacy. The purpose of this variable is to shine some light on hypothesis 1 which asks whether similar dependence on an NAO will be related to policy advocacy.

Three interaction variables were created as the product of interaction between similar dependence on the NAO and clique co-membership with the NAO. The first of these three was a multiplex variable which combined NAO Clique co-membership (multiplex) and similar dependence. This variable was created by using the matrix algebra function in UCINET and taking the product of the two variables. In doing so a 1 in row i column j in the NAO clique co-membership matrix would result in one times the difference in budget each organization reported came from the NAO in the new matrix. A 0 in row i column j of the clique co-membership matrix would result in a 0 being placed in the corresponding vector in the new hybrid matrix. Since this operation has the effect of removing the absolute difference scores of the organizations who did not share clique co-membership with the NAO I was able to isolate those organizations with greater homophily when it comes to dependence on the NAO and clique co-membership with the NAO. The creation of this variable was specifically designed to test hypothesis 3 with my multiplex models. This variable is labeled Similar Dependence X NAO clique co-membership (multiplex).

The other two variables were created in a similar fashion as the foregoing description except that instead of using the NAO clique co-membership (multiplex) matrix I used NAO clique co-membership (referrals) for one and NAO clique co-membership (sharing information) for the other. These two variables were created to test hypothesis three in the non-multiplex models. They are labeled Similar Dependence X NAO clique co-membership (referrals) and Similar Dependence X NAO clique co-membership (information sharing) respectively.

Dependent Variable. The dependent variable, policy advocacy, was created in much the same way that the first three independent variables were created. First we entered data from the 31 roster-matrices which corresponded to policy advocacy. Second, the data was arranged in a 31 x 31 matrix with each agency listed in the first row and first column. Next a one was placed in row i column j if there was a relationship. If the relationship was frequent a two was placed in the corresponding vector.

Control Variables The first control variable that was used looked at the sector that each organization came from. The sector variable is important because it is expected that if organizations are in the same sector they will be more likely to collaborate in policy advocacy. The second control variable, size in full time employees (FTE), was used because it was expected that if two organizations are similar in size they would also be more likely to collaborate in policy advocacy. This variable was created by using UCINET's attribute to matrix function with absolute difference. This operation had the effect of creating a matrix where the value in row i column j represents the absolute difference in FTEs between two organizations.

CHAPTER 4 DATA ANALYSIS AND FINDINGS

For quantitative data analysis we used UCINET 6 (Borgatti , Everett, & Freeman , 2002), Netdraw (Borgatti , 2002), and SPSS. The first statistical test that was used in the analysis of the data was a simple one tail paired sample t-test. This test was used to test hypothesis 2 which asks if there is a difference between the centrality of service implementation networks and policy advocacy networks. I decided to use a one tailed t-test in SPSS because it helps to identify the difference in means between two groups' samples taken within the same population. This test was first run by determining the centrality scores for each of the organizations in each of the networks using UCINET. This data was then imported to SPSS to run the t-test.

Another statistical test used was multiple regression quadratic assignment procedure (MRQAP) with double Dekker semi-partialling (DDSP). This test was used to regress the independent variables and the three control variables against the dependent variable. The reason why MRQAP was used is because of the problem inherent in network data of autocorrelation of errors (Dekker, Krackhardt, and Snijders, 2007). Ordinary Least Squares (OLS) does not account for network data that is autocorrelated and thus is not robust enough for our purposes here. In other words, we are analyzing our

data at the dyadic level and actors respond with reference to one another, with these conditions analysis using OLS will result in biased estimators.

MRQAP-DDSP is carried out in three stages. First, it calculates the residuals of all the independent variables in the model. Second, it creates a new residual matrix of the independent variable. Third, it randomly permutes all of the rows and columns of the independent variable residuals, in matrix form, and re-computes the regression. These steps are carried out many times, in the case of this study 2,000 times (Dekker, Krackhardt, & Snijders, 2007). The R-squared and regression coefficients from these random runs are stored and later used to assemble empirical sampling distributions to estimate standard errors under the hypothesis of no association (Hanneman & Riddle , 2005; Kilduff & Tsai , 2003). The procedure is similar to the Freedman-lane (1983) approach except that the calculation of residuals and the permutation occur on the left side of the model equation. According to Dekker et al. (2007) both procedures are equally robust under simulated conditions containing high levels of skewness and spuriousness. Furthermore, DDSP minimizes the effects of collinearity and is robust to its effects.

Six models were tested all together. The first three in table four represent all of the variables that were not multiplex variables. In other words, each independent variable was created taking each type of tie into account separately. For example, the three clique overlap independent variables in table four represent separate types of ties. This is in contrast to the multiplex (clique overlap) variable in table 5 which takes all three clique overlap variables into consideration at the same time. Tables 5 takes into account all of the multiplex variables, which in their own respective ways; combine some of the variables from table 4 (excluding the control variables and NAO dependence). The

reason why separate ties were considered on one table and multiplex relations were

considered on the other is that it will help us to gain a better understanding of the

different dynamics at play when we compare the two types of tables together. In other

words, some of the variables may have reduced explanatory power when we consider

their types of ties separately but may become more explanatory when they are combined.

Conversely, explanatory power may be reduced when the types of ties are combined

giving insight into which variables might be moderating. Splitting these models into two

separate tests all together may also help to reduce the effects of multicollinearity.

<div align="center">Findings</div>

Graph 2 is a novel network illustration showing the correlation between

underlying network structures of service implementation and policy advocacy. In order to

arrive at this illustration several data transforming operations occurred. The full multiplex

network illustration at the top was produced by; first, confirming the ties of the three

variables associated with service implementation networks by using the

Transform$\rightarrow$Symmetrize$\rightarrow$by product function in UCINET (Borgatti , Everett, &

Freeman , 2002); second, the three variables were added together using the UCINET

matrix algebra function creating a multiplex matrix; lastly, Netdraw (Borgatti , 2002) was

used to draw the graph. The network on the lower right was produced by simply

confirming the ties of the policy advocacy network and using Netdraw to create the

illustration. Since the multiplex network at the top does not tell us very much about how

service implementation network structures are related to policy advocacy network

structures I reduced some of the excess noise, for illustrative purposes, and created the

<div align="center">28</div>

graph on the lower left. This network is the same as the top one except that only common

nodes between the multiplex graph and the policy advocacy graph are included.

If one compares the lower two graphs one can see that the structure of the service

implementation multiplex network is similar to the structure of the policy advocacy

network. In other words these two networks, created for very different reasons, share a

similar backbone. For further comparative purposes I ran a QAP correlation and the

pearson correlation coefficient was .63, $p < .01$. These results indicate that there is high

degree of correlation between the two networks with common nodes at the bottom.

Figure 2 Novel network visualization illustrating the tendency for service implementation network structures to spill over into policy advocacy network structures. Note the similar underlying backbone

Full multiplex network including three independent variables (Resource sharing, shared information about service innovation and referrals) added together. Graph includes confirmed ties only.

r=.63***

Same multiplex network with nodes subtracted that were not in common with the policy advocacy network

Policy advocacy network some of the same underlying structure persists

Table 1 Mean, Standard Deviation, and Correlations

		Mean	S.D.	1	2	3	4	5	6
1	Sector	0.36	0.48	---					
2	Size	88.0	149.49	-0.15**	---				
3	Sharing Information (clique overlap)	0.05	0.28	-0.04	0.12*	---			
4	NAO Clique Co-Membership (sharing information)	0.03	0.17	-0.03	0.18**	0.27***	---		
5	NAO Clique Co-Membership (referrals)	0.03	0.17	-0.03	-0.10	-0.03	0.03	---	
6	Referrals (clique overlap)	0.07	0.33	-0.02	0.11	0.42***	0.21**	0.18**	---
7	Resources (clique overlap)	0.00	0.08	-0.06	-0.36	0.36***	0.13*	-0.01	0.22**
8	NAO Similar Dependence	0.20	0.25	-0.03	-0.06	-0.07	-0.02	0.03	-0.03
9	Similar Dependence X NAO Clique Co- Membership (referrals)	0.70	0.25	-0.00	-0.11	0.00	0.03	0.26***	0.05
10	Similar Dependence X NAO Clique Co-Membership (Sharing Information)	0.22	0.67	-0.06**	0.20**	0.05	0.16***	0.04	0.08*
11	NAO Clique Co-Membership (multiplex)	0.16	0.37	-0.06	0.17*	0.26***	0.40***	0.40***	0.23***
12	Similar Dependence X NAO Clique Co-Membership (multiplex)	1.17	1.86	-0.04	0.08	0.06	0.13**	0.18***	0.09*
13	Multiplex (clique overlap)	0.15	0.57	-0.00	0.09	0.70***	0.31***	0.14*	0.82***
14	Policy Advocacy	0.04	0.21	-0.01	0.05	0.52***	0.07	-0.03	0.46***

Table 1 Continued

		7	8	9	10	11	12	13	14
1	Sector								
2	Size								
3	Sharing Information (clique overlap)								
4	NAO Clique Co-Membership (Sharing Information)								
5	NAO Clique Co-Membership (Referrals)								
6	Referrals (clique overlap)								
7	Resources (clique overlap)	---							
8	NAO Similar Dependence	-0.03	---						
9	Similar Dependence X NAO Clique Co- Membership (Referrals)	0.01	0.23***	---					
10	Similar Dependence X NAO Clique Co-Membership (Sharing Information)	0.05*	0.21***	0.24	---				
11	NAO Clique Co-Membership (multiplex)	0.03	0.05	0.25***	0.21***	---			
12	Similar Dependence X NAO Clique Co-Membership (multiplex)	0.04	0.29***	0.61***	0.61***	0.40***	---		
13	Multiplex (clique overlap)	0.25***	-0.06	0.06	0.08*	0.33***	0.12**	---	
14	Policy Advocacy	0.35***	0.00	0.04	0.08*	0.23***	0.12**	0.49***	---

* p<0.10, ** p < 0.05, ***p < 0.01

To test hypothesis 4, positing that policy advocacy networks will be less

centralized than service implementation networks, a one tailed paired sample t-test test

was run as described above. In order to operationalize the variables so that the difference

in means based on network centrality could be measured I had to follow several steps.

First, all four variables had to be symmetrized by product so that the ties could be

confirmed. Next in order to create a fourth independent variable (multiplexity) I used the

matrix algebra function in UCINET to add the three symmetrized independent variables

together. A degree centrality analysis on all the variables including multiplexity was then

run. Since all the variables were symmetrized the centrality score measures the amount of

vertices adjacent to each vertex as opposed to measuring in degree and out degree for

said vertices. After this four paired sample t-tests were run with policy advocacy (degree

centrality) serving as the common variable in which all the other variable's centrality

scores where tested.

Some of the results from the centrality analysis were worth noting. For example,

in the multiplex network PHNM, the NAO, was the most central actor and had 18

adjacent vertices. This was interesting because the next central actor was GNCH and had

10 adjacent vertices. If we compare this to the centrality scores of the policy advocacy

network PHNM had a score of 7 while the next central actor BH had a score of 5.

Furthermore, comparing the overall centrality scores for each of the five networks, policy

advocacy scores at 10.29%; this is below the centrality scores for each of the service

implementation networks. This points to the assumption that centrality for policy

advocacy may be less than service implementation networks.

As far as the paired sample t-tests go we can see, with a decent amount of certainty, that one can reject the null hypotheses and make the decision that there is a statistically significant difference between mean degree centrality scores in three of our four variables representing service implementation networks from that of our dependent variable policy advocacy (degree centrality). The one variable that was not significantly different was resource sharing. Furthermore, since this is a one tail test and the critical value of *t* is 1.6973 we can conclude that the mean centrality score for policy advocacy is significantly less than the mean centrality scores for information sharing, referrals, and multiplexity. This is in support of hypothesis two.

Table 2 Paired Sample T-Test (one tail)

Test includes the mean difference between Policy Advocacy (Degree Centrality) and the other variables

Variables	T-Statistic	Mean Difference	Overall Network Centralization score (%)
Information Sharing (degree centrality)	-2.257**	-.580	16.38
Referrals (Degree Centrality)	-4.325***	-2.387	29.20
Resource Sharing (degree centrality)	1.668	.322	12.64
Multiplex (degree centrality)	-5.101***	-2.322	25.75

Note: DF=30 for all variables

* $p<0.10$, ** $p < 0.05$, ***$p < 0.01$

Policy Advocacy's overall network centrality score was 10.29%

Tables 4 and 5 present the results of the MRQAP-DDSP tests. In model 1 table 4 the control variables, (1) representing sector that each organization was in, and (2) the size of each organization as measured by FTE, were regressed against the dependent variable of policy advocacy. In this model neither of the variables are significant and very little of the variation in the dependent variable is explained. Model 2, with the overlap variables included, explains much more of the variation in the dependent variable at 37%. In this model all three variables that represent service implementation networks were highly significant and were found to have a linear relationship to policy advocacy. This is in support of Hypothesis 5 which posits a relationship between service implementation clique membership and collaborative policy advocacy. Similar dependence on the NAO by itself was not a significant predictor of policy advocacy and this was not in support of Hypothesis 1. Membership in a clique where the NAO is also a member had a high amount of significance for Sharing information but the relationship was negative. This is evidence that sharing a clique with the NAO, where the relationship is sharing information, may actually suppress dyadic engagement in policy advocacy. NAO clique co-membership (referrals) was not a significant predictor dyadic engagement in policy advocacy. The product of Similar Dependence and NAO clique co-membership (sharing information) was marginally significant. This meant that NAO dependence and NAO clique co-membership, when taken together, had only a slight amount of significance.

Table 3 Results of Multiple Regression QAP with DDSP (independent relations)

Variables	Model 1(Control Variables)	Model 2 (with overlap variables)	Model 3 (with NAO specific variables)
Sector	-0.012	-0.011	0.010
Size (Full Time Employees)	0.050	-0.015	-0.14
Sharing Information (clique overlap)		0.348***	0.362***
Referrals (clique overlap)		0.284***	0.314***
Resource Sharing (clique overlap)		0.161***	0.161**
NAO Clique co-membership (Sharing information)			-0.112***
NAO Clique co-membership (Referrals)			-0.083
NAO Similar Dependence			-0.036
Similar Dependence X NAO Clique co-membership (Referrals)			0.025
Similar Dependence X NAO Clique co-membership (Sharing Information)			0.039*
R² (Adj. R²)	0.003(0.002)	0.372(0.369)***	0.392(0.386)***

Note: Dependent Variable: Policy Advocacy
All coefficients presented are standardized coefficients * p<0.10, ** p < 0.05, ***p < 0.01

Table 5 presents the results of the models including the multiplex variables. Model 1 again only tested the control variables and there was no significance. Model 2 tested Similar Dependence on the NAO and the Multiplex (clique overlap) variable which is a combination of the clique overlap variables from the previous table. Multiplex (clique overlap), in this model, was shown to have significant linear relationship to policy advocacy. The result was moderated from the previous table where the variables were tested separately. The R^2 in model two table 5 (0.247) was significantly less than the R^2 in model two table 4 (0.372). There are two possible reasons for why this occurred. First, the lower R^2 result may be due to resource sharing not having as close a linear relationship as the other clique overlap variables. There may have been a moderating effect. Second, multiplex ties result in more links being counted than were present in the dependent variable (policy advocacy) which is a tie that is being considered separately. A larger amount of ties in the multiplex relation may have resulted in less variability in the dependent variable being explained. NAO clique co-membership (multiplex) had no explanatory power. NAO Similar Dependence X Clique co-membership (multiplex) was found to have a weak linear relationship to Policy Advocacy. Model three added less than one percent of explanatory power to model 2.

Table 4 Results of Multiple Regression QAP with DDSP (multiplex relations)

Variables	Model 1(Control Variables)	Model 2 (with NAO similar dependence and Multiplex Cliques)	Model 3 (including interaction term)
Sector	-0.012	-0.016	-0.012
Size (Full Time Employees)	0.050	0.003	-0.006
NAO Similar Dependence		0.035	-0.018
Multiplex (clique overlap)		0.497***	0.473***
NAO Clique co-membership (multiplex)			0.053
NAO similar dependence X Clique co-membership (multiplex)			0.042*
R² (Adj. R²)	0.003(0.002)	0.247(0.244)***	0.253(0.249)***

Note: Dependent Variable: Policy Advocacy

All coefficients presented are standardized coefficients * p<0.10, ** p < 0.05, ***p < 0.01

CHAPTER 5 QUANTITATIVE FINDINGS DISCUSSION

To summarize the quantitative findings there was little to no support for

hypothesis 1, which posits a relationship between similar NAO dependence and policy

advocacy in general. This may be explained in the context of this study. First, the

network is centrally governed where the majority of actors are either nonprofit or public

entities. In this type of network similar dependence on resources from the NAO may be

less important than homophily in other areas such as similar organizational culture or

similar clients. Another factor which may be unique to this type of network is that actors

who are engaged in policy advocacy may place a higher importance on the missions of

their respective organizations. Consequently, ties made for the purpose of advancing

organizational missions may be more explanatory than ties made based on the NAO. This

supposition may also explain the negative relationship between organizations that are

engaged in cliques with the NAO (information sharing) and their lack of dyadic

engagement when engaged in relationships where the NAO is not present such as Policy

Advocacy.

Furthermore, since the network, at the time of the survey, was experiencing

resource turbulence there may have been a decrease in the amount of trust organizations

had in the NAO. For example, in our interviews with the seven agency executives, one

common theme that surfaced was a sense of anxiety over the NAO's push for core

service agencies (CSA). This may have been seen as a threat to many of the smaller

agencies in the network who may not have had the resources to provide all or most of the

services their clients need. Since earlier research points to the idea that trust is an

important factor in network cohesion (Lambright, Mischen, & Laramee, 2010; Gulati,

1995), the NAO may have been marginalized in importance in the policy advocacy network in general. Therefore it may have been for these reasons that common dependence on the NAO was not as an important factor by itself.

It may have also been for trust reasons that engagement in a clique with the NAO was observed to have a negative influence on dyadic engagement in policy advocacy generally. This observation provided contradictory evidence for hypothesis 2 stating that engagements in cliques with the NAO will be related to engagement in policy advocacy. NAO clique co-membership (sharing information) had a statistically significant negative linear relationship to policy advocacy. This suggests that organizations embedded in cliques with the NAO may not trust other non-NAO organizations within the clique enough to engage in policy advocacy together, generally speaking. As was noted above, trust has been shown to be an important factor in organizational decisions to engage in policy advocacy together.

It is important to note that NAO clique co-membership (referrals) returned inconclusive results. This may be explained by the nature of ties made based on referrals. In order for an organization to have a referral tie, each organization has to simply send their patients to another organization within the network. Direct communication is not a requirement, therefore, relationships based on trust and reciprocity may play a less important role. On the other hand, ties made based on sharing information require more communication between organizations. Trust and reciprocity may play a more central role in communication based on sharing information in a service implementation network. Thus, ties made based on the organizational need to share information, which carries the requirement of formal communication, may be more likely to result in dyadic

relationships of policy advocacy. Less formal ties based on referrals, requiring less

communication, may be less likely to spill over into structures of policy advocacy.

Hypothesis three, which posits a relationship between dyadic relationships of

policy advocacy and NAO clique co-membership with similar dependence on the NAO,

had mixed results when tested. More specifically, the variable which tested Similar

Dependence X Clique co-membership (Referrals) was not significant while the other

variables used to test this hypothesis had marginal significance. One possible explanation

for why the Referrals variable had no significance is for the aforementioned reasons. One

organization sending a patient to another organization carries no requirement of direct

communication. Thus there is less of an opportunity for trust and reciprocity to play a

central role.

Conversely, the other two variables which tested hypothesis three had marginal

positive significance. This was unexpected considering the results of hypotheses 1 and 2.

For example, NAO Clique Co-membership (Sharing Information) by itself was observed

to have a significant negative relationship to policy advocacy while NAO Similar

Dependence had no significance. The results in table 5, testing the multiplex variables,

were similar to this as well. This can be explained by the operations that were used to

develop these variables. NAO similar dependence takes into account all of the

organizations tested within the network when it was tested by itself. On the other hand,

the NAO Clique Co-membership variables take into account only those organizations that

are locked into a clique with the NAO. When these two variables are multiplied only

those organizations that have both similar dependence and are in a clique with the NAO

are taken into account.

This explains algebraically why similar dependence on the NAO and sharing a clique with the NAO, when taken together, and while excluding those organizations that did not have these two ties in common, had different results than when considered separately. A possible explanation for this observation theoretically rests in the idea that organizations who share information with each other, and with the NAO, together in a clique setting, may have built relationships of trust, reputation, and reciprocity. This may have led to a greater possibility of these specific organizations engaging in dyadic relationships of policy advocacy. If we take Borgatti and Halgin (2011)'s bonding theory we can apply it here. It may be that these specific organizations have found other actors who have similar dependence on the NAO and have decided to engage in policy and advocacy to counteract the power of the NAO. One interesting area of possible further research may be to gain an understanding of the content of the policy advocacy between organizations which fall within this particular category.

Furthermore, the results of hypotheses 1-3, taken together, point to the possibility that there may be two categories of agencies within the broader mental health network. The first category of organization is not connected to the NAO through cliques and similar dependence on the NAO is not important. The other category of organization is connected to the NAO clique-wise, and similar dependence on the NAO is more important. This observation can be further understood by the reported results of the variables used to test hypothesis 5. Hypothesis 5 posits a relationship between collaborative policy advocacy and service implementation clique membership. Two variables in table 4, Sharing Information (clique overlap) and Referrals (clique overlap), were observed to be significant while the third variable Resource Sharing (clique overlap)

was observed to have moderate significance. In table 5 Multiplex (clique overlap) was observed to be significant also. This is strong evidence in support of hypothesis 5 and confirms the supposition that membership in service implementation cliques are related to dyadic engagement in policy advocacy.

Generally speaking, service implementation cliques are highly related to policy advocacy but when we look more closely we can see that the underlying dynamics are more complex. On one hand, those organizations that are both similarly dependent on the NAO and who share a clique with the NAO are more likely to engage in dyadic relationships of policy advocacy. On the other, those organizations that only share a clique with the NAO and are not similarly dependent will be less likely to engage in dyadic relationships of policy advocacy. The difference between these two categories is that, generally speaking, a higher amount of trust is placed on organizational relationships that are garnered outside of the NAO's realm. When similar dependence on the NAO is introduced we start to see an increase in importance on that dependence. The introduction of dependence may signal homophilly between organizations when it comes to their policy advocacy needs. In other words, these organizations may have similar needs when it comes to garnering resources in the environment through policy advocacy.

The statistical support for hypothesis 5, positing a relationship between service implementation cliques and dyadic engagement in policy advocacy, helps us garner a wider understanding of the centrally governed network as a whole. Since our data was not longitudinal I cannot say that service implementation networks lead to policy advocacy networks. What we can say, with a degree of statistical confidence, is that the two types of networks are related and thus there is a possibility that one leads to another.

It may be a good idea for further research to look into this possibility. Some of the reasons why we can hypothesize on the idea that service implementation networks lead to policy advocacy networks, is related to some of the literature that I laid out in the beginning of this thesis. More specifically, it may be that the development of service implementation networks creates social capital which may lead to a greater probability that actors will engage in networks of policy advocacy. It is worth noting at this point that this probably does not occur in a vacuum and that there may be other types of networks or influences that shape policy advocacy networks. In this specific centrally governed network of health and human service provider agencies our data may be showing evidence of service implementation network structure and its link to policy advocacy network structure. For the purposes of exploring this further the next section will add to the discussion by attempting to discover some of the content of policy advocacy.

CHAPTER 6 CONTENT OF POLICY ADVOCACY

By using interviews which included seven of the surveyed organizations'
executives (five nonprofit and two for profit) we were able to advance some of the
theoretical framework and develop a more robust picture of our service implementation
and policy advocacy networks. These interviews were conducted in the fall of 2010
which happened to be a resource turbulent time for many of the organizations in our
study. The reason why we chose to use a mixed method design for this research is
because the quantitative data was only able to answer questions related to whether or not
there is a relationship between service implementation network structure and policy
advocacy network structure. Qualitative data is better suited to answer the how and why
questions using contextual evidence. In other words, in order to gain a fuller picture, it is
not enough to ask whether the two objects of inquiry are related but one must also ask
how the relationship came into being and why the relationship exists. Furthermore, this
type of research can help to inform later research into related areas of inquiry.

In the quantitative findings section above some of the possible explanations for
why there are lower centrality scores for policy advocacy networks than for service
implementation networks are posited. There is also a discussion proposing reasons for
why similar dependence on the NAO had no explanatory power in the general network
when considered by itself. The suggested reasons for both of these observations were
related to the idea that the NAO is more detached from policy advocacy networks than it
is from service implementation networks. In the interview data there was anecdotal
evidence backing these suppositions. Huxam (2003) noted that a lack of trust will result
in making the process of collaboration more difficult. There are several different

instances where organizations expressed a lack of trust in either the Collaborative or the

NAO in charge of paying agencies for services rendered under Medicaid. One example

can be illustrated by the following response from an agency executive that provides

services to newly released female prisoners.

> "They want to keep it in house [CSAs] but partly why take on the headache you
> know because PHNM has created a contract that makes them financially and
> legally responsible for the sub-contractors and it's like they don't want that and
> there is nothing in it for them so you know in theory we are attempting to
> collaborate and it's not happening right now so I would say perhaps what our
> approach has been has been to both in all respects HUD and the budget and the
> um core service agencies is to really focus on the policy and advocacy work to try
> and make some system wide changes".

The system wide changes that this agency executive was referring to were related

to the NAO's push for more Core Service Agencies (CSA). More CSAs, in the opinion of

this executive, would have resulted in the agency receiving reduced funds for services

rendered under Medicaid. The proposed structure under the new CSA model would have

made it so that smaller organizations were cut out of the funding loop. The CSAs would

have wanted to provide most of their services in house. The source of the lack of trust for

the NAO seemingly comes from their perceived interests in lowering their administrative

costs by contracting with as few organizations as possible and structuring contracts in a

way that effectively cuts smaller organizations out. Another executive leading an agency

that provides healthcare services to homeless people, while listing off a large amount of

strategic collaborations that her organization is involved in, stated that "the local

collaborative um we haven't had anyone there for a while".

The above statement by the executive from the agency that provides services to

newly released female prisoners provides content helping to explain the results of

hypothesis 2. In sum this hypothesis stated that there would be a relationship between membership in cliques with the NAO and dyadic engagement in policy advocacy. This agency was identified through the qualitative analysis to be engaged in a four organization clique with PH (the NAO), BH, and TMH. BH and TMH are both considered to be CSAs while the organization that made the statement (DF) is a smaller organization and at the time was not considered to be a CSA. DF's statement to add further context was referring to BH and TMH in response to a question asked by the interviewer. The statement provided some evidence that the NAO has structured its contracts with service providers in a way that reduces the likelihood that these organizations will include non CSA agencies in service implementation. It may also be for this reason that the CSA organizations within this clique are less likely to engage in collaborative policy advocacy.

Another issue that is related to the trust problems that many of the agencies have with the NAO has to do with the NAO's lack of reciprocity. If we go back to Ostrom (1997)'s heuristic for the norm of reciprocity we can find evidence that the NAO was not adhering to at least some of these norms for several of the agencies that we interviewed. The fourth and fifth steps in Ostrom's heuristic which includes; first, a decision not to cooperate with those who do not reciprocate; and second, retribution for those who betray trust-- may explain some of the detachment the NAO is experiencing when organizations collaborate in policy advocacy. One example of this can be found in a comment that was made by an executive whose agency provides services to people with developmental disabilities.

"And for instance [PHNM] (the NAO) I mean I don't admire them for anything they just called us the other day probably owe us 60,000 dollars but they ran out of money for the last fiscal year. And they are not paying any of it. I mean it's absurd and people complained about [WONM] and I am telling you we never had that problem. We had problems with [WONM] but never that type of stuff".

This organization is locked into a contractual agreement with the NAO which means that their options are limited as far as reciprocity goes when it comes to service implementation. If Ostrom (1997) turns out to be correct we can expect that this organization will be less willing to collaborate with the NAO when it comes to work that may be optional such as policy advocacy. This may be an area for further consideration.

The findings from the qualitative analysis so far have helped to provide an anecdotal picture of the test results for hypothesis 1 and 4. The tested hypotheses proposing (1) that similar dependence on the NAO may be related to policy advocacy, and (2) that there will be lower centrality scores for policy advocacy networks than for the service implementation networks; provided evidence that the NAO may not be very well connected in policy advocacy networks. The tests performed on these two hypotheses were simply able to tell us that there was less centrality and that dependence on the NAO was not explanatory, in a general sense, when it came to policy advocacy networks. What this qualitative analysis does is give us anecdotal answers to some of the why and how questions associated with the two hypotheses. In other words, trust and norms of reciprocity probably played a central role in determining how connected the NAO was, and how centralized the policy advocacy networks were. This is relevant because the NAO may find that its importance has been marginalized within the wider network.

In order to provide anecdotal answers to some of the why and how questions associated with the proposition in hypothesis 5; that service implementation network structure is related to policy advocacy network structure, I have provided the following tables and analysis. Several themes emerged from the analysis which relate to the building of social capital. These emerging themes were related to Putnam (1995)'s elements of social capital. The elements (trust, norms of reciprocity, and reputation) were all common themes within the interview data to varying degrees. There are only six agencies listed in the following table because the first interview picked up on the themes to a limited degree. After the first interview we slightly changed some of the follow up questions to better capture themes related to collaborative policy advocacy and social capital.

As discussed in the theory building section of this paper the elements of social capital were proposed as, at least a partial, explanation for why service implementation network structures spill over into policy advocacy network structures. One of the most widespread elements evidenced by the data was the norm of reciprocity. Agency executives gave many examples of their decisions to cooperate with others based on reciprocity. For example, one executive gave a very simple answer when she explained that she would give information to a partner if he promised to sit on the human rights board for two years. Another executive explained that in order to cooperate with others one has to be willing to give and that one cannot always expect to "take take take from them". It seems that many of these reciprocated ties led to a development of network structure and further cooperation which may have been a predictor of collaborative policy advocacy

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Table 5: Quotes exemplifying elements of social capital which create spillover from service implementation structure to policy advocacy structure

Organization	Trust	Norms of Reciprocity	Reputation
Agency that provides services to newly released female prisoners	In the policy and advocacy realm I do tend to be a little more judicious about who I talk to and what I share with them. . . your in a setting in which you are trying to persuade someone and so the information that you provide in that context is definitely packaged in a way to be persuasive . . . I wouldn't necessarily share all of the ramifications of our work	yeah and you know in the context of the CSA stuff I was working with [. . .] who was the director of [TMH] and I don't know what would have come of that but he was always um putting out that they were not going to let DF fall through the cracks so we had a good relationship over time.	
Agency providing healthcare services to homeless		I have this beautiful diagram that I made . . . that's its essentially um it identifies who the key partners are um who sits at those tables and whether they are the primary care association that at the state level is important.	But we also recognize the physicians [in the community] their power the reputation and the resources that we have in the community and so I think that even our mission is multi-faceted in that it is about services and it is also about doing advocacy.
Agency Providing services to developmentally disabled		that therapist friend who happens to be brilliant but he's not good at this stuff it was like I will give you this information but I want you to serve on the human rights committee for two years	I do feel like we have a good reputation as an agency people wanna take information a lot so it is a matter of sharing

Table 5 Continued: Quotes exemplifying elements of social capital which create spillover from service implementation structure to policy advocacy structure

Organization	Trust	Norms of Reciprocity	Reputation
Medium size for-profit mental health service provider		right and what's the information they are sharing and also is there some give and take it's not fair for me to just to take take take from them and then they aren't going to want to hang out with me either so there has to be some sort of equal you have to be on an equal footing to some extent	[Interviewee makes his decisions for who to share info with based on] yeah you know on one level very simple word of mouth reputation
Small nonprofit mental health service provider (provides basic counseling services)	Trust is Ok but you just have to take it as it can happen or it can't happen it's nice to have that trust that this is something that you can do and that it is going to work.		They are actually very good because well they can't hold staff people can't work there for very long. So anybody who is in mental health has worked there sooner or later but because they have been there forever and they have political ties they will be here for a long time
Medium sized nonprofit provides basic counseling services	Because everybody is under tight resources so everyone is a little cautious so everyone asks you know what are we expected to provide here so I think kinda getting past that so you know establishing trust and trying to be open with one another is. . . easier	Um so anyway we go out to other agencies because we know that we don't have the money to put this event on . . . and they have some grandparent type functions also so we can share resources so and co-sponsor and do something nice for them	Word of mouth and reputation for and for me this is what is important reputation for actually delivering the service for following through.

Reputation was discussed several times as being important for organizations to make the decision to collaborate. Reputation was mentioned in two different ways. The first was that organizations felt that their own reputation was important to have the kinds of quality ties that where needed to accomplish their goals. For example, one organization (the agency that provided services to the developmentally disabled) felt that the ties that they had for sharing information where at least partly due to their reputation. The second way that reputation was mentioned was that in order to collaborate with other organizations they need to know that the other organization was well respected. One executive explained his organization's collaboration was based on "very simple word of mouth reputation". This serves as further evidence that relationships that are built based on reputation in a service implementation network may lead to relationships of policy advocacy.

Trust, the last part of social capital that was studied, turned out to be an important piece of policy advocacy structure. This is consistent with Lambright et al. (2010)'s findings which noted that trust is important in networks because network cooperation is based upon interdependence and there are fewer hierarchical relations which ensure continued cooperation. One example of this came from the executive whose organization provides services to newly released female prisoners when she stated that "in the policy and advocacy realm I do tend to be a little more judicious about who I talk to and what I share with them". These sentiments were echoed by others who felt that it was important to be cautious about who they shared information with when it came to advocacy.

CHAPTER 7 DISCUSSION AND CONCLUSION

To tie the information together that has been brought to bear so far it is best to think of this study from the bottom up approach that Enroth (2011) conceptualized for policy networks. First, in the context of this study, networks can be envisioned as a set of individuals that have come together to implement a service or to advocate. The decision to collaborate may have been made based on unilateral concerns or may have been spurred on by the State and the NAO. The individual wills group together based on similar sets of circumstances. These groups can be aggregated into networks as long as their interactions can be described as a web of interdependencies. In the policy advocacy network under study much of the dyadic interactions which form the structure of the network may have been developed in the service implementation network. Many of these interactions were based on the elements of social capital including trust, norms of reciprocity and reputation. Some of these interactions, which can be aggregated into network structures, may have spilled over to create structures of policy advocacy.

The proposed model in this research seeks to explain a portion of a process that was observed at the time the surveys and the interviews were conducted. Taken together, the observed decrease in centrality from service implementation networks to policy advocacy networks, the observed linear relationship between their embeddedness in clique structures, and the qualitative findings pointing to possible explanations for why and how service implementation networks spilled over into policy advocacy network structures—leads us to an overarching conclusion about the observed relationships. First, the seeds of policy advocacy network structure most likely emanate from the desire to provide services to the mentally ill. Second, this desire probably resulted in the

development of service implementation networks based on interdependencies. Being that the service implementation network is not perfect and since it is governed and largely funded by the state a need to advocate was developed. The need to advocate resulted in networks of policy advocacy where some of the structure of the network carried over from the service implementation networks while the rest of the structure emanated from other arenas that were not captured by our data.

At this point it is important to note that this model is not an all-encompassing model. It seeks to expand on a chunk of real estate in the policy and advocacy realm. There are other factors that contribute to policy advocacy that are not being explored in this study. Those factors may be a good area for further research. This research seeks to add to the growing body of knowledge on interorganizational relationships taking a bottom up approach. It is bound by many of the limitations that network researchers (and researchers in general) often face. First, it does not take into account the temporal dynamics which can be so insightful when it comes to testing whether one network structure leads to another. Second, while the surveyed sample was very close to the target population, the size of the sample was relatively small. Last, the generalizability of the study may be limited because it seeks to explain network dynamics within a relatively unique set of circumstances. Namely, the networks of inquiry and their bounds were determined by a central authority (the NAO), most of the networks were centrally governed by the NAO, and the network was in a state of turbulence at the time of the sample.

What this research does is points us in the direction of developing a more complete theory of the origins of policy advocacy networks and gives us some insight

into the relations that organizations have. It gives us further insight into the idea that, while two organizations may cooperate to provide a service, they may not cooperate in other realms. Their cooperation may be limited by things like trust, reciprocity, and reputation. While those three factors limit interaction on one hand (in their absence organizations are less likely to engage in relationships) they can enhance interaction on the other. More research is required to understand these relationships more fully.

This research does have practical applications as well. For example, the results of hypothesis 2, finding a negative relationship between membership in a clique with the NAO and policy advocacy, when tested separately generated several possible dynamics that are worth discussing. The first of these dynamics was that it may be that the NAO is serving as a "big brother" in cliques where the NAO is a member. The observation in hypothesis 2 may be evidence that the NAO is influencing organizations not to collaborate in dyadic relationships of policy advocacy with other members in their respective cliques. Furthermore, the NAO may have a vested interest in keeping internetwork policy advocacy to a minimum and maintaining collaborations at the service delivery level. A strategy that smaller organizations may be advised to take would be to counteract the asymmetrical power of the NAO by creating advocacy alliances with other organizations in the network who have similar dependence. If the NAO is playing a "big brother" role within service delivery cliques it is advisable not to allow the NAO to divide and conquer. Organizations may, in this regard, be able to garner more resources from their environment.

Another dynamic that may be present is that the NAO connected organizations may have reduced levels of trust within the network. One possible explanation for the

negative relationship between NAO Clique Co-membership (Sharing Information) and policy advocacy is that if organization X and Y are in a clique with organization Z (the NAO) it may be that organization X does not trust Y simply because X has witnessed the relationship between Y and Z. It may be true that network members distrust the NAO to such a degree that they are concerned with perceived relationships between Y and Z. If this is the case, it may be advisable for the NAO to try to develop relationships of trust so that smaller organizations within the network do not have a reason to try to counteract the power of the NAO.

The last dynamic comes from the supporting evidence for hypothesis 3. H3: posits a relationship between NAO clique co-membership and similar dependence on the NAO on one hand and engagement in policy advocacy on the other. As stated above it may be advisable for organizations with similar dependencies on the NAO to create alliances to counteract the power of the NAO. The results of the analysis provide some evidence that this might already be happening to a certain degree. The variable which tested similar dependence multiplied by NAO Clique Co-membership provides evidence for this. As discussed in the quantitative findings section certain organizations that have similar dependence on the NAO and share a clique with the NAO are more likely to engage in dyadic relationships of policy advocacy. Outside the scope of this study is the content of these interactions. One can imagine that some organizations are making alliances with other similarly situated organizations to counteract the asymmetrical power of the NAO. This is only one explanation for this observation. Other organizations may be working with the NAO for the purposes of service implementation and policy advocacy. This is speculation but may be an interesting area for further research.

This research contributes to theory in one major way. Borgatti and Halgin (2011)'s bonding theory stated that organizations will bond together to create ties of solidarity. Their work reports that peripheral organizations will bond together for the purposes of counteracting the power of a larger organization. This research provides some evidence that this happens but only under certain conditions. For example, NAO clique co-membership was negatively related to the possibility that organizations will engage in dyadic relations of policy advocacy. Furthermore, when NAO similar dependence was taken by itself the results were found to have no statistically significant impact. When these two factors were taken together there was evidence that they positively influenced policy advocacy. This is important because it shows that organizations will only bond together to counteract a more powerful actor under certain conditions. Other conditions may discourage organizations from bonding.

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