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Web of Ties: The Effect of Relationship Ties on Government Funding for Nonprofit Organizations

Anthony Heath Rico

University of Kentucky, ahrico5@gmail.com

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Dr. Dwight V. Denison, Major Professor

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WEB OF TIES: THE EFFECT OF RELATIONSHIP TIES
ON GOVERNMENT FUNDING FOR NONPROFIT
ORGANIZATIONS

DISSERTATION

A dissertation submitted in partial fulfillment of the requirements
for the degree of Doctor of Philosophy in the Graduate School at
the University of Kentucky

By
Anthony Heath Rico

Lexington, Kentucky

Director: Dr. Dwight V. Denison, Professor of Public and
Nonprofit Finance, Martin School of Public Policy and
Administration

Lexington, Kentucky

2016

ABSTRACT OF DISSERTATION

WEB OF TIES: THE EFFECT OF RELATIONSHIP TIES ON GOVERNMENT FUNDING
FOR NONPROFIT ORGANIZATIONS

Chapter 1 raises the research question guiding this study. Do relationships that board members of nonprofits have to officials in other agencies affect the likelihood of acquiring grants? The objective of this study was to examine the role that relationship ties played in the nonprofit sector's ability to receive grants.

Chapter 2 ties the research agenda to existing research. Nonprofit organizational and financial behavior was explained in terms of resource dependence. Since nonprofit organizations face uncertainty in resource allocation, the behavior of the organization and the board members change in reaction to uncertainty. The relationships that board members possess serve as social capital for the nonprofit through a series of formal and informal ties.

Chapter 3 provides a theoretical framework for measuring relationship ties as well as other variables to funding. Ties that were measured included previous work experience in government agencies, nonprofit agencies, for-profit organizations, and universities. Relationships ties also included previous appointment to a nonprofit board and membership in professional associations. Additional variables such as financial and organizational measures were considered that had an effect on funding likelihood. Expected funding then became a function of all of these variables. This framework led to the hypothesis that nonprofits with a greater number of relationship ties, controlling for appropriate variables, will receive more funds from a government agency.

Chapter 4 describes the methods used. The sample of organizations included 176 nonprofit community healthcare organizations over the span of five fiscal years. Board member names, financial and organizational data, and relationship ties were collected as they were expected to affect funding outcomes. Information on relationships was obtained from three sources: LinkedIn profiles, Who's Who profiles, and agency websites. Financial and organizational variables were obtained from nonprofit organizations' 990 tax forms.

Chapter 5 details the analyses and the results from the collected data. Conducted analyses included a series of multiple regressions, a probit regression, and fixed-effects and between-effects panel data regression models. The findings partially supported the hypothesis. While there were some relationship ties that were correlated to anticipated funding, the effects were small across analyses. Financial and organizational variables overshadowed the effects of relationship ties. There was evidence of mediation in that a number of variables were significant only if board members were in an organization receiving funds prior to the examined time period. Ties to other nonprofits mattered only when an agency already had funding.

Chapter 6 concludes with possible explanations, policy implications, and further directions.

KEYWORDS: Nonprofit finance, Grants, Board members, Nonprofit networks

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Anthony Heath Rico
Student's Signature

August 12, 2016
Date

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ORGANIZATIONS

By

Anthony Heath Rico

Dr. Dwight V. Denison
Director of Dissertation

Dr. Eugenia F. Toma
Director of Graduate Studies

August 12, 2016

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"It's not the end, it's the beginning…" – from "Shining Symbol" by Roy Ayers and Carl Clay from the motion picture soundtrack to *Coffy* (1973).

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CHAPTER 1

INTRODUCTION AND RESEARCH QUESTION

Grant writers seek the perfect formula that creates a successful proposal to secure funds. Though many nonprofits rely on fundraising, there are situations in which agencies cannot cover all operational costs with contributions. Nonprofit organizations often need to fund operations through external sources such as grants. When funding is limited, grants from government and other nonprofit agencies become an essential part of remaining operational. Such funding situations lead to the question of how to secure essential grants, how to write them effectively and efficiently, and what components a grant writer should include in a proposal to capture the attention of grantors. This work asked specifically whether highlighting board members' relationships to other organizations was useful in obtaining grants.

Regardless of the talents of a grant writer or the capacity of the organization, there are variables outside of the grant proposal that can affect the likelihood of an organization's acquisition of funds. Such variables can influence a grantor's decision; for example, political variables, such as Congressional district funding priorities, or personal variables including established relationships with a powerful decision maker in a government agency. This study focused on personal variables including existing relationships and their influence in grant acquisition. Among the questions this research raised were: Did an agency that had personal relationship connections to a grantor increase its chance of securing a grant? Did relationships to officials in other agencies have an effect on grant acquisition outcomes? It is likely that an organization's reputation or track record with a grantor comes into play in grant acquisition.

In addition to previous performance with a grant, the objective of this study was to examine the role that relationship ties played in the nonprofit sector's ability to receive grants, examining this relationship from a resource dependence theory perspective.

This study proposed that board members of nonprofits with a greater number of relationship ties were expected to receive more funds from a government agency. The population for this study was 176 nonprofit community healthcare centers in the Midwest region. The total amount of Health Resources and Services Administration (HRSA) grants per organization was used as the measure of funding. Total HRSA funds, grant revenue and expenditures, assets, organizational variables, and board membership and upper management appointments were collected from IRS 990 data (Internal Revenue Service, 2015). Affiliation to government officials, other nonprofits, for-profit agencies, universities, and other nonprofit board appointments were collected from biographies on nonprofit websites, the Marquis Who's Who database (Marquis Who's Who Ventures, 2016), and LinkedIn information (LinkedIn, 2016). Previous work experience in government, other nonprofit agencies, for-profit agencies, previous appointments to another nonprofit healthcare agency's board, and biographical listings of memberships in professional associations such as the American Medical Association and the American College of Healthcare Executives was also reviewed.

Independent variables were examined from fiscal years 2008 to 2012 as they affected HRSA funding for fiscal years 2009 to 2013. The number of ties and the closeness of ties controlling for other funding determinants served as the key independent variables while the magnitude of HRSA funds served as the dependent variable. This study tested whether the number of ties a board member or manager had with other

nonprofits and government officials explained variation in the amount of federal funding, over and above other predictors of the amount of funding received. A probit regression was used to determine the likelihood of funding based upon the mixture of independent variables. Multiple regressions without panel data were utilized in order to build future panel data models as well as preview any existing significant relationships. Finally, panel data regressions were conducted to determine if explanatory variables affected funding over a period of time.

The purpose of this quantitative study was to apply resource dependence theory to examine how relationships between officials can significantly impact such operational issues as funding revenue.

CHAPTER 2

LITERATURE REVIEW

The objective of this study was to understand the role that relationship ties play in the nonprofit sector's ability to receive grants. Government agencies provide funding to nonprofits while nonprofits provide services to government in specifically-targeted ways. Nonprofits generally have scarce resources, therefore organizations must rely upon donations and grants in order to pay for operational costs. The idea of reliance upon external forces aligns with resource dependency theory in organizational behavior. In Chapter 2, the concepts and theories from the resource dependency literature are applied to nonprofits and revenue from government grants.

Resource Dependence

The premise behind resource dependence is that the behavior and structure of an organization are shaped by the constraints and availability of external resources (Hillman, Withers, & Collins, 2009; Pfeffer & Salancik, 1978; Thompson, 1967). When the relationship is symbiotic, as is often the case with nonprofit operations that are government funded, the output of one organization becomes the input of another organization (Pfeffer & Salancik, 1978). The output of the government, in this case, funding, is the input for the nonprofit in terms of income. The output of the nonprofit, provided services, is the input for the government. For example, a local health department needs to provide cancer screening services for the citizens of a county and authorizes a grant from its budget (output from the government) for the provision of such service from a vendor. The nonprofit receives the grant (input for the nonprofit) from the government while providing cancer screening for the community (output from the

nonprofit). The cancer screening activities become a product in which the government has purchased (input for the government)

However, the government/nonprofit cycle is not as simple as described. It is true that nonprofits and governments depend upon each other as the demand for services outweighs the number of nonprofit and government suppliers. Milward and Provan (2000) described a "hollow state" in which central government becomes an empty core in respect to service provision. Services that are mandated by the government are contracted out to local nonprofits. By contracting out the services that the government creates and legislates, several layers of separation are created making monitoring of services a difficult endeavor. The layers of administration subject the simple output/input cycle to multiple influences such as contract adherence and the influence of a market for service provision. The influence of a market for service provision drives the cost of the service ultimately affecting the amount of the grant (Milward & Provan, 2000). As is often the case, contracts for services go to the agency providing the lowest cost thus influencing who becomes the chosen service provider. Contract enforcement and adherence often affects not only the choice of service provider but also the quality of the service. The vision of the outcome of service provision may be different for the nonprofit than for the government thus necessitating coordination, negotiation, and monitoring.

As a nonprofit becomes a reputable agency that adheres to contracting requirements, the agency's influence on the provider market becomes greater. The effect of the agency's reputation and legitimacy is a reduction of competitors that government officials are willing to consider. As Milward and Provan (2000) note, new agencies entering the market of service provision require new administrative infrastructure.

Performance of the provider and the government decreases when the input/output cycle gains a new competitor. While the decline in performance is temporary, the costs of new providers do not go unnoticed. Therefore, the input/output cycle between government and nonprofits is most effective when the system is stable (Milward & Provan, 2000).

In addition to markets and contract regulations, when constraints are conflicting, the organization must maximize its resources by choosing the group that provides the greatest benefit (Oliver, 1990; Pfeffer & Salancik, 1978). Nonprofit organizations may face a multitude of constraints such as decreased funding or increased service populations. The nonprofit agency must either limit services or seek more inputs. Faced with such constraints, the nonprofit may choose to acquire funding from a government in order to provide more services. Grant funding requires nonprofit organizations to adhere to the rules and regulations of the government. In the case of a nonprofit organization relying upon government funding for operational costs, the government's intentions can shape the goals of the organization and the selection of its board members (Grant & Baden-Fuller, 2004). Through stipulations it places on the funds, governments may require nonprofits to promote its services to populations that the nonprofit had never considered. This might change the goals of the nonprofit as a direct result of government funding.

Organizations may be viewed as entities under the confines of bounded rationality. In addition to government intent, organizations consider a number of variables to maximize utility within the context of limiting factors (Oliver, 1990; Pfeffer & Salancik, 1978). According to March (1962), it is in an organization's best interest to maximize its utility with respect to resources. In terms of efficiency, utility can be a

subjective issue. What maximizes utility for one firm will not hold true for another firm. In the case of public versus private firms, a for-profit firm may choose to increase profits as a utility-maximizing behavior whereas a non-profit organization may decide that serving the most clients with limited resources is its utility-maximizing option (Dranove, 1988; Pauley, 1987). For example, a for-profit hospital maximizes utility by maximizing profit. To maximize profit, a for-profit hospital might choose to increase available services to patients who utilize procedures with the greatest profit margin. In essence, the for-profit hospital promotes high cost services to patients that are relatively low cost for the hospital to administer. A nonprofit hospital maximizes utility by serving the most clients possible given the nonprofit's limited resources. In this case, a nonprofit may offer the least costly service to patients diminishing the regard to profit margin. Despite these different approaches, what maximizes utility for many firms is the allocation of resources.

Resource allocation is directly related to resource dependence theory. One of the major tenets of a resource dependence perspective is that organizations are not autonomous. Organizations are constrained by dependencies upon other organizations that possess vital resources for operations (Pfeffer, 1987; Pfeffer & Salancik, 1978). In the case of nonprofits, external funding becomes a constraint and, therefore, shapes the behavior of the organization. Funding sources might come with regulations in which to adhere. A grant might require that services are provided only to individuals below a certain income threshold or that an organization must create a position for a specialist. With additional constraints, the organization might change the way it conducts business. The organization shifts existing resources in order to fulfill the regulations of the grant.

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The survival of the organization depends upon procuring resources from the environment. As a result, the organization is faced with the uncertainty of its ability to secure resources.

Uncertainty

Uncertainty is a force that restructures organizations in a manner that will sustain the agencies (Casciaro & Piskorski, 2005). When an organization is faced with uncertainty, it must evaluate its environment in order to achieve its goals. For instance, in the case of a nonprofit, the agency may find itself with a large deficit in its budget before the fiscal year has ended. The nonprofit then seeks out ways that it can survive the remainder of its budget cycle. It can decrease its expenditures in a number of ways such as reducing supplies, services, or personnel. It can increase revenue by seeking endowments, contributions, or grants. Regardless of its path, the goals and strategies of the organization are not as they were before they entered the period of economic uncertainty. A lack of necessary resources shifts the organization's goals in order to deal with constraints. The organization's uncertainty in its financial viability forces it to consider its options for the future. The result is a change in the organization's strategy of operation.

An organization changes its strategies in a variety of ways. Organizations develop strategies that are relationship-based in order to survive uncertainty (Pearce, Dibble, & Klein, 2009). When an organization, such as a nonprofit, must rely upon a government entity, the relationship strategies employed by the nonprofit depend upon the government agency. Relationship-based strategies used to manage financial uncertainty may include cultivating ties to government agencies. For example, a nonprofit may

cultivate a tie to a government agency by increasing the amount of communication to a grant officer or to an official with significant power over granting decisions.

The relationship-based strategies become a necessity for the nonprofit in that it is no longer an independent entity from the government. Accepting federal funds to cover certain operations puts the nonprofit under the operational authority of the government, at least partially. After accepting a grant, the nonprofit organization has to fulfill the grant's requirements, thus changing the focus of the organization from its original intent.

Uncertainty affects the goals of the organization. However, uncertainty also affects the outcomes produced by an organization. Outcomes are a product of the network in which the organizations are embedded (Parsons, 1956). Embeddedness refers to the amount of social constraints between a group of entities that affect their ability to remain independent (Granovetter, 1985). While the concept of embeddedness might seem organizationally restricting, the results are advantageous. Embeddedness within a network reduces risk and allows for the exchange of services without explicit contracts. Exchange between two embedded entities occurs outside of the explicitly stated contract with the understanding that neither entity will take advantage of the situation (Batenburg, Raub, & Snijders, 2003).

Further, embeddedness within a network allows for additional opportunities for resource exchange between the two entities. For instance, if an organization provides a service to other entities in a network, the provider becomes embedded within that network. The other entities then trust that provider. The trust between the two entities becomes the basis of a risk assessment of the provider. In the future, when services are needed, the entities within the network may call upon the provider. The embedded

provider now has a demonstrated history of service with minimal risk. Since there is more trust between the entities, an embedded organization can reduce contracting costs (Uzzi, 1997). A reputation of trustworthiness reduces the necessity of bidding out a contract to organizations outside of a network.

Organizations such as nonprofits are led by a team of board members who come to the agency with existing ties. In many cases, the ties that a board member possesses leads to embeddedness within a network of other like-minded board members from other agencies. Embeddedness originates from board interlock in which a board member of one organization joins the board of another organization (Burt, 1980; Mizruchi, 1996). When board interlock occurs, information flowing from one organization to another is viewed as more credible and trustworthy (Haunschild, 1993). The board interlock spawns ties among board members from a variety of other organizations. The organizations reap the benefits of interlock by having access to a network of connected board members. It is the board member who is embedded within an interlocked network. Thus, when the board member relies upon his/her embeddedness, the organization represented by the board member also becomes embedded in the network of interlocked organizations.

Once board members become embedded in a series of ties, the ties then influence the outcome. In the context of the nonprofit organization, the organization appoints board members that are connected in an embedded network. The ties consist of relationships with government agencies. The relationship ties of board members and government officials influence the outcome which, in this case, is government funding. The manner in which these ties work results in an interdependence between the nonprofit

and the government agency (Parsons, 1956). The output of one organization in

interdependent relations becomes the input of the other, and vice versa (Pfeffer &

Salancik, 1978). The output of the government, in this case, funding, becomes the input

of the nonprofit, operational revenue. Likewise, the output of the nonprofit,

programmatic outcomes, becomes the input of the government, service provision. The

interdependence between government and the nonprofit is important because the

relationship between the two entities allows the nonprofit to achieve its desired outcomes.

Even when government funding is a small percentage of a nonprofit's total revenue, if

funding is used for operations crucial to the nonprofit's mission, the portion covered by

government funding becomes a priority for the organization (Parsons, 1956).

Priorities and Organizational Change

How resources are allocated during times of uncertainty becomes a matter of

prioritization. Prioritizing the allocation of resources is not a 'black box' phenomenon;

interest groups that have control over an organization influence the allocation of

resources (March, 1962). Each group has the potential to become a coalition – an interest

group. It is the power of the interest group that controls parts of the organization and

shifts resources towards the group's ultimate purposes (March, 1962). Because the

nature and composition of the interest groups in an organization shift, the goals of the

organization shift in response to changes in the interest group (Goodstein & Boeker,

1991). Government agencies that provide large sources of funding are a key interest

group for many nonprofits. Government influence shapes the nonprofit's goals.

Government becomes the primary coalition because covering large portions of the

nonprofit's operating costs achieves agenda dominance. When the nonprofit knows that

its primary interest group is the government, the nonprofit shifts its goals to align with government grantors.

Nonprofits shift goals towards their funding needs. Funding needs shape an organization in a variety of ways, including size and personnel usage (Baron, Dobbin, & Jennings, 1986). The need for certain operations becomes a tangible way in which organizations form. Using the example of a nonprofit healthcare center, a need for nurses causes the healthcare center to focus its recruiting efforts on hiring and retaining nursing staff. Providing salaries for additional nursing staff creates an increase in the need for funding of the new personnel. The goals of the nonprofit changes from a state of status quo to one of financial scarcity. The goal is now to cover the additional costs of new staff. Baron, Mittman, and Newman (1991) found that organizational change occurs faster when the organization relies upon federal and state funding due to increased scrutiny from external agents as they manage scarce resources.

Shifting goals also changes the shape of the organization (Goodstein & Boeker, 1991). For a nonprofit, the amount of funding can shape the size of the board of directors as well as the upper management. More funding is likely to lead to more programming which ultimately increases the size of the organization (Haveman, 1993). Thus, larger organizations tend to have larger boards of directors (Pfeffer, 1972). As with the previous example with nurses, if the nonprofit organization acquires a large grant from a federal agency, the nonprofit finds itself under the watch of a federal auditing department. In order to fulfill the requirements of the grant as well as avoid an audit, the nonprofit is wise to increase its staff. Not only will the nonprofit agency hire more nursing staff as a result of the incoming grant, it may hire staff that serve as liaisons

between the nonprofit and the federal government. It may also find a need to appoint additional board members that specialize in communication with government entities. The change in organizational priorities occurs quickly, mostly likely in the course of a fiscal year. The change is also dramatic in that the nonprofit faces additional tasks because of new funding pools.

Not only does organizational change come from external sources, but change can come from within. Individuals with particularly influential interests possess power as a result of the position that they hold in the organization (Pfeffer, 1987). In the world of nonprofits, some of the most powerful positions are those of the board members. Positions with power control organizations in a number of ways. For instance, positions of power can shape budgets and organizational missions. In many circumstances, it is not the person that fills the position but the position itself that holds the power. Pfeffer (1987) described how the Dean of the Harvard Business School is sought after to sit on a board not because he/she is John/Joan Smith but because he/she is the Dean of the Harvard Business School, a powerful position at a prestigious agency. Agencies request the Dean to serve on their board because of their power in an interorganizational network and assumes access to other powerful agencies. To translate Pfeffer's (1987) finding to the context of nonprofits and government, a nonprofit will seek to appoint Bob Finance to serve on its board not because that person is Bob Finance but because that person is the Secretary of the United States Treasury. By appointing the Secretary of the Treasury to the board, the nonprofit gains a powerful connection to potential fiscal resources to fund future operational costs. In the appointment of a government official, the nonprofit then accesses that person's human and social capital.

Social capital

There are three types of capital that organizations rely upon to achieve goals: financial, human, and social capital (Coleman, 1988). Financial capital involves economic resources such as revenue and credit. Human capital is comprised of the skill and knowledge of an organization's workforce. Finally, there is social capital which is the worth of an organization's network ties and relationships with other entities. For example, financial gain from information sharing with a close business associate is an example of social capital. Organizations constantly manipulate these three types of capital in order to obtain maximum efficiency of resource allocation.

Social capital increases economic benefits in a number of ways. Social capital is comprised of many aspects. Adler and Kwon (2002) defined social capital as goodwill between two entities that facilitates action. Further, goodwill is sympathy and trust from friends (Adler & Kwon, 2002). Pfeffer and Salancik (1978) suggested the human and social capital of an individual included advice, access to information, preferential access to resources, and legitimacy. Significant empirical evidence supported these proposed benefits. For example, Provan (1980) found that firms that were able to attract powerful members of the community onto their boards were able to acquire critical resources from the environment. By attracting community members with powerful connections, a nonprofit agency can access the knowledge and social connections that the member possesses. Eng, Liu, and Sekhon (2012) demonstrated that nonprofit organizations utilized ties to acquire much needed financial and human resources to achieve their missions.

Ties become important in securing funds by building bridges to lucrative resources to maintain the survival of the organization. The survival of the organization relies upon dependencies outside of the agency. Establishing favorable ties is a way an organization manages its external dependencies (Kotter, 1979). When nonprofit organizations appoint a board member with a variety of ties to banks and grantors, the organization assumes that it will become privy to the same network as the banks and grantors. The organization uses ties to other likeminded organizations that have vital resources. The importance of ties assumes that each relationship holds the same importance. However, not all ties are created equally in that some ties hold greater weight than others.

There are a number of ties that an organization may perceive as vital. One way to measure vital ties in the world of nonprofit resources is through government service tenure (Lester, Hillman, Zardkoohi, & Cannella, 2008). Tenure refers to the length of time of government service. The longer a person serves in an agency, the more likely that person will have connections to other officials. Connections may be superficial, consisting of limited electronic communications. However, superficial connections may ultimately lead to future positive results.

Discussion of the depth of a connection warrants an additional facet to its significance. The breadth of the connection is also an important consideration. A short term connection that carries a great amount of significance can be as impactful as a long term superficial connection. For instance, a program manager who worked directly in conjunction with a U.S. Senator for two years may be as significant of a connection as one from the same program manager who communicated once a year to another program

manager over the course of twenty years. In both cases, the program manager has access

to an additional outlet of resources be it revenue, information, or future connections.

Government tenure (length) as well as the quantity of different experiences (breadth)

within the government provide access to current government decision makers.

With access to government decision makers comes advantages. Not only would a

government official have access to prestige and legitimacy, but they would also bring

expertise in the form of interactions with other political decision makers (Lester, Hillman,

Zardkoohi, & Cannella, 2008). The benefits from connections that come with a

government official feed into the social capital. Each year of government service

increases the odds of obtaining a board appointment at another agency. Therefore, each

year of tenure at a government agency increases the odds of building a connection for the

appointed agency. For a nonprofit, board members with tenure in the government

theoretically improve the number of connections, and thus the number of connections for

the nonprofit. The nonprofit agency must utilize the social capital of the board member

to its advantage.

Utilizing the social capital of its board members is a distinct advantage for an

agency. By drawing upon the connections of its board members, an agency is able to

reduce its transaction costs (Dyer & Chu, 2003; Hillman et al., 2000). Connections to

agencies in which an organization is dependent are a way that an organization can survive

(Kotter, 1979). When an agency without social capital devotes time and personnel for the

purpose of securing potential funding connections, resources must be taken away from

operational functions. In the case of a nonprofit, these operational functions are likely to

be mission related.

Nonprofit agencies might find it necessary to justify actions that do not provide direct services to targeted populations. While fundraising activities are vital for survival, fundraising activities cost the nonprofit agency in terms of time taken away from mission related activities. However, one way that a nonprofit agency can save on such costs is to cultivate and utilize existing connections. Government officials with access to information about potential funding are one such connection. Appointing a government official, in essence, reduces transaction costs as well as increases access to current officials (Dyer & Chu, 2003; Hillman et. al., 2000). When access to officials increases, there is a greater chance of building a relationship based upon trust.

Informal Ties as Social Capital

Trust-based relationships develop from informal ties. A network of executives manage uncertainty by maintaining informal ties among themselves (Westphal et. al., 2006). Informal ties are those that do not arise from planned interaction (Kratzer, Leenders, & Van Engelen, 2005). Informal ties may be those that develop from impromptu or non-intentional interactions. In a sense, an informal tie may be 'off the record' or outside of the workplace (Oh, Chung, & Labianca, 2004). Conversely, an example of a formal tie may be a relationship established by an organization or group, such as those found on an official organizational chart. In many cases, information other individuals might not be privy to or that is not 'on the record' may be easily shared among informal ties. Information shared through informal ties can include information about new employment or available funds. Such information may not be readily available to all members of a formal network.

Informal ties grow among executives in an attempt to gain information about resource availability. As such, in order to gain information about potential funding sources, nonprofit executives and board members nurture informal ties among other executives and board members. In this scenario, government agency officials with decision making power are invited to sit on a nonprofit's board (Westphal et. al., 2006). When officials become friends as a result of informal ties, they begin to trust each other and share sensitive information (Oh, Chung, & Labianca, 2004).

In addition to increasing the sharing of sensitive information, developing trust also reduces competitive uncertainty (Westphal et. al, 2006). When individuals trust each other, they are less likely to compete for resources; in fact, they might share resources through joint ventures (Kotter, 1979). They might also make agreements about the exclusive use of resources. For instance, individuals who trust each other may agree that one entity has use of a resource for one time period while the other entity has use of the resource for the following period. As with individuals, organizations may exhibit the same behaviors among other trusted agencies. Nonprofits may be more likely to share resources and collaborate with trusted nonprofits including sharing valuable information about open funding sources.

An informal tie benefits a nonprofit if the tie is with a government agency. By fostering informal ties, nonprofits manifest reliance and choose board members that have ties to government. One goal of an organization could be to increase government coalitions by appointing board members with a greater number of ties to government (Harlan and Saidel, 1994; Pfeffer, 1973). By appointing board members with a greater number of ties to government, the nonprofit agency increases the likelihood of a direct

line of communication to vital funding sources (Harlan & Saidel, 1994; Pfeffer, 1973).

In some cases, direct lines of communication may be informal lines of communication.

The transaction of appointing board members from granting agencies is a way in which a

nonprofit obtains resources for survival (Parsons, 1956). To ensure survival is to reduce

uncertainty.

By reducing uncertainty, the nonprofit views the government as its primary

customer and, in order to ensure survival, creates its goals influenced by its largest

customer (March and Simon, 1958). It is often that the largest customer becomes an

influential interest group. Organizations interact with interest groups in order to reduce

uncertainty (Parsons, 1956). To reduce uncertainty means to attend to key stakeholders

in the organization's goals. For a nonprofit that relies heavily upon government funding,

the nonprofit's best interest is to prioritize in favor of the government agency that

provides funds.

Appointing government officials to a board is a way a nonprofit acts to ensure its

survival. An organization would attempt to manage its dependency if it is an entity under

bounded rationality (Thompson, 1967). The status of an organization is a product of how

much interdependence exists between funder and service provider. An organization's

interdependence hinges upon the proportion of its need for resources. According to

Thompson (1967), an organization that needs support can fulfill its needs by seeking

prestige. By seeking prestige, the organization obtains power. One way in which an

organization can obtain power and prestige is by appointing powerfully tied board

members to its executive committee. By appointing a well-connected board, the

nonprofit and the government agency reduce their uncertainties. The nonprofit acquires direct access to a funder while the government gains a service provider.

Resource dependence theory, then, suggests that nonprofits maintain external linkages to government to ensure access to needed capital (Pfeffer & Salancik, 1978) in an effort to reduce uncertainty. Additionally, dependence on resources creates a need for nonprofits to create a network of personnel that encourages coalition and opportunity building not otherwise afforded to entities outside of the network (O'Toole, 2014). Participation in a network enhances reputation and legitimacy. Legitimacy is one way an organization ensures stability (Oliver, 1991). A trustworthy reputation results from building relationships between two organizations (Alexander & Nank, 2009). Such a relationship is more likely to occur when decision makers are strongly tied to granting officials.

How the Board Networks

The composition of the board corresponds to the needs of the organization. As Pfeffer (1973) discussed, the composition of the board correlates with various aspects of the organization. For example, the larger the budget of a hospital, the more financial directors serve on the board. The need for an understanding of financial matters leads to the appointment of more financial experts on the board in an effort to manage a larger budget. Pfeffer (1974) found the same correlation between manufacturing firms and board composition. The industry of the agency has a large effect on the appointment of the type of board member. In a healthcare setting, appointments of board members who are health care professionals such as nurses or doctors are more likely. Executives

familiar with the health care setting are equally more likely to be appointed to the board of a healthcare facility.

Following the logic that the composition of the board corresponds to the needs of the organization, it is likely that the proportion of government officials serving on a board correlates to the amount of funding a nonprofit receives from the government. Pfeffer and Salancik (1978) found that organizations that depended upon the government made more campaign contributions. For instance, an organization that relied heavily upon government funding might be more likely to make donations to politicians that favored the organization's mission. An organization that caters to women's health issues and relies upon a large amount of its funding from the National Institute of Health is more likely to make contributions to a politician whose platform includes increasing breast cancer awareness. Approval of making political contributions comes from an agency's board decisions. It would seem more likely for a board influenced by government agencies to condone an organization's political contributions. Board members affiliated with government agencies approve political campaigning. In any case, the influence of the government on the board member shapes the board's behavior in a variety of manners.

Thompson (1967) described how organizations that were tied together found themselves in situations of organizational inbreeding. Inbreeding refers to a system of co-opting and coalescing with a group of other similar organizations (Thompson, 1967). An atmosphere of corporate inbreeding can lead to stagnation as well as scrutiny from outside entities. As a result, organizations that are tied together must collaborate to establish impartial organizations that set standards for an industry. Ties can come in the

form of professional associations. In order to ensure that a group of organizations remain credible, the rational organization devotes time to cultivate ties through professional associations and other competing agencies. For example, the nonprofit may appoint board members from other nonprofits in order to maintain access to accrediting entities. By having members of another nonprofit on a board, the agency builds a reputation that it collaborates with other agencies and becomes a legitimate player in the web of affiliated nonprofits.

In addition to informal ties, organizations that rely upon government funding build relationships by developing formal collaboration (Guo & Acar, 2005). Formal collaborations may become advantageous. Formal collaborations and relationships can develop by filing joint applications for grants. As a grant recipient, formal ties develop through grant management activity with the government as well as with other recipients. In many cases, recipients are required to attend grantee meetings with other similar organizations. Such meetings are primarily for the dissemination of grant management information from the government. These meetings, however, often lead to networking opportunities with other grantees. In a manner of speaking, receiving a government grant leads to the development of formal relationship ties not only with government agents but also with potential collaborators. Organizations with no government funding would not receive the same level of structured networking opportunities without the environment of a government grantee information meeting.

The benefits of networking do not only arise from government activities. In addition to formal collaborations with the government, networking opportunities can arise from other linkages to corporations. Some evidence suggests that board linkages

create a network effect in that contributions to nonprofits increase when executives of for-profit organizations are on the boards of nonprofits (Galaskiewicz & Rauschenbach, 1988). Galaskiewicz and Rauschenbach (1988) found a direct relationship between networking and funds. By appointing a corporate executive to a nonprofit's board, the agency benefits from an increase in funds, not only from the executive's corporation, but also from agencies in the corporation's network.

It is possible that these relationships between the corporate world and the nonprofit world are symbiotic. The corporation benefits in this interaction in that not only does the corporation gain a potential tax incentive but it also gains a favorable reputation among the public. The corporation is seen as a philanthropic entity rather than a profit-seeking entity. The nonprofit agency benefits from additional access to funding opportunities. The agency receives direct contributions from the corporation as well as the potential for further contributions from related corporations. Relationships with for-profit agencies imply access to corporate funds.

The collection of such ties leads to collaboration. Zinn, et al. (1997) found that depending upon size, organizations collaborate with other similar agencies in a variety of manners. In their study, smaller hospitals engaged in formal connections such as joint ventures and mergers. Larger hospitals engaged in informal manners such as information sharing and client referral. Their findings correspond to resource dependency in that smaller organizations were subject to greater resource scarcity. Scarcity resulted in the need to establish formal connections to gain access to needed resources. Organizations with larger budgets are not subject to scarcity and therefore do not need to rely upon

formal collaboration. Characteristics of the organization, such as size, determined the type of collaboration.

Zinn et al.'s (1997) findings were contrary to Guo and Acar's (2005) who found that organizations with larger budgets and a greater reliance upon government funding engaged in more formal collaboration activities. They also found that organizations with more board linkages to other organizations engaged in more formal collaborations. It is possible that a formal collaboration is more likely to be reported in outlets such as annual reports and company website pages. Regardless of the type of collaboration, the characteristics of the environment have an effect on an organization's size and how the organization interacts with its community. Reliance upon resources impacts the way in which organizations behave.

Summary

In this survey of the literature, resource dependency theory was used to explain aspects of how an organization forms and interacts in its environment. The resources that an organization rely upon impacts the behavior of the organization. A nonprofit organization is faced with uncertainty that affects how it will interact with its environment. Scarcity or abundance of resources, such as finances and personnel, shape how an organization forms and operates. Depending upon how an organization reacts to such uncertainties in the environment, it may restructure its priorities ultimately leading to an organizational change. Nonprofits facing scarce resources navigate uncertainty with a variety of techniques. One such technique includes increasing its social capital through the formal and informal ties of its board. Nonprofits may appoint board members that have a significant amount of ties to government agencies and other

nonprofits. Nonprofits may also seek board members with ties to for-profit agencies to cultivate potential funding sources. The degree of embeddedness in a web of funders may play a role in the nonprofit agency's viability.

In the following chapter, the concepts and effects of resource dependency are linked to the relationship ties that a board has to not only government but to other entities. Relationships become a resource that an organization relies upon to secure funding, a more tangible resource for operations.

CHAPTER 3

THEORETICAL MODEL

This study proposed the hypothesis that board members of nonprofits with a

greater number of relationship ties, controlling for other variables, are expected to receive

more funds from a government agency. The ties measured include previous experience

in government agencies, previous experience at another nonprofit (either as a board

member or as an employee), previous experience at a for-profit agency, previous

experience at a university, and previous membership in professional associations.

Relationship ties were measured with archival online data sources including LinkedIn

résumés (LinkedIn, 2016), Marquis Who's Who profiles (Marquis Who's Who Ventures,

2016), and website biographies of board members. The number of unique government,

nonprofit, for-profit, and academic agencies, nonprofit board appointments, and

professional associations, as well as the amount of years at each listed agency, were

collected as indicators of strength and breadth of relationships. Various organizational

and financial variables such as the size of the organization and the amount of revenue

during a fiscal year were also considered.

Government Ties

This work proposed that board members with a greater amount of relationship ties

to government granting agencies have a greater likelihood of obtaining government

funding. The increased likelihood comes as a result of legitimacy and a reputation that

the nonprofit can utilize funds in the most efficient and effective manner (Milward &

Provan, 2000; O'Toole, 2014; Pfeffer & Salancik, 1978). Ties to government agencies

allow organizations to access information such as upcoming granting opportunities (Guo

& Acar, 2005). Such ties may also allow the organization opportunities to network with associated individuals who either influenced decisions on granting or had other connections to individuals with influence (Pfeffer, 1987). Board members with no network ties to a funding agency were at a disadvantage in that their agency was not an established and reputable provider with the funder (Milward & Provan, 2000; O'Toole, 2014). In such cases, the agency did not necessarily have a negative reputation with officials so much as there was either no or little established history with government authorities.

In addition to reputation and legitimacy, ties to government may facilitate the ability to communicate with granting authorities about techniques used for successful grant applications as well as upcoming funding announcements (Harlan & Saidel, 1994; Pfeffer, 1972; Pfeffer, 1973). Communication with government agencies provided information to the organization about potential current and future opportunities over and above official government granting postings (Harlan & Saidel, 1994; Pfeffer, 1973).

Communication was done either formally or informally (Guo & Acar, 2005; Oh, Chung, & Labianca, 2004; Westphal et al., 2006). Formal communications could be either through direct requests for funding or agency promotion at official meetings. Informal communication may occur as a result of chance conversations in the course of conducting other business functions. Those agencies with previous ties to government agencies are more likely to have opportunities to possess formal and informal communication as opposed to agencies with no connections to government (Guo & Acar, 2005; Oh, Chung, & Labianca, 2004; Westphal et al., 2006). As with government and all connections described later, proximity to officials assumes a tie further increasing the

chances of formal and informal communication (Borgatti, et al., 2009). Proximity is the

shortest path between two individuals in a network. Therefore, ties to government

facilitated obtaining grant funds.

Nonprofit Ties

Similar to research that suggested interpersonal connections increase the

likelihood of funding (Harland & Saidel, 1994; Li & Schurhoff, 2012; Marlowe, 2013;

Pfeffer, 1973; Westphal et al., 2006), ties to other organizations seemed to imply

connections as well. Participation within a network provided access to industry practices

and information about funding opportunities (Guo & Acar, 2005). Network participation

also increased legitimacy of the nonprofit further increasing chances of funding

(O'Toole, 2014; Pfeffer & Salancik, 1978). In this example, board members of one

nonprofit connected to board members of another nonprofit were likely to receive more

funds as a result of increased legitimacy and information sharing about funding

opportunities (Guo & Acar, 2005; O'Toole, 2014; Pfeffer & Salancik, 1978). Following

this logic, the number of ties that a board member possessed determined the magnitude of

funding. A board member with more ties to other nonprofits had a greater chance to

receive information from a wide range of sources (Granovetter, 1973). A greater number

of connections also meant that funders viewed the board member and his/her agency as a

more legitimate provider of services (O'Toole, 2014; Pfeffer & Salancik, 1978).

Therefore, ties to other nonprofits facilitated obtaining grant funding.

There were a number of ways connections to other nonprofit agencies were

captured. Ties within the nonprofit network increased access to funding information as

well as embeddedness and legitimacy (Granovetter, 1985; O'Toole, 2014; Pfeffer and

Salancik, 1978). Nonprofit ties were captured by examining previous work experience

with other nonprofit agencies, and board appointments to other nonprofits. As with

government ties, the number of ties to another nonprofit that a board member had through

previous employment served as an indicator of the amount of access to other nonprofits

in a network. Employment with other nonprofit agencies including serving on another

nonprofit board increased the likelihood of access to multiple ties within the nonprofit

sector. In order to establish ties to other nonprofit organizations, Guo & Acar (2005)

measured linkages by counting the number of board members who served on the boards

of other nonprofits. Linkages came with employment at another nonprofit as with

government employment aside from appointment to a nonprofit board.

Universities

Ties to a nonprofit network not only came through service oriented agencies, but

also through nonprofit universities. Universities are a distinct subset of the nonprofit

sector that provide abundant opportunities for relationship building. Universities can also

be significant stakeholders in the healthcare profession (Lewis, 2006). In the case of

community healthcare, smaller facilities that seemed to operate as an independent entity

were in fact a part of a larger university affiliated medical network. Smaller facilities

also received information such as administrative and financial information from larger

universities. Board members of smaller facilities that had ties to larger research

universities were more likely to have greater access to funding information thus

increasing the likelihood of grant funding. In the same manner as ties to nonprofits, ties

to universities obtained from social network sites reflected the distinct nonprofit

experience gained from academia. Such experience increased information sharing and legitimacy (O'Toole, 2014; Pfeffer & Salancik, 1978).

Professional Associations

Ties leading to potential funding also came from membership in professional associations. Membership in professional associations were another way in which nonprofit employees had access to connections to other employees in a field. Meetings of professional associations provided outlets for individuals to communicate formally and informally to obtain information about potential funding sources. Opportunities for formal communication included steering committee meetings, trainings, and research conferences. Informal communication opportunities included professional mixers and charity drives. Such associations provided access to a variety of professionals in government and nonprofit industries. Membership in a professional association such as the American Medical Association, the American College of Healthcare Executives, or a local nonprofit professional organization were examples in which individuals accessed lines of communication. Other professional associations that were counted were civic focused (i.e. a local Rotary Club). While this measure was by no means definitive of a network tie, the likelihood of network ties with other professionals was stronger when the individual was a member of a professional association (Guo & Acar, 2005; O'Toole, 2014; Pfeffer & Salancik, 1978). When board members shared the same memberships in professional associations as other board members and government officials, the likelihood of connection was larger due to proximity (Borgatti et al., 2009). Memberships in the same associations assumed a tie via proximity.

For-Profit Ties

As with nonprofit ties, measuring experience obtained from for-profit agencies allowed further information into a board member's connections. Having ties to a for-profit agency such as a large corporation provided direct access to funding opportunities through donations and contributions. Research supported the connection between corporate contributions and board appointment (Galaskiewicz & Rauschenbach, 1988). In an indirect manner, connections with for-profit agencies led to connections to other individuals that were linked to government and nonprofit agencies. Particularly with large conglomerates, it was likely that a corporation conducted business with a variety of government and nonprofit agencies. Governments and large nonprofits collaborated and contracted with for-profit agencies for service opportunities. In this study, for-profit agencies were identified as any agency that did not file an IRS 990 (Internal Revenue Service, 2015) and, therefore, were not tax exempt.

Measurement of Ties

Ties were empirically tested by examining the number of mentions of previous employment in an agency obtained from a professional biography such as a LinkedIn profile (LinkedIn, 2016). While ties were not necessarily as a result of previous employment, the odds of formal and informal communications increased when an employee at a nonprofit agency held former employment at another agency. Communication with a former employer was facilitated with a previous employee particularly if the person separated from the former employer on good terms. The number of agencies in which a board member held employment served as an indicator of the amount of access to which a nonprofit had to other agencies. For instance, if a board

member had in the past been employed by three or four government agencies, it was likely that the nonprofit had a stronger tie to government funding sources than an organization with board members without any previous government employment. With a greater number of ties to a variety of agencies, the employee was able to draw upon different sources for potentially novel information (Granovetter, 1973). Facilitation of communication theoretically increased as the number of previous employment appointments at other agencies increased. Employment in different agencies increased the likelihood of access to multiple ties to funding agencies.

In addition to the number of ties to agencies, the strength of the ties was important to consider. The strength of the ties was measured by examining the length of employment in each agency mentioned. For every mention in a biography, the number of years was an indicator of strength. One board member with thirty years of experience at an agency indicated a stronger tie to that agency in comparison to a board member with five years of experience. By also capturing the amount of years of experience in each agency, it was possible to establish the strength of ties that was not captured simply by the number of agencies. For instance, one board member with thirty years of experience at one government agency (1 x 30) had a stronger overall tie than one board member with three years of experience at five government agencies (3 x 5). Longevity at one agency allowed an individual to develop multiple yet repeated connections. Repeated interactions were an indication of a strong tie over and above the volume of different ties.

The number and length of ties of each board member were totaled to obtain an aggregated number and length for each of the six relationship tie categories for an organization. The summation of all ties of the board went into a total aggregate

organizational tie for each category. Boards were expected to act as a single entity to decide the action of the organization. Thus, aggregating individual board member data into one organizational data point for the number of total ties and one point for the total years of ties served to reflect the singular action of the entire board. All affiliations were added from LinkedIn (LinkedIn, 2016), Marquis Who's Who profiles (Marquis Who's Who Ventures, 2016), and biographies from agency websites into the organizational data. In cases where a board member had data from both LinkedIn (LinkedIn, 2016) and Who's Who (Marquis Who's Who Ventures, 2016) sources, the one data source with the most comprehensive information was considered to avoid any potential multiple inclusions of associations.

Other Variables

Additionally, organizational and financial variables such as previous granting activity were considered. Organizational and financial variables such as the number of employees, incoming contributions, and assets may have an effect on funding apart from relationship ties. In total, there were five financial variables in this model: total assets, total revenue, previous grant revenue, contributions, and grants to government. There were also three organizational variables: the number of board members, the number of employees, and the number of volunteers.

Additional Financial Variables

Additional financial variables were considered as potential variables that affected funding. In order to capture not only the size of the organization but also the financial capability of an organization, data on the total assets and the total revenue that an organization reported on the IRS 990 tax return (Internal Revenue Service, 2015) during

a fiscal year was collected. Organizations with lower amounts of total assets and total revenue may have been under greater financial stress which affected the chance of funding. Governments may deem financially stressed organizations as a risky investment and therefore may bias funding decisions. To control for biased funding decision making, assets and revenue were incorporated into the theoretical model.

Building from Marlowe (2013) and Li and Schurhoff (2012), financial transactions were used as a method of creating a network analysis among banks and bond writers. It was assumed that previous granting activity was a good indication of a network tie as a government agency would not grant funds to an unknown organization. By having an established history between a nonprofit and a government granting entity, a tie existed based upon a reputation of positive performance. In order to account for established history, a dichotomous variable was created in the database reflecting whether an organization received funding prior to 2008. Creating an historical variable allowed for the comparison of outcomes between organizations that had an established grant history with the funder from organizations with no prior funding history.

Aside from grants, nonprofits received revenue from other nonprofits and individuals through contributions. While contributions may not directly contribute to an organization's relationship to government and other nonprofit entities, such revenue sources can affect the amount of grant revenue that an agency receives. Receiving sufficient amounts of contributions may deter an organization from applying for grants. In this case, nonprofits with sufficient amounts of contributions may lack the need for grant funding. The effect that contributions had on the likelihood of acquiring a grant therefore was considered in the model.

A nonprofit that granted to a government entity may do so for a variety of reasons. The presence of a grant to a government established a relationship tie in that the nonprofit agreed to trust a government agency in some aspect of its mission. As an example, an agency may grant money to a local fire department for ambulance services to the agency's facilities. The agency may also grant money to a local police department for security services. Grant expenditures, in this case, may also bias federal granting decision outcomes in a number of manners. For instance, agencies that granted to local governments may be viewed as pass-through agencies which can affect the chances of funding either positively or negatively. In any case, granting decisions were not unbiased.

Additional Organizational Variables

Additional organizational variables were considered as potential influences on funding. The size of an organization's board can affect an agency's likelihood of acquiring revenue. Larger organizations may have greater human and social resources to draw upon for grant application and fundraising efforts. Conversely, smaller organizations have fewer employees to dedicate time and effort to obtaining operational revenue. Smaller organizations may also have fewer individuals with connections to granting authorities putting the agency at a disadvantage in comparison to a larger organization. An organization with a large number of board members and employees were likely to have more relationship ties to a greater number of decision makers.

Two other variables capturing the size of the organization were the number of employees and the number of volunteers. As previously stated, larger organizations may have more human capital to draw upon in establishing connections for future funding. As

an additional consideration, larger organizations had more operational functions which increased the need for external funding. It was for these reasons that size was considered as they can affect grant likelihood apart from organizational ties. For an abridged listing of all variables, see Table 3.1.

Table 3.1: Abridged list and definition of variables.

Variable
Relationship Ties
Percentage of Board Members with Government Ties
Number of Government Ties
Years of Government Ties
Percentage of Board Members with Nonprofit Ties
Number of Nonprofit Ties
Years of Nonprofit Ties
Percentage of Board Members with Board Appointments at Another Nonprofit
Number of Board Appointments at Another Nonprofit
Years as a Board Member at Another Nonprofit
Percentage of Board Members with Professional Association Memberships
Number of Professional Associations
Years as a Member of Professional Association
Percentage of Board Members with University Ties
Number of University Ties
Years of University Ties
Percentage of Board Members with For-profit Ties
Number of For-profit Ties
Years of For-profit Ties
Financial Variables
Total Revenue
Total Assets
Total Contributions
Previous Grant Revenue
Previous Grant Expenditure to Government
HRSA Grants Prior to 2008
Organizational Variables
Number of Board Members
Number of Employees
Number of Volunteers

Hypothesis

Given the research, nonprofits with strong ties to other agencies should have a greater likelihood of securing government grants. In this study, the ties that an

organization as a whole had to a granting agency were examined instead of the ties that individual board members had. The board members as a whole decided the mission and objectives of the nonprofit organization. The board as a whole served as the face of the organization. If individual ties to a granting authority were the focus, it would also be necessary to rank the importance of the ties. For instance, determining which individual on a board had the most crucial connections to a funding agency would be a difficult endeavor without conducting an organizational survey. While an analysis on the influence of one board member would provide information on the power structure of the board members and the leadership characteristics of a single member, the focus of the current proposal was to consider the board as a single entity. Analyzing ties utilizing the organization as a unit of measure was only one way to quantify relationships.

> *Hypothesis: Nonprofits with a greater number of relationship ties, controlling for appropriate variables, will receive more funds from a government agency.*

Grant funding became a function of relationship ties, organizational variables, and financial variables. Relationship ties were the addition of experiences and appointments of each board member (Figure 3.1).

Figure 3.1: Relationship of Board Members, Organizational Ties, and Government Funding.
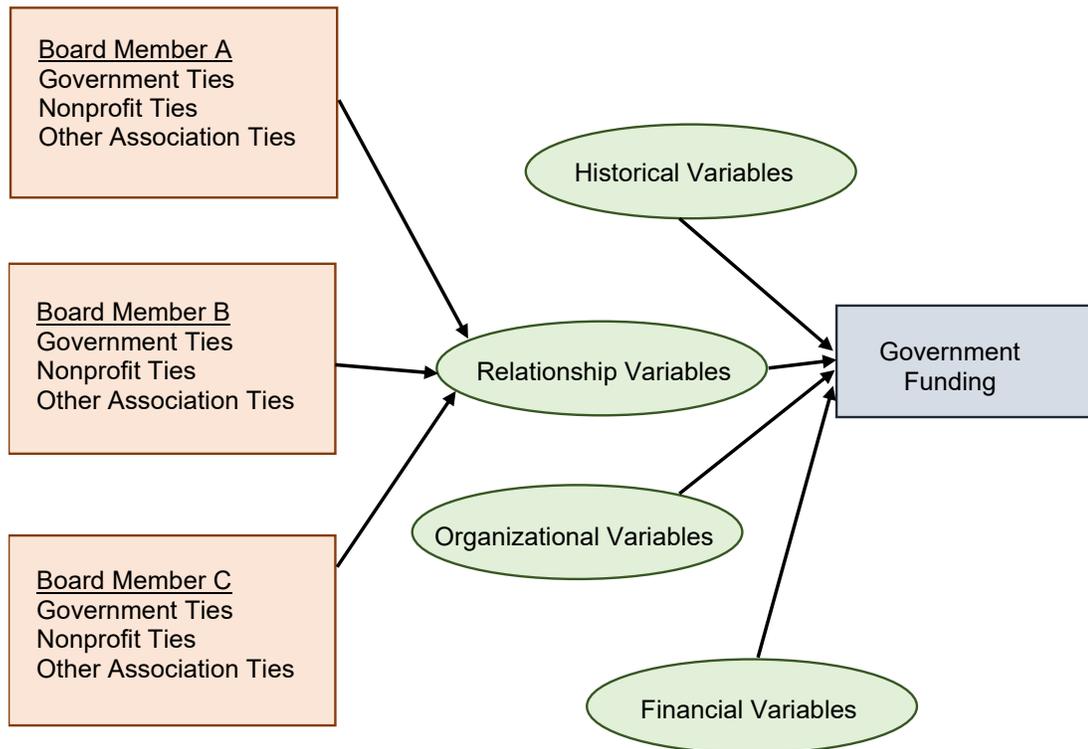
Summary

This study hypothesized that board members of nonprofits with a greater number of relationship ties, controlling for other variables, were expected to receive more funds from a government agency. A greater number of ties, as well as a greater amount of time building ties, were theorized to increase the chance of future funding for a nonprofit organization. Ties measured in this study included previous work experience in government agencies, previous work experience at another nonprofit, previous appointment to another nonprofit board, previous work experience at a for-profit agency, previous work experience at a university, and previous membership in professional

associations. Relationship ties were measured by examining LinkedIn résumés (LinkedIn, 2016), Marquis Who's Who profiles (Marquis Who's Who Ventures, 2016), and agency website biographies of board members. The number of unique government, nonprofit, for-profit, and academic agencies, nonprofit board appointments, and professional associations were considered, as well as the number of years at each listed agency. Each of these were viewed as indicators of breadth and strength of relationships. Other organizational and financial variables that affected funding were also reviewed. There were five financial variables in this model: total assets, total revenue, previous grant revenue, contributions, and grants to government. There were three organizational variables: board size, organizational size, and volunteer size.

CHAPTER 4

METHODOLOGY

In this study, the relationship ties of 176 community healthcare nonprofit organizations over the span of five fiscal years (2008-2012) were examined. This methodology allowed for the examination of longitudinal and cross-sectional data to determine if board appointments in one year affected funding for the following year. Board member names, financial data, and organizational data from IRS 990 forms (Internal Revenue Service, 2015), funding outcomes from HRSA databases, and relationship ties data from board members' LinkedIn (LinkedIn, 2016) and Marquis Who's Who (Marquis Who's Who Ventures, 2016) profiles were collected.

All information acquired was public record and did not require direct contact with any organization. Data was stored on a password protected computer and server. As a result of such factors, approval from an institutional review board was not required. No ethical violations resulted from the collection and reporting of data.

Nonprofit healthcare organization selection

Since the number of nonprofits in the United States is sizable, the scope of the research was narrowed to nonprofit healthcare organizations receiving federal funds. Healthcare organizations, such as clinics, were chosen due to both the expected increase in health care utilization and to control for organizational scope.

Lists of nonprofit organizations were obtained via the IRS Exempt Organizations Business Master File (EO BMF) (Internal Revenue Service, 2014). The EO BMF database contained all U.S. organizations that were approved for tax-exempt status and therefore classified as a nonprofit organization. Organizations were selected based on

three criteria: geographic region, scope of the organization, and asset amounts. Selection

was limited to these criteria in an effort to maintain as much similarity among

organizations as possible. To control for geographic region, the selection focused on the

Mid-Atlantic/Midwest region to include the following 19 states: Delaware, District of

Columbia, Illinois, Indiana, Iowa, Kentucky, Maryland, Michigan, Minnesota, Nebraska,

North Carolina, North Dakota, Ohio, Pennsylvania, South Carolina, South Dakota,

Virginia, West Virginia, and Wisconsin. To select for organizational scope in order to

ensure that all organizations shared similar operations, the IRS National Taxonomy of

Exempt Entities (NTEE) was used to select a code which categorized nonprofit

organizations by operational similarities. Organizations with an NTEE code of E32 –

Ambulatory Health Clinics and Community Health Centers were utilized. Finally, assets

were used as an indicator of organizational size and patient intake. Utilizing the asset

codes of 6 and 7, organizations with a reported asset portfolio between $1 million and

$10 million were selected. With all selection criteria in place, there were a total of 176

organizations in the population pool.

Funding source

A major source of federal funding for all healthcare organizations comes from the

Health Resources and Services Administration (HRSA) bureau under the U.S.

Department of Health and Human Services. HRSA is the primary federal agency

designated for the purposes of improving health outcomes and reducing health disparities.

The agency accomplishes these goals by providing funding for services and training for

health care professionals (U.S. Department of Health and Human Services, 2016a).

HRSA grants fund a variety of healthcare initiatives including but not limited to: health

workforce, HIV/AIDS, maternal and child health, primary care/health centers, rural

health, and organ donation (U.S. Department of Health and Human Services, 2016b).

The funds examined in this study were competitive and were designed for programmatic

purposes as detailed in the grant narrative. In this study, all available HRSA funds

granted to community healthcare centers were included. For a listing of represented

grants, see Table 4.1.

Table 4.1: Represented HRSA Grants Awarded to Sampled Organizations (Health
Resources and Services Administration, 2014).

Program Name
Affordable Care Act (ACA) Grants for School-Based Health Centers Capital Program
Affordable Care Act – Health Center Planning Grants
Affordable Care Act Patient Centered Medical Home - Facility Improvements Grant Program
Affordable Care Act Teaching Health Center (THC) Graduate Medical Education (GME) Payment Program
Affordable Care Act: Nurse Managed Health Clinics
ARRA - Capital Improvement Program
ARRA - Facility Investment Program
ARRA - Health Information Technology Implementation
ARRA - Increased Demand for Services
ARRA - New Access Points
Behavioral Health Workforce Education and Training for Professionals and Paraprofessionals
Capital Development
Congressionally-Mandated Health Information Technology Grants
Health Care and Other Facilities
Health Center Controlled Networks
Health Center Program
Health Information Technology (HIT) Planning Grants
Health Information Technology Innovation Initiative
Health Infrastructure Investment Programs
Healthy Start Initiative-Eliminating Racial/Ethnic Disparities
Patient Navigator Outreach and Chronic Disease Prevention Program
Rural Health Care Services Outreach Grant Program
Rural Health Network Development Planning Grant Program
Rural Health Network Development Program
Rural Health Outreach Special Initiative
Ryan White Part C Outpatient EIS Program
Ryan White Title III HIV Capacity Development and Planning Grants
Ryan White Title IV Women, Infants, Children, Youth and Affected Family Members AIDS Healthcare
Sickle Cell Treatment Demonstration Program
Small Health Care Provider Quality Improvement
Special Projects of National Significance
State and Regional Primary Care Associations
The Community Based Doula Program

In this study, the summation of all HRSA funds received by the sampled organizations during fiscal years 2009 to 2013 served as a dependent variable. The granted funds database was filtered by state to obtain all funded agencies for all 176 identified organizations. The funding amount was used to examine the magnitude of funding from HRSA for each sampled nonprofit.

As a result of the effects of previous granting activities, an historical variable was created by capturing funding prior to the examined time frame. A variable that distinguished between agencies that received HRSA funds prior to 2008 from agencies that did not receive HRSA funds was included (1 = received HRSA funds prior to 2008; 0 = did not receive HRSA funds prior to 2008).

Time period

The relationship ties of the board members, as well as the financial and organizational variables of all sampled agencies, was lagged for fiscal years 2008 to 2012. HRSA funding data was collected from fiscal years 2009 to 2013. To examine the effect on one fiscal year, financial and organizational variables and the relationship ties of the board for the previous fiscal year were examined. For example, an agency's board composition and relationship ties for fiscal year 2008 were used to determine predictive effects on HRSA funding for fiscal year 2009. Since government funding decisions are typically determined a fiscal year in advance, the decisions of a board from a previous fiscal year determines budgetary priorities for the following fiscal year.

Board Member and Management Selection

For the 176 selected organizations, the names of the board members and the upper management, such as the CEO, were obtained from IRS 990 tax returns submitted by each organization (Internal Revenue Service, 2015). The IRS 990 form contains the names of board members and upper management in Part VII of the IRS 990 (Internal Revenue Service, 2015). The IRS 990 forms for fiscal years 2008 to 2012 were reviewed to obtain board member names. Since financial data for fiscal years 2009 to 2013 was collected, the composition of the board and upper management from 2008 to 2012 had the most direct effect on 2009 to 2013 operations.

For board members that appeared in multiple fiscal years, the number and length of ties in relationship to the year of funding was considered. As an example, a board member had one tie lasting eleven years in 2010. The board member's data point in 2009 was coded as 1 tie lasting 10 years, and, in 2010, the point was coded as 1 tie lasting 11 years.

Relationship Ties

Information was collected for each board member and upper management official listed for a nonprofit. This included information about relationship ties obtained from archival online data. An indirect analysis focused upon affiliation to federal government officials, other nonprofit organizations, and membership in professional associations without utilizing direct contact with agency officials. An analysis of archival data allowed a relationship tie score that served as an independent variable. Data was obtained from a number of sources: biographies of board members and upper

management posted on a nonprofit's web site, Marquis Who's Who (Marquis Who's Who Ventures, 2016), and LinkedIn profile information (LinkedIn, 2016).

To calculate the percentage of board members with a relationship tie variable, existence of a mention on a profile in any of the six categories was considered a tie. Existence of ties in each of the six categories was considered a dichotomous variable (yes/no) without regard to the number of ties to differing agencies. For example, if a board member had a connection to any nonprofit agency, the board member was considered to have a nonprofit tie and was coded as "yes" or 1. If a board member had connections to several nonprofit agencies, a nonprofit connection existed and was coded as "yes". The total number of board members with a tie was calculated and divided by the total number of board members to obtain a percentage of members with a tie for each of the six categories.

Ties were divided into six categories: previous work experience in government, previous work experience at a nonprofit organization, previous nonprofit board appointment, previous work experience at a nonprofit university, previous work experience at a for-profit organization, and membership in a professional association. For each individual board member, his/her LinkedIn (LinkedIn, 2016) profile was reviewed if available. To maintain accuracy and to ensure the correct individual's information was examined, LinkedIn profiles were only used if the associated nonprofit organization was listed within the profile as a current or previous association. LinkedIn profiles were also used if a board member's current association was listed with the board member's name on the nonprofit's website. For each LinkedIn profile, all prior governmental, nonprofit, for-profit, university, and professional association affiliations as

well as any available dates of active affiliation for each entry were captured. In order to verify the nonprofit status of a listed organization, a GuideStar (2015) query was conducted. GuideStar is an online database of nonprofit organizations. Guidestar maintains IRS 990s, annual reports, and other relevant organizational and financial data for all registered nonprofit agencies in the United States. When the organization listed in a board member's profile did not appear in Guidestar, the organization was denoted as a for-profit. This process was repeated for each board member utilizing Marquis Who's Who database of noted individuals (Marquis Who's Who Ventures, 2016).

For each individual listed on an agency's 990 form (Internal Revenue Service, 2015), each work appointment or affiliation listed on a biography was considered as a separate tie. Each listing was added into one of the categories serving as an independent variable for the number of ties. For example, if an individual listed previous employment at three government agencies (X, Y, & Z), the entries were recorded as three separate ties. The number of years at each listed affiliation was counted to examine the strength of the tie at each agency. An individual who listed two years at Organization X, two at Organization Y, and five at Organization Z, was recorded as an individual with a total of three ties and nine years of experience. The same methodology was used for previous work experience at another nonprofit, previous work experience at a nonprofit university, previous work experience at a for-profit organization, board appointment at another nonprofit, and professional membership associations. In instances when no date was listed with the affiliation, the affiliation was recorded as one tie and one year of experience for each year the board member served. Missing and/or non-existent data was recorded as 0.

Though ties may have existed without biographical mention, the current study focused on explicitly stated network ties. Due to the nature of archival data collection, only ties from documented biographical sources were inferred. Researchers have examined the sources of other types of formal and informal connections. Formal ties may come from planned interactions in a work environment. These types of interactions include meetings intended to relay information to employees (Guo & Acar, 2005) as well as interactions between members of work teams (Borgatti et al., 2009; Oh, Chung, & Labianca, 2004). Appointments to another nonprofit board and work experience at other agencies captured formal connections involving structured interactions in a professional setting. Informal ties arise from 'off the record' interactions or interactions that are outside of the work environment (Kratzer, Leenders, & Van Engelen, 2005; Oh, Chung, & Labianca, 2004). Measuring membership in professional associations was one way to capture informal ties. Although professional association meetings were not necessarily extracurricular, interactions at various meetings occurred outside of the workplace. In many instances, professional associations were not directly related to a profession but were more civically oriented such as a local Rotary Club.

In previous research (Kratzer, Leenders, & Van Engelen, 2005; Oh, Chung, & Labianca, 2004), formal and informal connections were obtained through interviews and self-administered questionnaires asking participants to detail the extent of social interaction among other employees in the workplace. This research study did not utilize such direct measures of social interaction but relied upon the theory of proximity to infer social connections (Borgatti et al., 2009). Under the theory of proximity, closeness to other employees implicitly corresponded to a certain level of either formal or informal

relationships to others in an organization. For this study, previous work experience was equivalent to proximity. As a result, due to the inference of relationship ties from archival data, there were limitations on the degrees of causality in this study. While such limitations do not invalidate the findings of this study, acknowledgement of the nature of correlational relationships between funding and relationship ties must not be disregarded.

For individuals that had service at an agency for multiple years, the tie at each agency for each fiscal year was considered increasing in strength. For instance, a board member that served on a board in 2008 had a baseline relationship tie at the examined board appointment coding from the beginning of his/her career to 2008 (t). The same board member serving in 2009 at the same appointment had ties from the beginning of his/her career to 2009 (t + 1). The same time-dependent calculation of a tie continued to the stated end point or to 2012, whichever came first.

The number and length of ties of each board member were totaled to obtain an aggregated number and length of time for each of the six relationship tie categories for the organization. As previously stated, since boards were expected to act as a single entity to decide the action of the organization, aggregating individual board member data into one organizational data point served to reflect the singular action of the entire board. All affiliations were added from LinkedIn (LinkedIn, 2016) and Who's Who (Marquis Who's Who Ventures, 2016) profiles into the organizational data. In cases where a board member had the same data from both LinkedIn (LinkedIn, 2016) and Who's Who (Marquis Who's Who Ventures, 2016) databases, only the database with the most comprehensive information was considered to avoid any potential multiple inclusions of associations. In cases where two board members were connected to the same external

organization, each tie was counted separately as two ties. As each board member was an individual and each tie carried the same weight as other ties, overlapping ties to the same organization demonstrated an increased connection rather than a duplication.

Additional Financial Variables

Additional financial variables were considered as variables that have an effect on funding. As mentioned earlier, variables such as incoming revenue can affect funding due to organizational variations in size or expected need of additional funding. All financial variables were adjusted for inflation utilizing the Consumer Price Index and 2013 as a reference point (Bureau of Labor Statistics, 2016).

Total Revenue and Total Assets

In order to capture not only the size of the organization but also the financial capability of an organization, data on the total assets and the total revenue that an organization possessed was collected for a fiscal year. Revenue and asset size can vary funding levels over and above relationship ties thus affecting the model. To control for biased funding decision making, assets and revenue were included into the theoretical model. Total current year revenue was collected from the IRS 990 form (Part 1, line 12) and total current year assets from the IRS 990 form (Part 1, line 20) (Internal Revenue Service, 2015). Since HRSA revenue for a fiscal year was a part of total revenue for an organization, it was necessary to subtract the HRSA revenue of a fiscal year from the total revenue to avoid collinearity between these two variables.

Current and Previous Grants

As with Marlowe (2013) and Li and Schurhoff (2012), financial transactions were used as a method of creating a network analysis among banks and bonds writers. Similar

financial information for nonprofit organizations were extracted from the IRS 990 (Internal Revenue Service, 2015). It was assumed that previous granting activity was a good indication of a network tie as it is unlikely that a government agency would grant funds to an unknown organization. By having an established history between a nonprofit and a government granting entity, a tie existed based upon a reputation of positive performance. Grant data existed as "Current and Previous Revenue from Government Grants" in the 2008-2012 IRS 990 form (Part VIII, line 1 e) (Internal Revenue Service, 2015). As with total revenue, since HRSA revenue for a fiscal year was a part of the grant revenue for an organization, it was necessary to subtract the HRSA revenue from the total grant revenue.

Contributions

Aside from grants, nonprofits received revenue from for-profit agencies, other nonprofits, and individuals through contributions. While contributions may not directly contribute to an organization's relationship to government and other nonprofit entities, such revenue sources can affect the amount of grant revenue that an agency receives. Receiving sufficient amounts of contributions to cover operational costs can deter an organization from applying for grants. The effect that contributions had on the likelihood of acquiring a grant therefore were considered in the model. Contribution data existed as "All other contributions, gifts, grants, and similar amounts" (Part VIII; line 1f) (Internal Revenue Service, 2015).

Grants to Governments

A nonprofit that grants to a government entity may do so for a variety of reasons. In the current analysis, the presence of a grant to a government established a relationship

tie in that the nonprofit agreed to trust the government with some aspect of its mission. As an example, a community healthcare facility granted money to a local fire department for ambulance services to the facility, or a facility granted money to a local police department for security services. By contracting out to a local government, the nonprofit may access an indirect route to larger funding sources as many local governments have ties to federal government through other granting activities. Additionally, by contracting money out, the nonprofit may be viewed as a pass-through agency which may have an effect on federal granting decisions. Grant data existed as "Grants to Governments" (Part IX; line 1) (Internal Revenue Service, 2015).

Additional Organizational Variables

As with financial variables, organizational variables such as the number of employees were considered as potential variables that affect funding. The number of board members that an organization had may impact an agency's likelihood of acquiring revenue. Larger organizations may have greater human and social resources to draw upon for grant application and fundraising efforts. Conversely, smaller organizations have fewer employees to dedicate time and effort to obtaining operational revenue. Smaller organizations may also have fewer individuals with connections to granting authorities putting the agency at a disadvantage in comparison to a larger organization. An organization with a large number of board members and employees are likely to have more relationship ties to a greater number of decision makers.

To capture the relationship of an organization's size to the amount of funding, three variables were obtained from the IRS 990 for fiscal years 2008 to 2012 (Internal Revenue Service, 2015): the number of board members, the number of employees, and

the number of volunteers. For the board size, the number of voting members of the

governing body was used (Part I, line 3). For organizational size, the total number of

individuals employed during the calendar year was collected (Part I, line, 5). For

volunteer size, the total number of volunteers was utilized (Part I, line 6) (Internal

Revenue Service, 2015).

In total, there were five financial variables from the 990 (Internal Revenue

Service, 2015): total assets, total revenue, previous grant revenue, contributions, and

grants to government. There were also three organizational variables from the 990

(Internal Revenue Service, 2015): the number of board members, the number of

employees, and the number of volunteers. For each of these variables, the magnitude of

funding was captured from the reported amounts for each of these variables. Any data

with zero indicated no revenue or expenses in granted activity. Missing data was counted

as zero as it was assumed with any IRS form that the absence of data indicated zero. For

a detailed listing of all variables, see Table 4.2.

Table 4.2: Detailed List and Definition of Variables.

Variable	Definition of Variable
Number of Government Ties	All unique listings of Federal, state, or local government employment as listed in biographical description of board member or upper management. Descriptions obtained from LinkedIn (LinkedIn, 2016), Marquis Who's Who (Marquis Who's Who Ventures, 2016), and the agency's web site.
Years of Government Ties	The number of years of employment at each unique government listing obtained above. Years counted are from start date to year of measurement. Listings with no years listed are coded as 1.
Number of Nonprofit Ties	All unique listings of employment at nonprofit (not current agency) as listed in biographical description of board member or upper management. Nonprofit status certified via Guidestar.org (Guidestar, 2015). Descriptions obtained from LinkedIn (LinkedIn, 2016), Marquis Who's Who (Marquis Who's Who Ventures, 2016), and the agency's web site.

Table 4.2 (continued)

Years of Nonprofit Ties	The number of years of employment at each unique nonprofit listing obtained above. Years counted are from start date to year of measurement. Listings with no years listed are coded as 1.
Number of Board Appointments at Different Nonprofit Agency	Each unique listing of board appointment at nonprofit (not current agency) as listed in biographical description of board member or upper management. Listing must explicitly state board appointment. Nonprofit status certified via Guidestar.org (Guidestar, 2015). Descriptions obtained from LinkedIn (LinkedIn, 2016), Marquis Who's Who (Marquis Who's Who Ventures, 2016), and the agency's web site.
Years as a Board Member at Another Nonprofit	The number of years of board appointment at each unique nonprofit listing obtained above. Years counted are from start date to year of measurement. Listings with no years listed are coded as 1.
Number of Professional Associations	All unique listings of membership in a national, state, or local professional association as listed in biographical description of board member or upper management. Descriptions obtained from LinkedIn (LinkedIn, 2016), Marquis Who's Who (Marquis Who's Who Ventures, 2016), and the agency's web site.
Years as a Member of Professional Association	The number of years as member of each professional association listing obtained above. Years counted are from start date to year of measurement. Listings with no years listed are coded as 1.
Number of University Ties	All unique listings of employment at a nonprofit university as listed in biographical description of board member or upper management. Nonprofit status certified via Guidestar.org (Guidestar, 2015). Descriptions obtained from LinkedIn (LinkedIn, 2016), Marquis Who's Who (Marquis Who's Who Ventures, 2016), and the agency's web site.
Years of University Ties	The number of years of employment at each unique nonprofit university listing obtained above. Years counted are from start date to year of measurement. Listings with no years listed are coded as 1.
Number of For-profit Ties	All unique listings of employment at a for-profit agency as listed in biographical description of board member or upper management. For-profit status certified via Guidestar.org (Guidestar, 2015). Descriptions obtained from LinkedIn (LinkedIn, 2016), Marquis Who's Who (Marquis Who's Who Ventures, 2016), and the agency's web site.
Years of For-profit Ties	The number of years of employment at each unique for-profit agency listing obtained above. Years counted are from start date to year of measurement. Listings with no years listed are coded as 1.

Table 4.2 (continued)

Total Revenue	The total amount of contributions, grants, program service revenue, investment income, and other revenue received by an agency (sans HRSA revenue) as listed in IRS 990 form (Internal Revenue Service, 2015). Line item: "Total revenue", Part I, line 12.
Total Assets	The total amount of cash, savings, pledges, accounts receivable, grants receivable, investments, and other short-term and long-term assets as listed in IRS 990 form (Internal Revenue Service, 2015). Line item: "Total assets", Part 1, line 20.
Total Contributions	The total amount of contributions, gifts, non-government grants, and other smaller amounts received as listed in IRS 990 form (Internal Revenue Service, 2015). Line item: "All other contributions…" Part VIII, line 1f.
Previous Grant Revenue	Amount of grants received in previous fiscal (sans HRSA revenue) as listed in IRS 990 form (Internal Revenue Service, 2015). Line item: "Current and Previous Revenue from Government Grants", Part VIII, line 1e.
Previous Grant Expenditure to Government	Amount of expenditures in the form of grants from agency to government in previous fiscal as listed in IRS 990 form (Internal Revenue Service, 2015). Line item: "Grants to Governments", Part IX, line 1.
HRSA Funds Prior to 2008	Dichotomous variable (1 = yes; 0 = no) of presence of a HRSA fund obtained prior to 2008. Obtained from HRSA funding sources database.
Number of Board Members	The number of board members as listed in IRS 990 form (Internal Revenue Service, 2015). Line item: "Number of voting members of the governing body", Part I, line 3
Number of Employees	The number of employees as listed in IRS 990 form (Internal Revenue Service, 2015). Line item: "Total number of individuals employed in a calendar year", Part I, line 5.
Number of Volunteers	The number of volunteers as listed in IRS 990 form (Internal Revenue Service, 2015). Line item: "Total number of volunteers", Part I, line 6.

Summary

A number of variables for 176 community healthcare nonprofit organizations were examined over the span of five fiscal years. Relationship ties were obtained from LinkedIn (LinkedIn, 2016), Marquis Who's Who profiles (Marquis Who's Who

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Ventures, 2016), and agency websites. The relationship ties under consideration included

previous work experience in a government agency, previous work experience in another

nonprofit agency, previous work experience in a for-profit agency, previous work

experience at a university, previous board appointment at another nonprofit, and

membership in a professional association. For each relationship tie category, the number

of ties and the length of time for each tie was collected. A series of financial variables

were obtained from each agency's IRS 990 forms (Internal Revenue Service, 2015). The

financial variables under consideration included total assets, total revenue, revenue from

government grants, revenue from contributions, and grant expenditures. HRSA funds

received prior to 2008 served as an historical variable. Finally, organizational variables

were obtained from IRS 990 forms (Internal Revenue Service, 2015). Organizational

variables included the number of board members, the number of employees, and the

number of volunteers. For all considered independent variables, information was

collected for fiscal years 2008 to 2012. The amount of HRSA funding that nonprofit

healthcare agencies received was collected for fiscal years 2009 to 2013. The mixture of

the mentioned variables of one fiscal year was examined as a function of the amount of

HRSA funds granted for the following fiscal year.

CHAPTER 5

RESULTS

Organizations with more relationship ties were expected to have a greater likelihood of HRSA funding acquisition. It was expected that there would be a positive relationship between the number and length of all ties and the amount of funding received. In particular, government ties were expected to have a positive relationship with predicted HRSA funding. Agencies that previously received HRSA grants were more likely to receive future HRSA grants.

The following section details the econometric models used to test the hypothesis. T-tests were conducted to determine any statistically significant differences between funded and unfunded agencies. A probit regression was used to determine the likelihood of obtaining funding. Multiple regressions were used as a way to test the hypothesis. A series of non-panel regressions was conducted in order to test for general model significance and to build models to use for panel data regressions. The initial non-panel regressions allowed for the examination of any possible mediating connections. Finally, panel data regressions were conducted to compare fixed and between effects to determine any longitudinal and cross-sectional influences on the sampled agencies.

There were a series of mixed findings to partially support the hypothesis. A number of variables were significant only when board members were in organizations receiving HRSA funding prior to 2008.

In this study, an observation was defined as one fiscal year of organizational, financial, and relationship ties data for each of the 176 organizations. There were five observations for each organization during fiscal years 2008 to 2012. Overall, there were

880 observations; 363 of which were funded by HRSA during 2008-2012 and 517 of which were not funded by HRSA.

Descriptive T-tests

T-tests determined if there were statistically significant differences between the means of the independent variables comparing funded and unfunded observations. There were twelve independent variables that were significantly different between the two groups: the number of board members, the number of volunteers, the number of employees, incoming grant revenue, incoming contributions, the percentage of board members with ties to other nonprofit agencies, the total years of ties to other nonprofit agencies, the total years of ties to other for-profit agencies, the total number of professional association memberships, the total years of professional association memberships, the percentage of board members with ties to other nonprofit boards, and the total number of appointments to other nonprofit boards. (Table 5.1).

When comparing organizational characteristics, funded and unfunded agencies differed in all three variables. Funded agencies had more board members (12 versus 11), fewer volunteers (8 versus 110), and more employees (95 versus 65). For financial variables, funded agencies received more grant revenue other than HRSA grants ($600,000 versus $300,000) but fewer contributions ($500,000 versus $1 million). When comparing relationship ties, funded agencies had a greater percentage of board members with ties to other nonprofit agencies (37.3% versus 32.8%). The length of time of ties to other nonprofit and for-profit agencies differed as well. Funded agencies had board members with longer ties to other nonprofit agencies (42.5 years versus 38.3 years) and fewer years of ties to for-profit agencies (47.3 years versus 54.2 years). Funded agencies

had board members with fewer memberships in professional associations (8 versus 9) yet longer memberships in professional associations (23.2 years versus 17.8 years). Finally, funded agencies had a smaller percentage of board members with ties to other nonprofit boards (17.1% versus 20.3%). Subsequently, funded agencies had fewer appointments to other nonprofit boards (5 versus 7) (Table 5.1).

On average, HRSA funded agencies tended to have more board members than agencies not receiving funds. Of equal significance was the difference in the number of employees as well as the number of volunteers. Nonprofits that were funded have significantly less volunteers while having more employees. It is possible that nonprofits with a greater amount of payroll expenses to cover operational costs were in greater need of external funds and therefore more likely to apply for grant funding. Those that were unfunded may cover operational functions through the use of unpaid volunteers.

With financial variables, agencies that received funds had a significant amount of incoming grant revenue as opposed to those agencies not receiving HRSA funds. HRSA funded agencies also received fewer contributions. The difference in contribution revenue for unfunded agencies may be correlated to the fiscal situation of the organization. Nonprofits that did not receive HRSA grant funds may be in a situation where operational costs were covered by contributions. What was striking was that none of these differences existed when considering total assets and total revenues of both groups of nonprofit organizations.

Table 5.1: Means of Each Variable

Variable	All	Funded	Unfunded
Number	880	363	517
Organizational Variables			
Number of Board Members	11.4	12.2	10.9 **
Number of Volunteers	67.5	7.7	109.5 ***
Number of Employees	77.1	94.7	64.8 *
Financial Variables			
Total Revenue (in millions)	6.4	5.3	7.3
Total Assets (in millions)	5.3	4.0	6.2
Grant Revenue (in millions)	0.4	0.6	0.3 **
Contributions (in millions)	0.8	0.5	1.0 ***
Grant Expenditures (in millions)	0.1	0.1	0.1
Relationship Variables			
Percentage of Board Members with Ties to Other Nonprofit Agencies	34.7	37.3	32.8 **
Total Number of Ties to Other Nonprofit Agencies	6.9	7.0	6.8
Total Years of Ties to Other Nonprofit Agencies	40.0	42.5	38.3 *
Percentage of Board Members with Ties to Government Agencies	14.2	14.6	13.9
Total Number of Ties to Government Agencies	2.3	2.4	2.3
Total Years of Ties to Government Agencies	14.6	16.1	13.5
Percentage of Board Members with Ties to For-Profit Agencies	29.4	27.9	30.5
Total Number of Ties to Other For-Profit Agencies	7.4	7.4	7.5
Total Years of Ties to Other For-Profit Agencies	51.3	47.3	54.2 *
Percentage of Board Members with Ties to Universities	13.2	14.0	12.6
Total Number of Ties to Universities	1.5	1.7	1.5
Total Years of Ties to Universities	9.9	9.1	10.4
Percentage of Board Members with Professional Association Memberships	22.5	21.5	23.3
Total Number of Professional Association Memberships	8.3	7.5	8.8 *
Total Years of Professional Association Memberships	20.0	23.2	17.8 **
Percentage of Board Members with Ties to Other Nonprofit Boards	19.0	17.1	20.3 **
Total Number of Appointments to Other Nonprofit Boards	6.1	5.1	6.8 **
Total Years of Appointments to Other Nonprofit Boards	17.3	16.5	17.8

* significantly different from 0 at $p < 0.100$

** significantly different from 0 at $p < 0.050$

*** significantly different from 0 at $p < 0.001$

When considering relationship ties, board members at HRSA funded agencies had longer relationship ties to other nonprofit agencies than for-profit agencies. In consideration of these findings, it was possible that those agencies that received HRSA funds spent a greater deal of time cultivating ties to other nonprofits in an effort to build ties and legitimacy in the nonprofit realm as opposed to the for-profit sphere. It was

possible that longer ties to other nonprofit agencies was correlated to more grant funding. However, board members of HRSA funded agencies were on fewer nonprofit boards. For professional associations, it appeared that board members of HRSA funded agencies were more selective in professional association memberships given that they were members of fewer associations. However, membership was longer in these associations.

Probit Model

A probit model estimated the likelihood of funding. The model utilized a dichotomous dependent variable that captured whether or not an organization received funding. In the probit model, twenty-one variables (Table 5.2) were utilized to estimate the probability of obtaining funds received for the following fiscal year for 176 organizations over 5 fiscal years (Appendix, Equation 1). In the probit model, there were a total of 812 observations. Observations with missing data were omitted from the probit model (68 observations = 7.7%).

In general, the probit model demonstrated a strong goodness of fit. The model correctly classified 93% of all cases. The probit model correctly classified 92% of the agencies that received HRSA funds and 94% of the agencies that did not receive HRSA funds (Table 5.3).

The probit model was a statistically significant predictor of the likelihood of obtaining HRSA funding for the following fiscal year ($\chi^2 = 821.86$, $p < 0.001$). Variables that increased the probability of obtaining HRSA funding included the number of employees, receiving HRSA funding prior to 2008, contributions, number of ties to government agencies, number of years of ties to government agencies, total number of ties to other for-profit agencies, total years of membership in professional associations,

Table 5.2 List of Variables for Probit Regression.

Dependent Variable
1 if the amount of HRSA funding received for the following fiscal year is greater than 0 and where y = 0 if otherwise
Organizational Variables
Number of board members for the previous fiscal year
Number of volunteers for the previous fiscal year
Number of employees in thousands for the previous fiscal year
Financial Variables
Receiving HRSA funding prior to 2008 (dichotomous where 1 = yes and 0 = no)
Total revenue in millions for the previous fiscal year
Total assets in millions for the previous fiscal year
Grant revenue in millions for the previous fiscal year
Amount of contributions in millions for the previous fiscal year
Grant expenditures in millions for the previous fiscal year
Relationship Variables
Total number of ties to other nonprofit agencies for the previous fiscal year
Total years of nonprofit ties for the previous fiscal year
Total number of ties to government agencies for the previous fiscal year
Total years of government ties for the previous fiscal year
Total number of ties to for-profit agencies for the previous fiscal year
Total years of for-profit ties for the previous fiscal year
Total number of ties to universities for the previous fiscal year
Total years of university ties for the previous fiscal year
Total number of memberships in a professional association for the previous fiscal year
Total years of memberships in a professional association for the previous fiscal year
Total number of appointments to other nonprofit boards for the previous fiscal year
Total years of appointments to other nonprofit boards for the previous fiscal year

Table 5.3 Goodness of Fit Matrix for Probit Model.

		True		
		Positive	Negative	Total
Classified	Positive	332	27	359
	Negative	26	427	453
	Total	358	454	812

Correctly classified   93.47%
Positive predictive value   92.48%
Negative predictive value   94.26%

and total number of appointments to other nonprofit boards. Variables that decreased the likelihood of HRSA funding included the number of volunteers, total revenue, the number of ties to other nonprofits, number of years of ties to universities, total number of memberships in a professional association, and total number of years of appointments at other nonprofit boards. All other variables in the probit model were not statistically significant (Table 5.6).

The probit model confirmed some results from the t-tests. For instance, agencies that were likely to receive funds had fewer volunteers, more employees, and less contributions. Agencies with board members with fewer professional association memberships, board members with more years of membership in a professional association, and board members with fewer appointments to other nonprofit boards were more likely to receive funds. These findings were in line with the findings of the t-tests. Other differences between funding and unfunded agencies found in t-tests were not statistically significant in the probit model (Figure 5.1).

The probit model did not capture the magnitude of the relationships. The probit model determined the likelihood of funding; but the model did not predict the amount of expected funding. In order to capture magnitude, multiple regressions were conducted in the following section.

Figure 5.1: Illustration of Significant Variables that Increase and Decrease the
Likelihood of HRSA Funding.
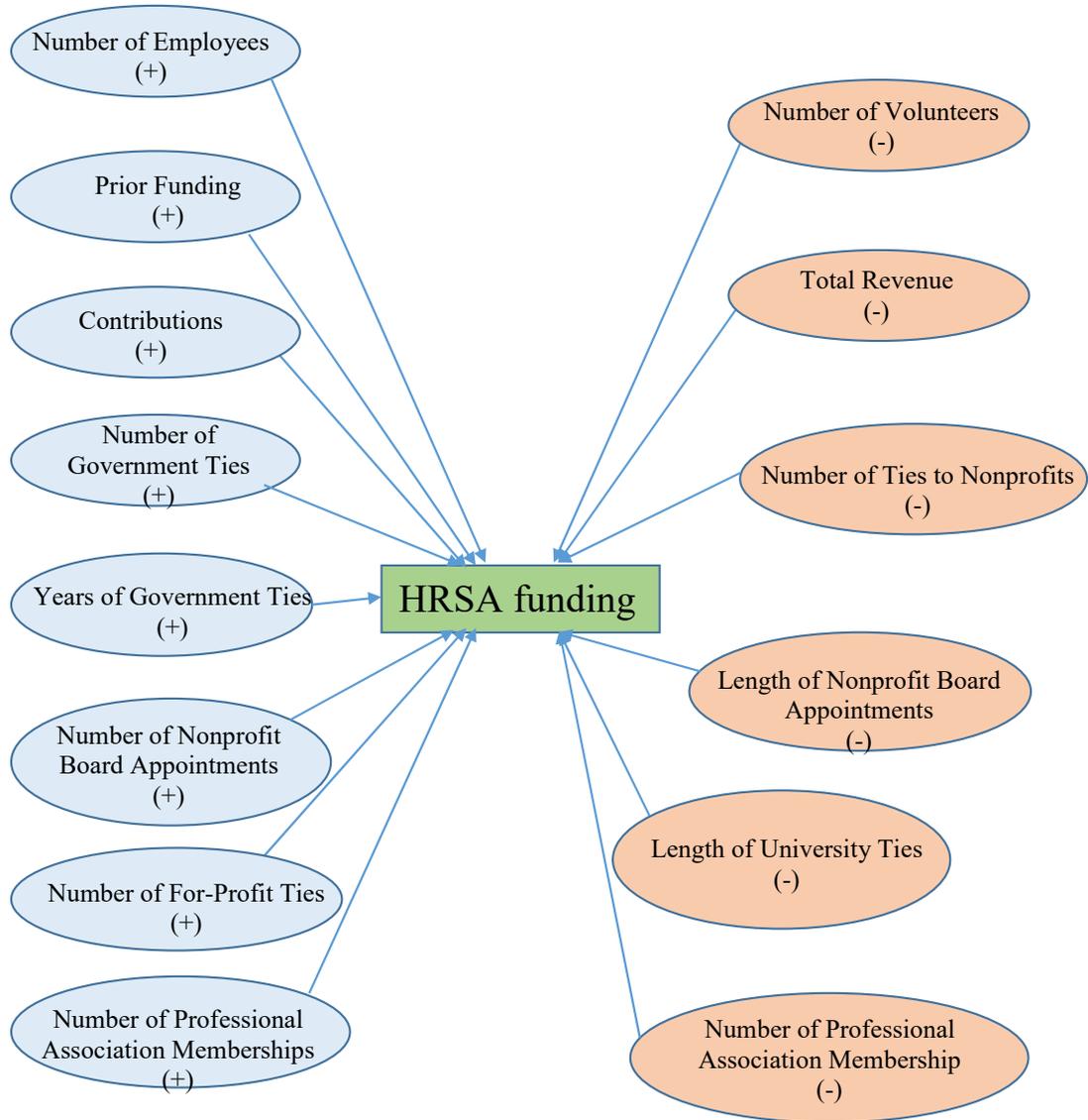
Multiple Regressions

Multiple regressions were conducted to examine future HRSA funding as a function of the twenty-one described explanatory variables. It is important to note that the explanatory variables were lagged one fiscal year behind the dependent variable in order to account for reverse causality between the explanatory and the dependent variables. Multiple regressions without panel data were utilized in order to build future panel models as well as preview any existing significant relationships. Multiple regressions in this situation also allowed for the examination of any potential mediating relationships. Four multiple regressions were conducted that were variations of a linear model utilizing funding as a function of twenty-one variables (Table 5.4).

Model 1 examined anticipated HRSA funding as a function of all lagged 21 explanatory variables (Table 5.5; Appendix, Equation 2). There were 880 observations for all 176 organizations over 5 fiscal years. Model 2 examined indirect effects related to anticipated HRSA funding (Table 5.5; Appendix, Equation 3). Model 2 examined HRSA funding prior to 2008 as a function of 20 explanatory variables. As with Model 1, there were 880 observations for 176 organizations over 5 fiscal years. In Model 1, HRSA funding prior to 2008 was used as one of the explanatory variable for anticipated HRSA funding. However, due to the large correlation for prior funding, it was possible that some of the explanatory variables have an indirect effect on anticipated HRSA funding through prior HRSA funding. Explanatory variables that were significant in Model 2 but not in Model 1 were considered to have an indirect effect on anticipated funding (Figure 5.2).

Table 5.4 Listing of Variables for Multiple Regression Models for Non-panel Analyses.

Dependent Variable
Amount of HRSA funding received for the following fiscal year (Models 1 and 3) OR receiving HRSA funding prior to 2008 (dichotomous where 1 = yes and 0 = no) (Model 2 and 4)
Organizational Variables
Number of board members for the previous fiscal year
Number of volunteers for the previous fiscal year
Number of employees in thousands for the previous fiscal year
Financial Variables
Receiving HRSA funding prior to 2008 (dichotomous where 1 = yes and 0 = no) (Utilized as Dependent Variable for Models 2 and 4)
Total revenue in millions for the previous fiscal year
Total assets in millions for the previous fiscal year
Grant revenue in millions for the previous fiscal year
Amount of contributions in millions for the previous fiscal year
Grant expenditures in millions for the previous fiscal year
Relationship Variables
Total number of ties to other nonprofit agencies for the previous fiscal year
Total years of nonprofit ties for the previous fiscal year
Total number of ties to government agencies for the previous fiscal year
Total years of government ties for the previous fiscal year
Total number of ties to for-profit agencies for the previous fiscal year
Total years of for-profit ties for the previous fiscal year
Total number of ties to universities for the previous fiscal year
Total years of university ties for the previous fiscal year
Total number of memberships in a professional association for the previous fiscal year
Total years of memberships in a professional association for the previous fiscal year
Total number of appointments to other nonprofit boards for the previous fiscal year
Total years of appointments to other nonprofit boards for the previous fiscal year

Table 5.5. Multiple Regression Models for Non-panel Analyses.

Model 1 All organizations; Predicted funding as dependent variable; All lagged independent variables
Model 2 All organizations; HRSA funding prior to 2008 as dependent variable; All other lagged independent variables
Model 3 Funded organizations; Predicted funding as dependent variable; All lagged independent variables
Model 4 Funded organizations; HRSA funding prior to 2008 as dependent variable; All other lagged independent variables

Figure 5.2 Illustration of Indirect Effects on Anticipated HRSA Funding

Models 3 and 4 explored relationships that were unique to agencies that received HRSA funding. Model 3 examined the effects of anticipated HRSA funding as a function of all 21 explanatory variables (Table 5.5; Appendix, Equation 4) for agencies that received HRSA funding. There were 72 organizations over 5 fiscal years for a total of 360 observations. Model 4 examined HRSA funding prior to 2008 (dependent variable) as a function of 20 independent variables for 72 organizations over 5 fiscal years for a total of 360 observations (Table 5.5; Appendix, Equation 5).

Across the four models, there were moderate significant relationships. The strongest significant relationship among all models existed ($r^2 = .525$, $p < 0.001$) in Model 1. The strongest relationships in the model included previous HRSA funding and grant expenditures (B = 1.588, $p < 0.001$; B = 1.552, $p < 0.001$; respectively). In this model, having HRSA funds prior to 2008 predicted that an organization is likely to receive $1.6 million in anticipated funding. Likewise, granting out $1 million in funds to other agencies such as local governments was positively correlated with the expectation of receiving $1.5 million in future HRSA funds. Of particular interest, the effect of relationship variables was relatively small in comparison to an organization's financial variables (Table 5.6).

The changes in significant variables between Models 1 and 2 signified that there

was an indirect relationship between some of the independent variables and predicted

funding through prior funding. The variables of interest were correlated to prior funding

which was strongly correlated to future anticipated funding. In order to examine

mediation, a multiple regression was conducted, Model 2, utilizing the dichotomous

variable of having HRSA funds prior to 2008 as the dependent variable instead of the

previous dependent variable, predicted HRSA funding. Model 2 examined 20

explanatory variables for 176 organizations over 5 fiscal years. The coefficients of

Models 1 and 2 were compared to examine differences in significance, direction, and

magnitude. In this mediation model, of particular interest were any relationships that

became statistically significant when changing the dependent variable (Tables 5.4 and

5.5). A change in significance indicated that independent variables in Model 2 were

correlated to pre-2008 funding rather than predicted HRSA funding. The variables with

an indirect effect were the number of board members and university ties. Model 2

indicated the size of the board and the number of ties that a board member had to a

university (B = 0.015, p < 0.001; B = 0.033, p < 0.05; respectively) were correlated to

whether the agency received HRSA funds prior to 2008. Funding prior to 2008 was

affected by both the number of board members and the ties that a board member had to a

university thus creating an indirect link to anticipated funding (Figure 5.2).

In order to determine if funded organizations possessed different characteristics

than unfunded organizations, multiple regressions were conducted similar to Models 1

and 2 but limited to the 72 funded organizations over 5 fiscal years. Model 3 was similar

to Model 1 which examined the effect of anticipated HRSA funding as a function of all

21 lagged explanatory variables (Tables 5.4 and 5.5). When considering all 21

independent variables, there was a moderate positive correlation in Model 3 (r^2 = .437, p

< 0.001). Fewer independent variables were statistically significant compared to Model 1

that utilized all 176 organizations. While the levels of many of the financial variables

were no longer statistically significant, many of the same relationship variables remained

statistically significant. The largest impact was the relationship between outgoing grant

expenditures and future HRSA funding. For every one million dollars that a nonprofit

granted out, future HRSA funding was correlated with an increase of $3 million (B =

3.029, p < 0.001). It seems that in order to bring in money, an organization must spend

its funds (Table 5.6).

Finally, Model 4 showed evidence that receiving HRSA funding prior to 2008

served as a mediator for several of the variables. As with Model 2, a regression was

conducted utilizing funding prior to 2008 as the dependent variable instead of predicted

HRSA funding. Model 4 utilized 20 explanatory lagged variables for 72 organizations

over 5 fiscal years totaling 360 observations (Table 5.4 and 5.5). Independent variables

that were statistically significant in Model 4 but not significant in Model 3 were

considered to have an indirect effect on anticipated funding through prior funding to

2008. There were six variables that show signs of mediation through HRSA funding

prior to 2008: the number of volunteers, total assets, number of ties to other nonprofit

agencies, number of ties to for-profit agencies, years of ties to universities, and number of

appointments to other nonprofit boards. While the effects of these variables

Table 5.6. Coefficients of Probit and Multiple Regression Models (Non-panel).

	Probit Model	Multiple Regression Models			
Model	Probit	Model 1	Model 2	Model 3	Model 4
Organization Sample	All Organizations	All Organizations	All Oranizations	Funded Organizations	Funded Organizations
Dependent Variable	Receiving Funding (Dichotomous)	Predicted Funding	Funding Prior to 2008	Predicted Funding	Funding Prior to 2008
Adjusted R2		0.525 ***	0.243 ***	0.437 ***	0.310 ***
Independent Variable					
Organizational Variables					
Number of Board Members	0.028	0.001	0.015 ***	-0.003	0.001
Number of Volunteers	-0.007 **	-0.001 *	-0.001 ***	-0.002	-0.005 ***
Number of Employees	0.012 ***	0.004 ***	0.002 ***	0.005 **	0.001
Financial Variables					
HRSA funding prior to 2008	3.374 ***	1.588 ***	Dependent Variable	0.484 *	Dependent Variable
Total Revenue	-0.195 ***	-0.012 **	-0.015 ***	-0.021	-0.005
Total Assets	-0.071	-0.027 ***	-0.006 **	0.016	0.042 ***
Grant Revenue	-0.027	0.098 ***	-0.010	-0.031	-0.012
Contributions	0.161 **	0.079 ***	-0.010	0.417 ***	-0.010
Grant Expenditures	0.523	1.552 ***	0.119	3.029 ***	0.004
Relationship Variables					
Total Number of Ties to Other Nonprofit Agencies	-0.097 **	-0.010	0.007	0.005	0.015 **
Total Years of Ties to Other Nonprofit Agencies	0.010	0.005 **	-0.001	0.012 **	-0.001
Total Number of Ties to Government Agencies	0.074 **	-0.042 **	0.023 **	-0.087 **	-0.004
Total Years of Ties to Government Agencies	0.010 **	0.007 **	-0.003 **	0.011 **	-0.003 **
Total Number of Ties to Other For-Profit Agencies	0.110 ***	0.024 **	0.001	-0.003	-0.008 **
Total Years of Ties to Other For-Profit Agencies	-0.007	-0.003 **	-0.001 **	-0.002	0.001
Total Number of Ties to Universities	0.071	-0.033	0.033 **	-0.143 **	0.004
Total Years of Ties to Universities	-0.026 *	-0.002	-0.003 *	0.011	0.004 **
Total Number of Professional Association Memberships	-0.067 **	0.015 **	-0.011 ***	0.045 **	-0.006
Total Years of Professional Association Memberships	0.015 **	-0.007 ***	0.005 ***	-0.013 ***	0.002 **
Total Number of Appointments to Other Nonprofit Boards	0.060 **	0.004	-0.005	0.021	-0.010 **
Total Years of Appointments to Other Nonprofit Boards	-0.017 **	-0.001	-0.001	-0.006	0.001

* p < 0.100
** p < 0.050
*** p < 0.001

Figure 5.3. Relationships of Significant Variables for Non-panel Multiple Regressions for All Organizations (Models 1 and 2).
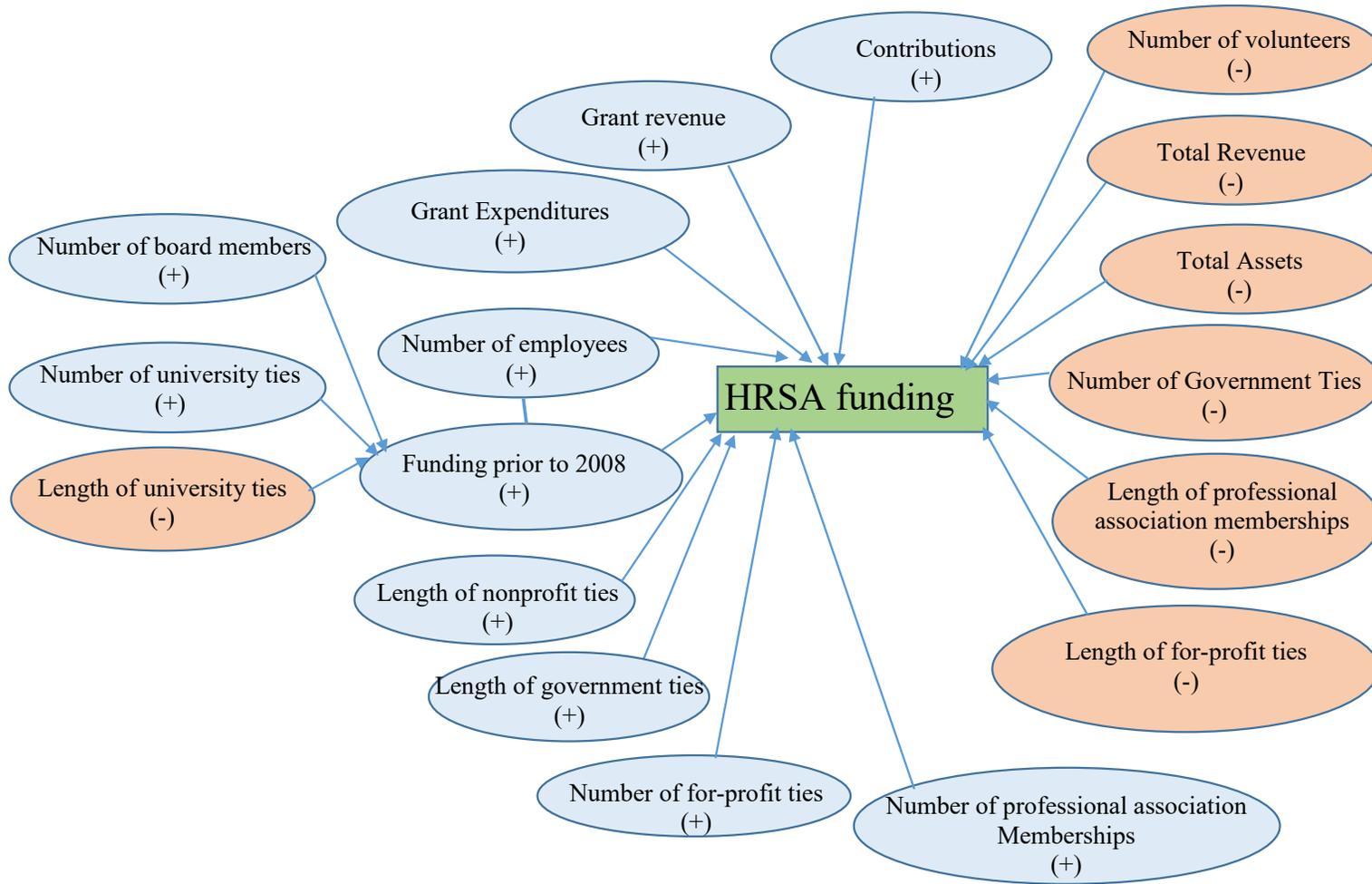
on funding prior to 2008 were small, these variables indirectly impact grant acquisition for agencies that received funds. These variables only mattered when an agency had a history of funding prior to 2008. The number of volunteers, ties to for-profit agencies, and number of board appointments to other nonprofits were negatively correlated to funding prior to 2008. The other listed significant variables were positively correlated to funding prior to 2008 (Table 5.6; Figure 5.4).

The following interpretations apply to not only the model-building non-panel regressions but also to the upcoming panel data analyses. In summation, when considering all organizations, the following variables had a positive effect on the next year's HRSA funding: the number of employees, having HRSA funds prior to 2008, contributions, the total number as well as length of years of ties to government agencies, the number of ties to for-profit agencies, the length of ties in professional association memberships, and the number of appointments to other nonprofit boards. In alignment with the t-tests, more employees were positively correlated to having a greater need for external funding. The positive relationship between HRSA funds and contributions however contradicted the t-tests. The number of volunteers, total revenue, the total number of ties to a nonprofit agency, the years of ties to universities, the number of professional association memberships, and the years of appointment to other nonprofit boards were negatively correlated to the amount of future HRSA funding.

Across analyses, there were several notable findings to point out. A consistent finding across analyses was that the number of employees had a positive correlation to predicted funding. The number of employees was a strong predictor of increases in HRSA funding. It makes sense that larger agencies had larger budgets due to more

personnel costs such as salaries, benefits, and facilities. With larger budgets come the potential for a greater need to cover costs through grant income. It was possible that a larger pool of employees was an indicator of a greater scope of operations in an agency. The nature of the mission may require more staff resulting in a greater need for financial resources. There could have been a tendency for larger organizations to branch out into a wide variety of operations. Smaller organizations were more likely to devote time and personnel to fewer operations.

Multi-operational organizations were likely to require more financial resources. In the case of a nonprofit community healthcare facility, it would cost more to operate a facility with twenty doctors as opposed to a smaller facility with two doctors even if both facilities intake the same number of patients. Thus, larger numbers of staff necessitated greater operational costs leading to an increased probability of financial need. This finding held true in analyses that examined all organizations and analyses that examined only funded agencies. The varying nature of tasks or mission was potentially an omitted variable to consider. While analyses show that the number of employees was correlated to HRSA funding, capturing the nature of organizational mission may help to explain causality between the two variables.

Figure 5.4. Relationships of Significant Variables for Non-panel Multiple Regressions for Funded Organizations (Models 3 and 4).
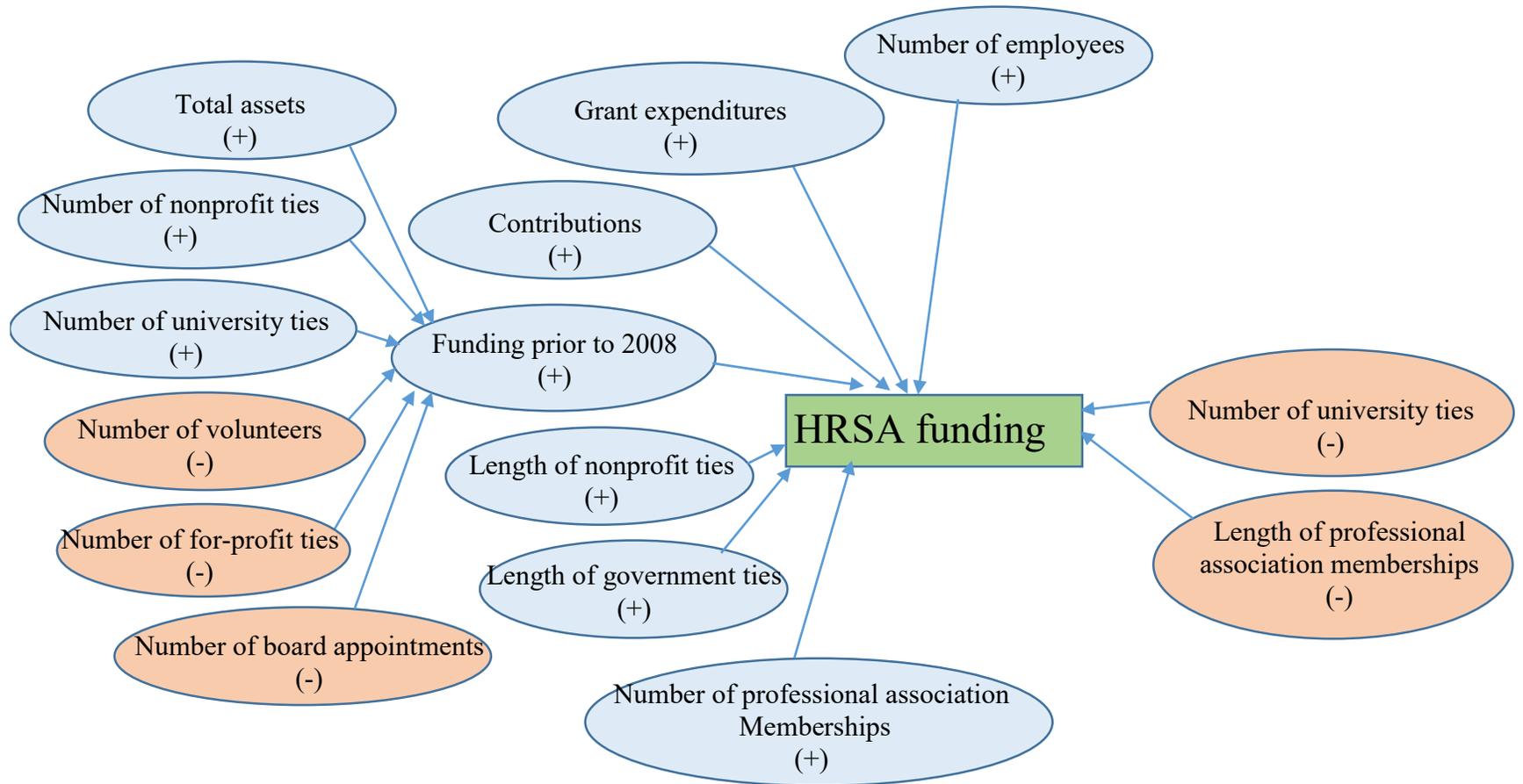
Another finding that was consistent across analyses was that the number of volunteers was negatively correlated to anticipated funding. This finding held true only for samples that considered all 176 organizations. A likely explanation for such findings was that organizations that utilized more volunteers lacked the need to hire more employees. Volunteers took on the job duties otherwise conducted by an employee. Volunteers cost an organization considerably less than a paid employee. Volunteers are not entirely cost-free as organizations must provide working areas, training, and other tangible and intangible resources. However, volunteers do not require salary and benefits. By relying upon volunteers, organizations were less likely to require higher amounts of operational revenue normally used for the salary and benefits of employees. More volunteers resulted in less personnel costs for the organization ultimately leading to fewer grant applications.

A third point to note was that contributions and grant expenditures had a consistently positive and direct effect on anticipated HRSA funds across analyses. These two variables were only statistically significant when considering their relationships to predicted funding. With other employees and volunteers, there was a slight moderating effect in that the presence of HRSA funding prior to 2008 marginally increased the effect on anticipated funding. With contributions and grant expenditures, the relationship was direct.

Higher levels of contributions were correlated with increases in future HRSA funding. This could result from the fact that contributions were donations. A greater reliance on donations may result in stronger relationships with potential funders in a nonprofit network. Organizations with many donations are well-known and legitimate

which increases the organization's reputation among grantors. However, a greater reliance on contributions may also be a sign of the financial state in which an organization finds itself. For instance, an organization that relies upon contributions may not have access to other sources of revenue. As a result, the organization finds itself in a situation of having to secure a variety of revenue sources including grant solicitations. While this is by no means a definitive explanation, it explains the presence of a positive relationship between contributions and anticipated HRSA funding.

A strong predictor of funding across analyses was grant expenditures. Organizations that grant out their money to other organizations were expected to receive more HRSA funding. While it was possible that granting out money increased an organization's reputation, there may be an alternate explanation. It was possible that organizations that granted out funds to local governments and other nonprofits did so as a way to enhance current operations. Granting out was one way in which a nonprofit outsourced its functions. The more that an organization outsourced certain functions, the more likely it was that the organization could expand its cadre of services into other fields. Expanding operations led to more funding acquisition as there was a greater need for money.

An important issue to address in these and in upcoming analyses occurred with the relationship ties variables. In almost all of the analyses, the number of ties and the years of ties had opposite relationships in which one was positive and the other was negative. In some cases, the number of ties had a positive relationship with funding whereas the years of ties had a negative relationship. For example, the number of board appointments to other nonprofit agencies was positively correlated to anticipated funding

whereas the years at other board appointments was negatively correlated (Table 5.6). As an interpretation, more funding was expected when a board member had many ties to other agencies that were not long in duration. In essence, board members were encouraged to establish many ties that were shorter in duration. Theorists (Granovetter, 1973) would call this the strength of a weak tie. Under this theory, board members garnered more from a wide net of loosely connected individuals. The advantage was that knowledge spread to a variety of individuals across a number of disciplines rather than within a close circle of individuals. Weak ties allowed for the dissemination of information over long distances without much redundancy (Granovetter, 1973). In the case of this study, it would seem advantageous to have relationships with a large variety of professionals as opposed to a select close knit group of likeminded individuals. It was possible that in order to attract funding, board members networked across weak, loose ties as information about their organization spread across a number of disciplines.

In other cases, the number of ties was negatively correlated whereas the years of ties was positively correlated. For example, there was a negative correlation to the number of memberships that a board member had to professional associations whereas there was a positive correlation to the years that the member had in professional associations (Table 5.6). More funding was correlated to fewer memberships in professional associations but also longer professional association memberships. An interpretation of this finding was that in order to obtain more HRSA funds, board members limited their memberships in professional associations to a select few and remained in those memberships for a longer period of time. This contradicts the theory that there is strength in weak ties (Granovetter, 1973). Rather than casting one's net

across a broad spectrum of individuals, the board members positioned the organization at a funding advantage by maintaining stronger ties. To keep such strong ties, board members became more selective and maintained the relationships they build in professional association meetings.

This interpretation might reflect the personal characteristics, or the human capital, of individuals rather than the overall social capital of the individual. Social capital is reflected by the number of connections within the industry of health care. One way to make the distinction between human and social capital is to capture the similarity of the professional associations of board members. For instance, Board Member A with several memberships in health care professional associations is considered to have more connections among other health care professionals. Board Member A has a greater social capital as he/she can draw upon his/her connections within the health care community. Board Member B with the same number of associations in a variety of multi-disciplined associations has a broader network to other fields. Board Member B can draw upon a wide network of different types of professionals, but Board Member A can draw upon a concentrated network of health care professionals. Board Member B provides support for the strength of weak ties (Granovetter, 1973) while Board Member A provides support for the benefit of stronger social capital.

A third possibility for the phenomenon of opposing correlation coefficients could be that separating the number of ties and the years of each tie for each relationship created a ratio of the total relationship. In this possibility, the measurement of relationships via board appointments was simply one variable. By splitting board appointment ties into length and breadth, the variables did not necessarily measure

different facets. Rather, splitting the tie created a fraction, or a rational relationship, of a whole. By splitting the variables into two components, in order to mathematically remain negative, one variable must be positive while the other is negative. One way to support a ratio is to examine the consistency of the correlation coefficient. If the direction of the coefficients constantly changes between positive and negative, it is possible that the variables are ratios of one overarching variable. If one variable is consistently positive while the other is consistently negative, there is some support that the relationship direction is a true effect. In general, there did not seem to be large degrees of consistency of relationship direction across the analyses thus giving some support to the idea that measuring two parts created a rational relationship of one overarching variable.

Another way to examine the possibility that there was a ratio effect on relationship variables is to consider utilizing one variable to capture the relationship tie as opposed to splitting the variable into length and breadth. As seen in the t-tests (Table 5.1), a variable was created that calculated the percentage of board members with a tie rather than total number of ties or the total years of ties. For example, with the case of ties to other nonprofit agencies, the single variable measured the percentage of board members with ties to other nonprofit agencies rather than examining total number of ties to other nonprofit agencies and the total years of ties to other nonprofit agencies. The idea that splitting variables caused a ratio was difficult to support when running regressions for Models 1-4 utilizing percentages of board members with each category of tie rather than number and years. In many instances, when percentages were used, there were no significant correlations between the relationship category and the amount of anticipated funding. Additionally, where the number and years were used, one of the

variables in the relationship was statistically significant while the other was not significant. While these findings did not necessarily invalidate the argument that the number and years of ties were ratio components of an overarching relationship variable, the data presented in this study did not provide consistent support. This finding must be considered then in the upcoming panel data regression series.

However, before making definite conclusions at this point, there are reservations that must be made about non-panel analyses. Though the multiple regressions showed that variables had a variety of effects on funding, it is important to note limitations in these analyses. Utilizing multiple regressions treated each observation as an independent case. These analyses did not take into account that there were changes over time in these organizations. These analyses also did not fully take into account that variance may be explained by factors within the organization. It is for these precautions that panel data regressions were conducted. The former multiple regressions were only intended for the purposes of model building in an effort to rule out the null hypothesis that there were no significant differences with the models. Non-panel multiple regressions were meant to justify the continuance of running panel data analyses. The non-panel multiple regressions also were meant to provide evidence of the possibility of mediation and moderation for panel data series. It is for these limitations that panel data regressions should take precedence over the former multiple regressions.

Panel Data

The panel data analyses examined both fixed effects and between effects panel regressions to capture any longitudinal and cross-section factors that affected funding over a period of five fiscal years (2008-2012). In all panel data regressions, the

explanatory variables were lagged in order to be considered a function of the following

fiscal year of HRSA funding. The one-year lag of the explanatory variables was done in

order to predict funding as well as minimize reverse causality. Fixed effects regressions

accounted for changes in the organizational explanatory variables within agencies that

affected changes in funding across the five fiscal years examined. In other words, fixed

effects models examined the marginal changes in the dependent variable as a function of

marginal changes with respect to each of the independent variables. The between effects

panel regressions examined differences in average levels of the dependent variable,

HRSA funding, as a function of average levels of the independent variables among all of

the organizations.[1] Eight linear models were conducted as with the standard regressions

utilizing twenty-one variables (Table 5.7). For each model, fixed effects (A) and between

effects (B) regressions captured both within and between organizational differences. In

total, there were 8 panel data regression sub models (Table 5.8).

Table 5.7. List of Variables for Panel Analyses.

Dependent Variable
Amount of HRSA funding received for the following fiscal year (Models 1 and 3) OR receiving HRSA funding prior to 2008 (dichotomous where 1 = yes and 0 = no) (Model 2 and 4)
Organizational Variables
Number of board members for the previous fiscal year
Number of volunteers for the previous fiscal year
Number of employees in thousands for the previous fiscal year
Financial Variables
Receiving HRSA funding prior to 2008 (dichotomous where 1 = yes and 0 = no) (Utilized as Dependent Variable for Models 2 and 4)
Total revenue in millions for the previous fiscal year
Total assets in millions for the previous fiscal year
Grant revenue in millions for the previous fiscal year
Amount of contributions in millions for the previous fiscal year
Grant expenditures in millions for the previous fiscal year

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[1] Special gratitude to Dr. J.S. Butler and Dr. Dwight Denison for the explanation of fixed and between effects regressions.

Table 5.7 (continued)

Relationship Variables
Total number of ties to other nonprofit agencies for the previous fiscal year
Total years of nonprofit ties for the previous fiscal year
Total number of ties to government agencies for the previous fiscal year
Total years of government ties for the previous fiscal year
Total number of ties to for-profit agencies for the previous fiscal year
Total years of for-profit ties for the previous fiscal year
Total number of ties to universities for the previous fiscal year
Total years of university ties for the previous fiscal year
Total number of memberships in a professional association for the previous fiscal year
Total years of memberships in a professional association for the previous fiscal year
Total number of appointments to other nonprofit boards for the previous fiscal year
Total years of appointments to other nonprofit boards for the previous fiscal year

Table 5.8. Fixed-effects and Between-effects Regression Models for Panel Analyses.

Model 1 All organizations; Predicted funding as dependent variable; All independent lagged variables	
1 A	Fixed Effects
1 B	Between Effects
Model 2 All organizations; HRSA funding prior to 2008 as dependent variable; All other independent lagged variables	
2 A	Fixed Effects
2 B	Between Effects
Model 3 Funded organizations; Predicted funding as dependent variable; All independent lagged variables	
3 A	Fixed Effects
3 B	Between Effects
Model 4 Funded organizations; HRSA funding prior to 2008 as dependent variable; All other independent lagged variables	
4 A	Fixed Effects
4 B	Between Effects

Models 1A, 1B, 2A, and 2B examined all 176 organizations over 5 fiscal years for

a total of 812 observations. In some cases, organizations did not have five years of

reportable data and were dropped from the panel analysis. As with the previous models,

the above multiple regression served as Model 1 that considered the changes of the

dependent variable as a function of the changes of all 21 lagged explanatory variables (Table 5.7). Model 1A was a fixed effects model while Model 1B was a between effects model (Table 5.8; Appendix, Equation 6). Model 2 utilized the dichotomous variable, HRSA funding prior to 2008, as a function of 20 lagged explanatory variables. Model 2 explored prior funding as a mediator between predicted funding and other independent variables (Table 5.8; Appendix, Equation 7). Model 2A was a fixed effects model while Model 2B was a between effects model. Finally, in order to determine if funded organizations possessed different characteristics, panel data regressions were conducted limited to 72 funded organizations over 5 fiscal years for a total of 358 observations. Model 3 examined predicted funding as a function of all 21 lagged explanatory variables for 72 organizations over 5 fiscal years (Table 5.8; Appendix, Equation 8). Model 3A was a fixed effects model while Model 3B was a between effects model. Model 4 examined HRSA funding prior to 2008 as the dependent variable as a function of 20 independent lagged variables for 72 organizations over 5 fiscal years for a total of 358 observations. Model 4A was a fixed effects model while Model 4B was a between effects model (Table 5.8; Appendix, Equation 9).

In Model 1A (fixed effects), there was a weak effect within organizations across time ($r^2 = .067$, $p < 0.05$). There were three variables that were statistically significant: incoming grant revenue, the number of ties to a university, and the years that a board member was in a professional association. When comparing changes within an organization across the five fiscal years, a $1 million increase in revenue from grants was correlated to increases of $79,000 in HRSA funds ($B = 0.079$, $p < 0.05$). Along the same logic, each year of professional association membership was correlated to a decrease of

$19,000 (B = -0.019, p < 0.10). The strongest relationships within an organization across

time was with the number of ties that a board member had with a university. The

expected change in an organization for every tie that a board member had to a university

was correlated with a decrease of $145,000 (B = -0.145, p < 0.10). Overall, in Model 1A,

changes in the two relationship ties that were statistically significant had an inverse

relationship to changes in predicted HRSA funding. When an organization experienced

increases in either one of these relationship ties, HRSA funding was expected to

decrease. Changes in the financial variable, grant revenue, were positively correlated to

changes in HRSA funding (Table 5.9).

Model 1B (between effects) considered the average levels of predicted funding as

a function of the average levels of independent variables. Model 1B examined 21

explanatory lagged variables for 176 organizations across five fiscal years. The between

effects model demonstrated a strong statistically significant effect when focusing on

cross-sections of organizations ($r^2 = 0.660$, p < 0.001). Five variables were positively

correlated while three variables were negatively correlated to predicted funding. The

strongest relationships occurred with financial and organizational variables. For instance,

it was expected that levels of HRSA funding were positively correlated to the number of

employees (B = 0.006, p < 0.001). Prior funding, which is a dichotomous variable, was a

strong predictor of future HRSA funds (B = 1.491, p < 0.001). Levels of HRSA funding

were also positively correlated to grant expenditures (B = 2.224, p < 0.001). When

comparing between organizations, granting out $1 million to local agencies was

correlated to increases of $2.2 million in HRSA funding. Total revenue and total assets

both had small inverse relationships to expected funding such that increases in either

variable were correlated to decreases of approximately $33,000 in HRSA funding (B = -0.034, p < 0.05; B = -0.032, p < 0.05; respectively). The smallest effects occurred with relationship ties variables. The length of ties that a board member had to government agencies was positively related (B = 0.007, p < 0.10) while the length of membership in a professional association was negatively related (B = -0.007, p < 0.10) (Table 5.9).

Model 2A was a fixed effects model and utilized prior HRSA funding to 2008 as a function of 20 explanatory lagged variables for 176 organizations over five fiscal years. No statistical significance existed in the model testing for indirect relationship to anticipated HRSA funding through prior funding. Therefore, when considering fixed effects panel data, it appears that there were three variables of significance that had a direct effect on predicted funding: grant revenue (+), number of university ties (-), and length of membership in professional associations (-). There was no evidence of mediation (Table 5.9, Figure 5.5).

Model 2B was a between effects model and examined HRSA funding prior to 2008 as a function of 20 explanatory lagged variables for 176 organizations for five fiscal years. In Model 2B, there were two variables that were indirectly related to anticipated HRSA funding through prior HRSA funding. Model 2B showed that the dependent variable, HRSA funding prior to 2008, was a function of the number of board members and the number of volunteers. These two variables were correlated to prior HRSA funding and had an indirect effect on anticipated HRSA funding. The number of board members was positively correlated to previous HRSA funding (B = 0.016, p < 0.10) while the number of volunteers was negatively correlated (B = -0.001, p < 0.05).

Table 5.9. Coefficients of Fixed-effects and Between-effects Regressions (Panel).

MODEL	1A	1B	2A	2B	3A	3B	4A	4B
	Fixed Effects	Between Effects	Fixed Effects	Between Effects	Fixed Effects	Between Effects	Fixed Effects	Between Effects
Organization Sample	All Organizations	All Organizations	All Organziations	All Organizations	Funded Organizations	Funded Organizations	Funded Organizations	Funded Organizations
Dependent Variable	Predicted Funding	Predicted Funding	Funding Prior to 2008	Funding Prior to 2008	Predicted Funding	Predicted Funding	Funding Prior to 2008	Funding Prior to 2008
R^2 (Fixed effects: within; Between effects: between)	0.066 **	0.660 ***	0.035	0.335 ***	0.157 ***	0.797 ***	0.145 **	0.503 **
Independent Variable								
Organizational Variables								
Number of Board Members	-0.001	-0.002	0.001	0.016 *	-0.018	-0.020	-0.001	0.005
Number of Volunteers	0.001	-0.001	0.001	-0.001 **	0.005	-0.011 **	0.001	-0.006 ***
Number of Employees	-0.001	0.006 ***	0.001	0.004 ***	0.001	0.012 ***	0.001	0.001
Financial Variables								
HRSA funding prior to 2008	0.276	1.491 ***	Dependent Variable	Dependent Variable	0.472	-0.084	Dependent Variable	Dependent Variable
Total Revenue	0.002	-0.034 **	0.001	-0.031 ***	0.122 *	-0.144 **	0.016 **	-0.015
Total Assets	0.001	-0.032 **	-0.001	-0.005	-0.206 **	0.121 *	-0.006	0.056 **
Grant Revenue	0.079 **	0.035	0.003	-0.025	0.019	-0.290 **	-0.013 *	-0.033
Contributions	0.009	0.101 **	0.002	-0.002	-0.102	0.637 ***	0.002	-0.016
Grant Expenditures	-0.029	2.224 ***	0.004	0.133	-0.510	5.336 ***	-0.064	0.263
Relationship Variables								
Total Number of Ties to Other Nonprofit Agencies	-0.017	-0.007	0.017 ***	0.006	-0.008	0.015	0.042 ***	0.019
Total Years of Ties to Other Nonprofit Agencies	-0.012	0.005	-0.001	-0.001	-0.024	0.010 *	-0.002	-0.002
Total Number of Ties to Government Agencies	-0.066	-0.036	-0.008	0.022	-0.139	-0.109 **	-0.024	-0.010
Total Years of Ties to Government Agencies	-0.003	0.007 *	0.001	-0.003	0.014	0.017 **	-0.002	-0.002
Total Number of Ties to Other For-Profit Agencies	-0.012	0.023	0.006	0.001	0.010	-0.003	0.003	-0.006
Total Years of Ties to Other For-Profit Agencies	-0.002	-0.003	-0.001	-0.002	-0.017	-0.003	-0.002	-0.001
Total Number of Ties to Universities	-0.145 *	-0.042	0.002	0.031	-0.128	-0.250 **	0.001	0.007
Total Years of Ties to Universities	0.014	-0.001	0.001	-0.002	0.017	0.032 **	-0.006	0.005
Total Number of Professional Association Memberships	0.044	0.011	-0.012 **	-0.012	-0.048	0.043 *	-0.034 **	-0.005
Total Years of Professional Association Memberships	-0.019 *	-0.007 *	0.001	0.005 **	-0.017	-0.012 **	0.001	0.002
Total Number of Appointments to Other Nonprofit Boards	0.050	0.002	0.001	-0.002	0.120	0.013	0.011	-0.013
Total Years of Appointments to Other Nonprofit Boards	-0.001	-0.001	-0.001	-0.001	-0.003	-0.003	-0.001	0.002

* p < 0.100
** p < 0.050
*** p < 0.001

Though grant expenditures appeared to have a strong direct relationship between

organizations, no mediation occurred with this variable. However, in the case of grant

expenditures, the positive relationship changed by becoming weaker in the presence of

HRSA funding prior to 2008 (B change from 6.498 to 3.952). Grant expenditures had an

effect on predicted funding while also being affected by the presence of pre 2008 HRSA

funding (Table 5.9, Figure 5.6)

Figure 5.5. Relationships of Significant Variables for Fixed-effect Panel Regression for
All Organizations (Models 1A and 2A).
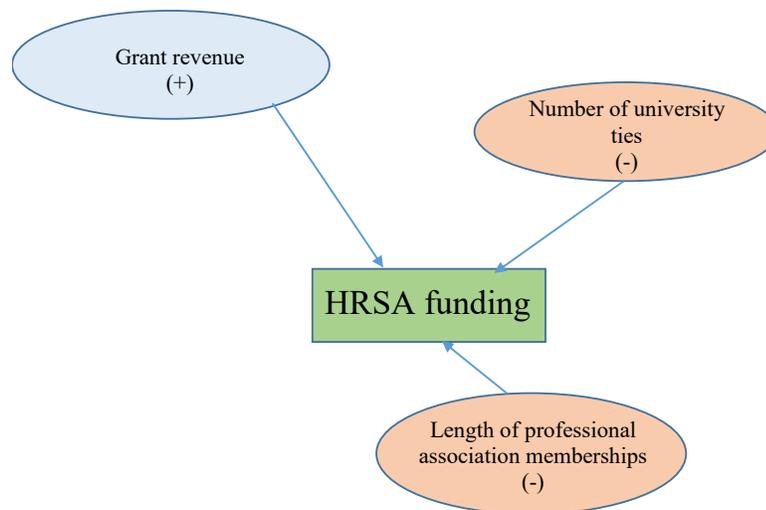
In summation, there seemed to be few changes in variables that were statistically

significant when considering a fixed effects model within the agencies across time.

Changes in the financial variable, grant revenue, had a positive impact when examining

variance within organizations across time. Changes in relationship ties related to the

number of university ties and the length of professional association membership had

small negative effects on changes in predicted funding. There was also no evidence of any mediation occurring in the fixed effects models. However, when examining the between effects model, there was evidence of an indirect relationship between the number of board members and the number of volunteers with anticipated HRSA funds through the historical variable, HRSA funding prior to 2008 (Table 5.9).

As for grant revenue, when an organization increased its grant funding over fiscal years, it was possible that as an organization continued to receive funding, it acquired more grants. When an organization applied for a grant, it may have been necessary for the agency to add on services which then warranted the need to apply for additional funds. If this were the case, it would seem likely that other revenue sources would increase as well. For instance, a greater need for funding could be reflected in positive relationships in contributions and total revenue. Though changes in both variables were positive, they were not statistically significant, and therefore no sound conclusions can be made. In some cases, the addition of grant revenue to an agency's funding pool signified the acquisition of a recurring multi-year grant. However, since inflation was accounted for in the model, any increases from multi-year grants reflected significant increases in grant funds.

Of particular interest was the rather large negative effect that changes in the number of university ties had to changes in predicted funding. As the number of ties to a university increased, HRSA funding was expected to decrease. It was possible that when a board member had a significant amount of ties to a university, those connections facilitated funding from universities rather than from government agencies. Instead of

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Figure 5.6. Relationships of Significant Variables for Between-effect Panel Regressions for All Organizations (Models 1B and 2B).
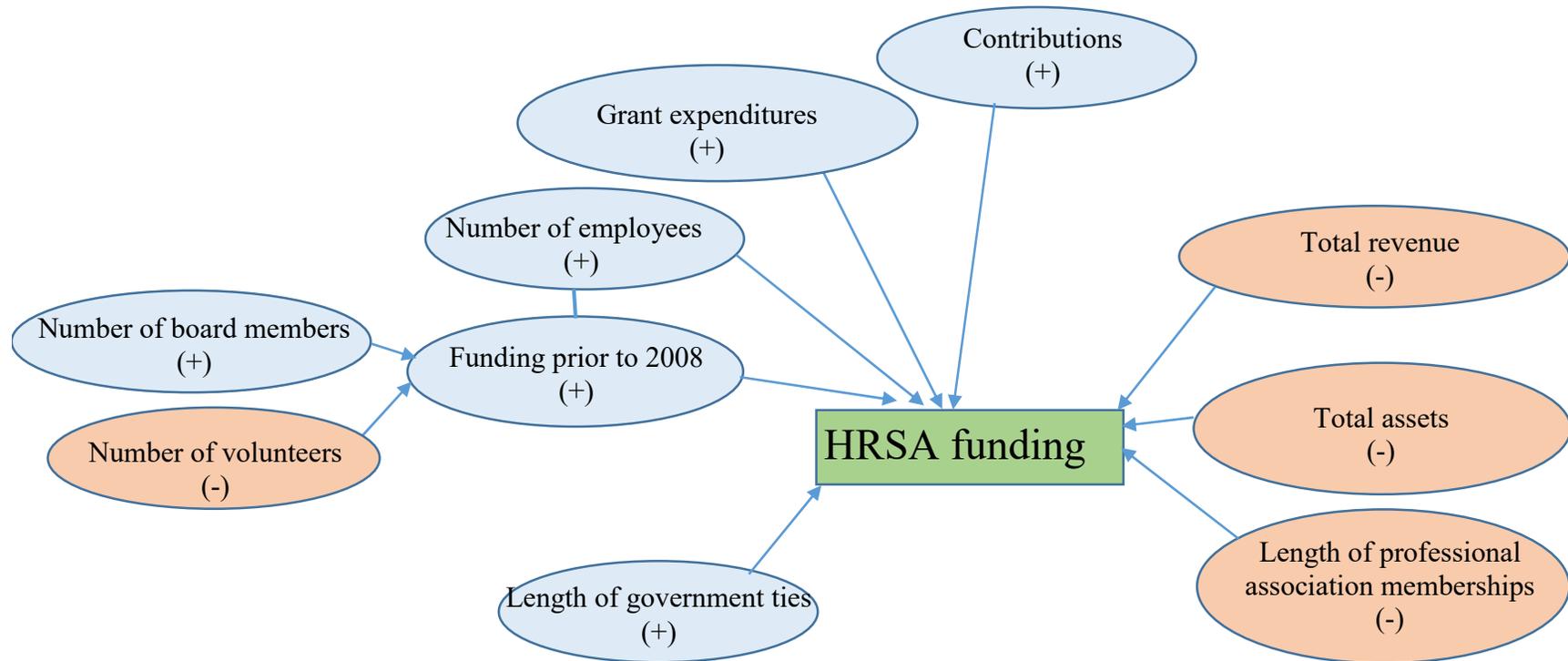
relying on government grants, the agency relied upon grants from a university. The funding from university grants offset funding from the government. When resources were provided from an institution such as a university, the financial need of the organization was fulfilled and the necessity of acquiring HRSA funding was eliminated. If this logic is true, this provides some support for the idea that network connections had an effect on potential funding. The funding in question was acquired from sources other than the government.

However, it was also possible that university ties were an indication that an agency was affiliated with a university health care network. A health care agency may be a part of a state university's health care network and receives revenue as a result. The revenue was not grant related but part of a university's annual budget. For instance, a staff member at the University of Kentucky served on the board of a community health care facility that was a smaller affiliate or satellite office of the University of Kentucky Health Care system. The revenue of the smaller affiliate was part of the larger University of Kentucky Health Care system. HRSA funding in this situation was awarded to umbrella health care systems and filtered down rather than going directly to smaller community health care affiliates. When university ties were considered as a dependent variable (as with prior 2008 HRSA funding), no statistically significant effects occurred for agencies that received funds or agencies that did not receive funds. From this finding, there was no evidence of mediation through university ties.

For the between effects models, the largest effects of prediction occurred with financial variables. One of the strongest relationships existed with grant expenditures (the number of employee was scaled differently). As with the non-panel regressions,

grant expenditures were a strong predictor of funding between organizations. The same logic from the non-panel regressions continued to apply for the panel regression analyses. Over time, organizations granted out their money and were expected to receive more HRSA funding. It may hold that spending money resulted in making money. Again, it was possible that granting out was one way in which a nonprofit outsourced its functions. When an agency expanded its range of services, this led to a greater need for money ultimately leading to applying for more grants.

Higher levels of contributions also were correlated with higher levels of HRSA funding. Acquiring donations led to government funding. This may lend some support to the idea that legitimacy and reputation acquired through donor networks increased the chances of acquiring government funding. An agency that is legitimate and reputable to one group of individuals (private donors) is also legitimate and reputable to another group of donors (government granting officials). Some research found that when an agency received a grant, it also received increases in donations (Diamond, 1999; Brooks, 2000; Huetel, 2014). This phenomenon is referred to as "crowding-in" and follows the assumption that a grant from the federal government is a signal to donors that an agency is reputable (Huetel, 2014). If the government trusts an agency to utilize taxpayer dollars for services, then private donors assume that the agency is a legitimate and trustworthy provider. Crowding-in is especially significant for new and/or small organizations as these organizations do not have established reputations among donors (Brooks, 2000; Huetel, 2014). The finding that contributions were positively correlated to future funds lends some support to this theory (Figure 5.6).

When comparing the fixed effects regression with the between effects regression, several relationships changed resulting in differences in interpretation between the two regressions. In Model 1 examining fixed and between effects panel regressions for all organizations, five variables changed from no statistical significance in the fixed effects regression to statistical significance in the between effects regression. For this model, these variables did not change within organizations from year to year. The number of employees, grant expenditures, and the years of government ties showed a positive relationship in the between effects models. As the levels of all three of these variables increased, the levels of HRSA funding was expected to increase. Organizations with larger numbers of employees were correlated to higher amounts of HRSA funding. Likewise, higher levels of expenditures were correlated to higher levels of HRSA funding while longer ties to government were correlated to higher levels of funding. However, no relationships existed with increases of any of the three variables and funding if changes in these variables occurred within an organization over the five fiscal years. In other words, if an organization had a small number of employees, simply increasing the number of employees in following fiscal years did not have an impact for that organization in regard to HRSA funding. In line with this result, negative relationships emerged in the between effects regression that were not significant in the fixed effects. Total revenue and total assets were not significant in the fixed effects regressions yet these variables were inversely related to HRSA funding in the between effects model. Organizations with higher levels of revenue or assets were correlated with lower levels of HRSA funding. However, when an organization increased revenue or assets over five fiscal years, HRSA funding did not necessarily change.

As with previous analyses, Models 3 and 4 were conducted similar to Models 1

and 2 but limited to 72 funded organizations over five fiscal years in order to determine if

funded organizations possessed different characteristics. Model 3A was a fixed effect

model utilizing all 21 individual variables (Table 5.8) for 72 funded organizations over

five fiscal years totaling 358 observations. The analyses were limited only to those 72

organizations that had received HRSA funding (Tables 5.7 and 5.8).

In Model 3A, there was a significant positive effect (r^2 = .157, p < 0.001). There

were two independent variables of significance. Total assets had an inverse relationship

to predicted funding (B = -0.206, p < 0.05) while total revenue had a positive relationship

(B = 0.122, p < 0.10). Within an organization across time, an increase of $1 million in

total revenue was correlated to increases in HRSA funding of $122,000 the following

fiscal year. An increase of $1 million in total assets was correlated to decreases of

funding by $206,000. All other variables, particularly relationship ties, showed no

statistically significant effect on expected HRSA funding. Rather, the financial portfolio

of an organization was expected to determine the amount of HRSA funding for the

following fiscal year (Table 5.9).

When examining effects of the average level of variables between organizations

as in Model 3B, there was a much stronger relationship (r^2 = 0.797, p < 0.001). Fourteen

of the variables that were expected to predict future funding were statistically significant.

The variables that had a positive relationship to predicted funding included: the number

of employees, total assets, contributions, grant expenditures, the length of board member

ties to other nonprofits, the length of board member ties to government agencies, the

length of university ties, and the number of professional association memberships. Those

variables with a negative relationship included: the number of volunteers, total revenue, grant revenue, the number of ties a board member has to a government agency, the number of university ties, and the length of membership in professional associations. As with other analyses, the largest effects occurred in the organizational and financial variables. The number of employees predicted higher levels of HRSA funding (B = 0.012, p < 0.001). A $1 million increase in grant expenditures was expected to increase HRSA funding by $5 million while a $1 million increase in contributions was correlated to increases in funding by $600,000 (B = 5.336, p < 0.001; B = 0.637, p < 0.001; respectively) (Table 5.9).

Of note was the negative relationship between predicted HRSA funding and the number of ties to a university. More university ties were expected to decrease predicted funding by $250,000 while more government ties were expected to decrease predicted funding by $109,000 (B = -0.250, p < 0.05; B = -0.109, p < 0.05; respectively). While these effects were not as strong as financial or organizational variables, the negative effects in the relationship variables of Model 3B were strong in comparison to the effects of relationship variables in other analyses (Table 5.9).

Finally, Models 4A and 4B examined whether any mediating variables occurred when examining within and between organizational relationships. In the fixed effects panel regression used in model 3A, the dichotomous variable, prior funding, did not show statistical significance. The lack of change indicated that mediation did not occur. When running Model 4A that only considered funded organizations, though there were three variables of statistical significance, the low coefficients of the three variables led to the

conclusion that, though there was an indirect effect on predicted HRSA funding through prior funding, no reasonable change existed (Table 5.9).

The same issue was more pronounced in Model 4B, the between effects model that utilized the dichotomous dependent variable as a function of 20 explanatory variables. Prior HRSA funding was not a statistically significant variable in the primary model (Model 3B). Additionally, all variables of significance in the between effects mediation model were also statistically significant in the main model. Therefore, there was no evidence of mediation with HRSA funding prior to 2008 in both the fixed effects and the between effects models (Table 5.9).

A noteworthy observation to make is that the change in the number of employees did not have an effect in the fixed effects models but the number of employees always had a strong positive relationship in the between effects models. Larger organizations received more funding, however, increasing the number of employees did not increase funding levels. For one organization, from a longitudinal perspective, changing the number of employees will not impact expected funding. However, from a cross sectional or between organizations perspective, the number of employees had a significantly positive relationship with expected funding. When comparing the average variance across all organizations, the amount of employees did matter. Larger organizations were expected to receive more funding which is not necessarily a surprising finding. In a future iteration, one issue to examine are the ratios of funding to revenue rather than absolute amounts.

As with differences in fixed effects and between effects regressions previously mentioned, there were several variables that became statistically significant when

examining changes between the two regressions for organizations that were funded. Seven variables that were not significant in the fixed effects regression became statistically significant in the between effects regression. The number of employees, contributions, grant expenditures, the years of ties to other nonprofit agencies, and the number of professional associations demonstrated positive relationships in the between effects models but not in the fixed effects models. Higher levels of all of these variables, controlling for all other variables, were correlated to higher levels of HRSA funding. However, increasing or decreasing any of these variables in an organization over the five fiscal years did not affect HRSA funding for that organization. The number of volunteers and grant revenue was negatively correlated to HRSA funding in the between effects model but not significant in the fixed effects model. For all seven variables, changes from year to year within an organization had no effect on HRSA funding.

Of particular interest was what happened with total revenue and total assets when comparing the fixed and the between effects models. Both of these variables were significant in the fixed and the between effects regressions; however, the direction of the relationship changed between the two regressions. In the fixed effect regression, total revenue was positively correlated to HRSA funding while it was negatively related to funding in the between effects model. When an organization increased its revenue over the five fiscal years, it was expected to increase HRSA funding. However, organizations that had higher levels of revenue were correlated to lower levels of HRSA funding. In other words, organizations with low levels of revenue were correlated with more HRSA funding and, when revenue increased from year to year, HRSA funding also increased. Conversely, total assets were negatively correlated to funding in the fixed effects

regression and positively correlated to funding in the between effects. When an organization decreased the amounts of assets from year to year, HRSA funding increased. However, those organizations with higher amounts of assets were expected to receive more HRSA funding. Organizations with more assets may have more operational costs but when an organization lost assets, HRSA funds were expected to increase perhaps demonstrating a greater financial burden.

The same type of relationship existed with grant expenditures and predicted funding. There was not a significant impact that changes in grant expenditures had on predicted HRSA funding in the fixed effects models but average levels of grant expenditures had a strong positive correlation to average levels of anticipated funding in the between effects models. Within organizations across time, granting out money to local governments and other agencies did not predict future HRSA funding. However, between organizations, there was a strong positive correlation. As agencies grant out funds to local governments, a large increase in HRSA funding was expected. As mentioned previously, granting out funds may mean that an agency utilized other entities for operations. By outsourcing, a nonprofit expanded its services and funded its current and new operational costs through grants.

Once again, relationship variables were divided into two categories, number and length. The two categories in many cases showed positive and negative effects as described earlier. As with the non-panel regressions, percentages that board members had to each tie was used to determine any consistency and explanatory reasoning for changing directions of relationship variables. However, once again, the data did not provide consistent support for the idea that the number and years of each tie were ratio

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components of an overarching relationship variable. These findings did not necessarily invalidate the argument. The data presented in this study did not provide consistent support.

Overall, it was important to note that relationship ties were relatively weak in comparison to financial and organizational ties. When relationship ties were statistically significant in the various analyses, there was often a weak effect in comparison to other variables. The largest effects tended to be financial variables, particularly grant expenditures. What was unclear is whether or not financial variables were indirectly influenced by relationship ties. The use of mediation analyses indicated that there was weak support for mediation among variables in the between effects models. There was no mediation among the fixed effects models. However, it was possible that there were other connections between financial and relationship tie variables that were not explored in this study.

Finally, there were large differences between the coefficients of the between-effects and the fixed-effects models. As mentioned earlier, many of the variables were statistically significant in the between effects regressions but not significant in the fixed effects regressions. In essence, changes in these variables do not result in changes in HRSA funding for an organization from year to year. It is likely that there were large differences between the groups of agencies. While sampling was controlled as best as possible, variety among agencies remained an issue. The sampling was restricted to one type of nonprofit community healthcare care center. Yet, even with such parameters, differences among agencies remained a factor. One agency in rural Appalachia is vastly different than another agency in urban Cleveland, Ohio. As shown in the number of

employees, larger organizations receive more funding. Both agencies are in the same NTEE code category. Relatively few variables had longitudinal effects. When an organization experienced changes in many of these variables, there was no effect on HRSA funding from year to year. However, more variables had an effect when examining relationships among agencies. The variety of types of agencies within the NTEE category affected the amount of HRSA funding. Larger organizations were correlated to more HRSA funding. However, increasing the number of employees within an organization did not have an impact.

There were a multitude of variables that can influence funding decisions; only a fraction was examined here. The types of HRSA grants studied varied widely in programmatic scope (Table 4.1). Some grants focused on capital project construction while others focused on community outreach geared towards specifically targeted populations. What these grants all had in common was that they fell under the umbrella agency of HRSA for the purposes of enhancing medical services for nonprofit community healthcare agencies. According to the U.S. Department of Health and Human Services (2016c), for each grant, a funding opportunity was released to the public detailing the requirements and objectives of the grant. While each HRSA grant had differing objectives, the application process for all grants was generally the same. Interested agencies wrote narratives that outlined their intended plans to fulfill the objectives of the grant if they were selected. An independent panel rated applications based upon criteria such as the needs of the agency, the population that the agency served, alignment with community needs assessments, the feasibility of an agency's work plan, the agency's ability to resolve challenges, and the ability to evaluate the outcomes

of the project. The score of an agency's grant application depended upon how well the

agency addressed each of the points in the grant announcement. Once applications were

scored, a final rater ensured adherence to any regulations such as minority-owned status

(U.S. Department of Health and Human Services, 2016c).

It was possible that the financial variables measured in this study correlated to

application scores based upon needs while organizational variables correlated with an

agency's capacity and capability. However, relationship ties may not correlate to any of

the narrative sections and would not have been an explicitly stated determinant of a

rater's decision. It would be a difficult endeavor to measure any personal biases that a

rater would have in the review process. The nature of the review panel also minimizes

personal relationship biases. The application process is intended to be objective. The

relatively weak effects of relationship ties could be due to the design and objectiveness of

the application process.

Summary

A series of t-tests and regressions was conducted to determine the effect that

social relationship, financial, and organizational variables had on the amount of HRSA

funding that nonprofit community healthcare agencies received over a five-year fiscal

period.

When utilizing t-tests to compare the means of explanatory variables between

agencies that received HRSA funds versus agencies that did not receive funds, there were

twelve independent variables that were significantly different between the two groups:

the number of board members, the number of volunteers, the number of employees,

incoming grant revenue, incoming contributions, the percentage of board members with

ties to other nonprofit agencies, the total years of ties to other nonprofit agencies, the total

years of ties to other for-profit agencies, the total number of professional association

memberships, the total years of professional association memberships, the percentage of

board members with ties to other nonprofit boards, and the total number of appointments

to other nonprofit boards.

Conducting a probit regression revealed that some of the relationships that were

significant in the t-tests remained significant. Variables that increased the probability of

obtaining HRSA funding included the number of employees, receiving HRSA funding

prior to 2008, contributions, number of ties to government agencies, number of years of

ties to government agencies, total number of ties to other for-profit agencies, total years

of membership in professional associations, and total number of appointments to other

nonprofit boards. Variables that decreased the likelihood of HRSA funding included the

number of volunteers, total revenue, the number of ties to other nonprofits, number of

years of ties to universities, total number of memberships in a professional association,

and total number of years of appointments at other nonprofit boards. All other variables

in the probit model were not statistically significant.

Multiple regressions revealed a series of both positive and negative relationships

between the independent variables and the amount of HRSA funding. Further analyses

supported that there was a mediating relationship between many of the variables and

having HRSA funds prior to 2008. However, non-panel regressions were used as a

model building effort for panel regressions.

When considering panel data, several relationships existed across time. There

seemed to be few variables that were statistically significant when considering a fixed

effects model within the agencies across time. In the fixed effects model, there were three variables that were statistically significant: incoming grant revenue, the number of ties to a university, and the years that a board member is in a professional association. The financial variable, grant revenue, had a positive impact when examining variance within organizations across time. The relationship ties related to the number of university ties and the length of professional association membership had small negative effects on predicted funding. There was also no evidence of any mediation occurring in the fixed effects models.

Utilizing a between effects model revealed larger prediction variation between agencies. Five variables showed a positive effect while three variables were inversely related to predicted funding. The strongest relationships occurred with financial and organizational variables. Variables that were positively related to future HRSA funding included the number of employees, HRSA funding prior to 2008, contributions, grant expenditures, and the length of ties that a board member had to government agencies. Variables that were negatively related to funding included total revenue, total assets, and the length of membership in a professional association. There were two variables, number of board members and number of volunteers, which demonstrated mediation by prior HRSA funding. The number of board members was positively correlated to previous HRSA funding while the number of volunteers was negatively correlated. The size of the board and the pool of volunteers appeared to indirectly affect predicted funding between organizations but only when an organization received HRSA funding prior to 2008. However, the positive relationship between grant expenditures and funding became weaker in the presence of HRSA funding prior to 2008. Grant

expenditures had an effect on predicted funding while also being affected by the presence

of pre 2008 HRSA funding.

CHAPTER 6

CONCLUSIONS

In general, analyses showed that social connections did not have a strong impact on the acquisition of future HRSA funding. In some analyses, relationships existed; however, the impact of social connections were relatively small in comparison to other variables. In many cases, financial and organizational variables had a greater effect on funding.

A history of previous funding seemed to have a consistently positive relationship with anticipated funding. It seemed logical that agencies that have already received HRSA funding will have a greater likelihood of obtaining more funding. While the exact mechanism of why such a relationship existed was not examined, it was possible that an historical link to a funding source provided a facilitated outlet to future funding from the same source. Legitimacy and reputation might play a role in this relationship. It was also possible that obtaining one grant from an agency indicated that a nonprofit utilized funds in an effective manner. HRSA funds are a diverse pool of programmatic initiatives. Obtaining one grant could ease the acquisition of another grant. In a sense, increasing one type of funding from the HRSA pool increases funding from other areas as some research suggests (Brooks, 2000; Diamond, 1999; Huetel, 2014). Such a relationship may indicate that an agency is an established and reputable service provider. This finding relates to the previously mentioned work of Milward and Provan (2000) in that the hollow state of the government gives rise to multiple influences on service provision. Several layers of administration add to the difficulty of monitoring adequate service provision. A stable system in which reputable providers with a history of grant contract adherence ensures that government receives quality services.

However, grant expenditures also had a large effect on HRSA funding as well. Grant money leaving the organization was a strong predictor of increases in future funding. Increases in grant expenditures may indicate that an agency utilized other entities for operations in a way to outsource expanded services. The nonprofit expanded its services and funded its current and new operational costs through grants.

There was a large negative effect between the number of university ties and predicted funding. Ties to a university might encourage and facilitate funding from universities rather than from government agencies. In this case, revenue from a university grant replaced revenue from a government grant. This provided some support that network connections had an effect on potential funding. However, it was also possible that university ties were indicative of affiliation to a larger university health care system. A health care agency may be a part of a state university's health care network and receive annual allocated revenue as a result.

The time of membership in professional associations also seemed to have a negative effect on funding. While this relationship was weak, it was a consistently negative relationship across analyses. In this case, remaining a member of a professional association decreased funding. It seemed that the volume of memberships had a greater impact on funding than remaining in a professional association for a long period of time. Memberships in a greater number of associations may provide easy access to a vast number of connections that are not necessarily strong. This finding provided support for Granovetter's (1972) research on the strength of weak ties.

Finally, it seemed that there were some variables, such as the number of board members, which had an indirect effect on anticipated funding. Mediated variables had an

effect on anticipated funding through previous HRSA funding. The number of board members mattered but only in organizations that received HRSA funds in the past. It was simply not enough to have a large board. The board members must have served in a nonprofit with a history of success in grant acquisition in order to have an impact on future funding.

The study found partial support for the hypothesis that relationship ties had an effect on funding. However, relationship ties were not the only variables that contributed to the likelihood of funding. Financial variables had a significant impact on acquiring funding. In this vein, nonprofits are not discouraged from establishing network ties. In fact, relationships to other nonprofits have an effect. However, the nonprofit in search of funds is wise to not rely solely upon relationships to other agencies. It is vital that nonprofits continue to monitor their fiscal health.

Of particular interest was that in all of the analyses conducted, government ties had little to no effect on funding probability. Previous ties to government seemed to make no difference in the acquisition of future federal HRSA grants. The finding is counterintuitive to previous knowledge. It is unclear if the finding is a result of data artifacts or if there is a true non-existent effect between government ties and funding. It is possible that government agencies did not consider former employees as a determinate for grant funding. This finding supports the efforts of the government to remain objective in awarding grants based upon application merit. It is also plausible that agencies with previous ties to government were able to secure operational funds through alternate sources. Board members with ties to government may have more experience in the grant application process or in public administrative roles and therefore can navigate

funding acquisition procedures. Revenue for such agencies may come from private

donors or corporations. Revenue may also come from grants that were not related to

HRSA. These agencies may secure grants from large hospitals or universities. In order

to factor other revenue sources into the model, it will be necessary to go beyond HRSA

funds and examine other funding sources. It is important to note that grant data in the

proposed analyses did not include fees-for-service revenue such as funds reimbursed

through Medicare. The focus of the current study was to examine the effect of

relationships on non-entitlement revenue.

Not all board members have equal political status. It was possible that an agency

had a board member with ties that overshadowed the ties of other board members. The

overriding tie was an instance when a prominent board member had a key, politically

important tie. Overriding ties may not fully explain why there were weak relationships

between social connections and funding. A way to examine differing weights of board

member ties is to conduct a formal network analysis (Borgatti et al., 2009). By

conducting a formal network analysis, board members are asked about their connections

to other agencies. While this methodology is beyond the scope of this research study,

network analyses would be a beneficial addition to a future study.

Findings that agencies with previous grants were more likely to receive funds may

also be due to alternative variables. Agencies that already received grants may have an

agreement with government to continue to provide services. Continued service requires

additional funds that must be acquired from the granting authority. However, it could be

argued that these cycles are simply a manifestation of established reputation. Such was

the case with the relationship between previous and anticipated HRSA funds. If an

agency initially provided services, the granting authority will continue to fund the agency based upon its established performance. The agency's performance becomes a part of its reputation. Utilizing an historical variable, funding prior to 2008, captured the relationship between past and future funding. The strong relationship between prior and predicted funding supports this line of reasoning.

The methods of data collection may certainly lend themselves to critique. For instance, there are more accurate ways in which to measure relationship and network ties. As previously mentioned, network analysis is traditionally conducted by surveying employees to obtain frequency of encounters with other employees and agencies (Borgatti, et al., 2009). A direct network analysis measurement, while self-reported, provides researchers with a first person examination of the relationship network in an organization. Interpretation of archival data may foster data artifacts. To make interpretation of archival data stronger, it is recommended that a second or third researcher rate the number and the length of relationship ties. By employing more than one rater, reliability of relationship data increases.

One final point to mention is that there may be a bias in the data in favor of board members that choose to fill out online biographical data. Completion of a LinkedIn profile was either voluntary or up to the policy of the organization. There may be underlying characteristics of individuals that completed online information translating into the organization's policy on funding. For example, a board member with a LinkedIn profile may have more knowledge about online social media outlets. Social media savvy may equate to having a greater awareness of funding opportunities. It is plausible that more knowledge of available funding sources led to an increase in grant applications and

thus a stronger probability of award. It was also possible that there were personality characteristics of individuals with LinkedIn profiles that had an effect on grant application and award. Whether such personality characteristics made a significant impact is a valid research question that warrants future investigation.

One potential drawback of relationship ties as mentioned in Pearch, Dibble, and Klein (2009) is that nonprofits that rely heavily upon government funding are no longer entirely independent entities. These agencies become a variable in the "hollow state" equation (Milward & Provan, 2000). Nonprofit dependence creates competition among similar nonprofits in securing funding. The mission of a nonprofit then changes in an effort to appease funding requirements. It is possible for a health care organization that originally intended to serve one population to shift priorities to another population out of funder requirements. Larger organizations with other revenue sources may be able to handle multiple priorities and missions. Smaller organizations, however, that find themselves in great financial need and are more reliant upon grant revenue are required to mold themselves into what the funder dictates. However, agencies are never forced to apply for grants in which the agency does not support. Even when an agency is confronted with financial burden, applying for a grant that is counter to an agency's mission will result in future issues.

It should be noted that even though agencies, particularly smaller agencies, are advised to be somewhat selective in their granting activities, too much caution can be detrimental to organizations with great financial burdens. Findings of this study suggested that there were minor advantages to relationship ties. In some cases, as with university ties, there were disadvantages on the effect of potential funding. Yet, some of

the relationship variables show small effects on predicted funding. An organization that is in dire need of financial resources may find that the time spent in nurturing relationships is time well spent. The small difference between no funds and a few thousand dollars in annual appropriations can make a notable impact on a struggling organization. Therefore, though some ties had a small impact, the effort to nurture relationships may be beneficial.

The current study was a first step in understanding the relevance of relationship ties to nonprofit fiscal administration. Mikkelson (2006) made the argument that understanding how policy networks influenced decisions regarding nonprofits was important to the mission of these organizations. The notion of networking with government officials and other board members in order to secure funding is an anecdotal practice that has significant implications in nonprofit fundraising. Further investigation with revisions to technique can enrich the existing body of knowledge. By supporting anecdotal beliefs with empirical evidence of efficacy, the practice of network participation can further become an industry best practice in the pursuit of scarce financial resources.

Equation 1: Probit regression of all variables for all organizations.

$$Pr(Y = 1|X) = \phi(\beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 + \beta_9 X_9 + \beta_{10} X_{10} + \beta_{11} X_{11} + \beta_{12} X_{12} + \beta_{13} X_{13} + \beta_{14} X_{14} + \beta_{15} X_{15} + \beta_{16} X_{16} + \beta_{17} X_{17} + \beta_{18} X_{18} + \beta_{19} X_{19} + \beta_{20} X_{20} + \beta_{21} X_{21} + \varepsilon)$$

List of Variables for Equation 1.

Variable Label	Variable Definition
y	1 if the amount of HRSA funding received for the following fiscal year is greater than 0 and where y = 0 if otherwise
Pr	Probability
ϕ	Cumulative Distribution Function (CDF) of the standard normal distribution
	Organizational Variables
X_1	number of board members for the previous fiscal year
X_2	number of volunteers for the previous fiscal year
X_3	number of employees in thousands for the previous fiscal year
	Financial Variables
X_4	receiving HRSA funding prior to 2008 (dichotomous where 1 = yes and 0 = no)
X_5	total revenue in millions for the previous fiscal year
X_6	total assets in millions for the previous fiscal year
X_7	grant revenue in millions for the previous fiscal year
X_8	amount of contributions in millions for the previous fiscal year
X_9	grant expenditures in millions for the previous fiscal year
	Relationship Variables
X_{10}	total number of ties to other nonprofit agencies for the previous fiscal year
X_{11}	total years of nonprofit ties for the previous fiscal year
X_{12}	total number of ties to government agencies for the previous fiscal year
X_{13}	total years of government ties for the previous fiscal year
X_{14}	total number of ties to for-profit agencies for the previous fiscal year
X_{15}	total years of for-profit ties for the previous fiscal year
X_{16}	total number of ties to universities for the previous fiscal year
X_{17}	total years of university ties for the previous fiscal year
X_{18}	total number of memberships in a professional association for the previous fiscal year
X_{19}	total years of memberships in a professional association for the previous fiscal year
X_{20}	total number of appointments to other nonprofit boards for the previous fiscal year
X_{21}	total years of appointments to other nonprofit boards for the previous fiscal year
ε	amount of error in the model

Multiple Regression Models for Non-panel Analyses

Equation 2
All organizations; Predicted funding as dependent variable; All lagged independent variables
$y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 + \beta_9 X_9 + \beta_{10} X_{10} + \beta_{11} X_{11} + \beta_{12} X_{12} + \beta_{13} X_{13} + \beta_{14} X_{14} + \beta_{15} X_{15} + \beta_{16} X_{16} + \beta_{17} X_{17} + \beta_{18} X_{18} + \beta_{19} X_{19} + \beta_{20} X_{20} + \beta_{21} X_{21} + \varepsilon$
Equation 3
All organizations; HRSA funding prior to 2008 as dependent variable; All other lagged independent variables
$\beta_4 X_4 \; as \; y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 + \beta_9 X_9 + \beta_{10} X_{10} + \beta_{11} X_{11} + \beta_{12} X_{12} + \beta_{13} X_{13} + \beta_{14} X_{14} + \beta_{15} X_{15} + \beta_{16} X_{16} + \beta_{17} X_{17} + \beta_{18} X_{18} + \beta_{19} X_{19} + \beta_{20} X_{20} + \beta_{21} X_{21} + \varepsilon$
Equation 4
Funded organizations; Predicted funding as dependent variable; All lagged independent variables
$y \; (where \; y > 0) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 + \beta_9 X_9 + \beta_{10} X_{10} + \beta_{11} X_{11} + \beta_{12} X_{12} + \beta_{13} X_{13} + \beta_{14} X_{14} + \beta_{15} X_{15} + \beta_{16} X_{16} + \beta_{17} X_{17} + \beta_{18} X_{18} + \beta_{19} X_{19} + \beta_{20} X_{20} + \beta_{21} X_{21} + \varepsilon$
Equation 5
Funded organizations; HRSA funding prior to 2008 as dependent variable; All other lagged independent variables
$\beta_4 X_4 \; as \; y \; (where \; y > 0) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 + \beta_9 X_9 + \beta_{10} X_{10} + \beta_{11} X_{11} + \beta_{12} X_{12} + \beta_{13} X_{13} + \beta_{14} X_{14} + \beta_{15} X_{15} + \beta_{16} X_{16} + \beta_{17} X_{17} + \beta_{18} X_{18} + \beta_{19} X_{19} + \beta_{20} X_{20} + \beta_{21} X_{21} + \varepsilon$

List of Variables for Equations 2 – 5.

Variable Label	Variable Definition
y	amount of HRSA funding received for the following fiscal year
	Organizational Variables
X_1	number of board members for the previous fiscal year
X_2	number of volunteers for the previous fiscal year
X_3	number of employees in thousands for the previous fiscal year
	Financial Variables
X_4	receiving HRSA funding prior to 2008 (dichotomous where 1 = yes and 0 = no)
X_5	total revenue in millions for the previous fiscal year
X_6	total assets in millions for the previous fiscal year
X_7	grant revenue in millions for the previous fiscal year
X_8	amount of contributions in millions for the previous fiscal year
X_9	grant expenditures in millions for the previous fiscal year
	Relationship Variables
X_{10}	total number of ties to other nonprofit agencies for the previous fiscal year
X_{11}	total years of nonprofit ties for the previous fiscal year
X_{12}	total number of ties to government agencies for the previous fiscal year
X_{13}	total years of government ties for the previous fiscal year
X_{14}	total number of ties to for-profit agencies for the previous fiscal year
X_{15}	total years of for-profit ties for the previous fiscal year
X_{16}	total number of ties to universities for the previous fiscal year
X_{17}	total years of university ties for the previous fiscal year
X_{18}	total number of memberships in a professional association for the previous fiscal year
X_{19}	total years of memberships in a professional association for the previous fiscal year
X_{20}	total number of appointments to other nonprofit boards for the previous fiscal year
X_{21}	total years of appointments to other nonprofit boards for the previous fiscal year
ε	amount of error in the model

Fixed-effects and Between-effects Regression Models for Panel Analyses.

Equation 6 Model 1 All organizations; Predicted funding as dependent variable; All independent lagged variables	
1 A Fixed Effects	$y_{it} = \beta_1 X_{it1} + \beta_2 X_{it2} + \beta_3 X_{it3} + \beta_4 X_{it4} + \beta_5 X_{it5} + \beta_6 X_{it6} + \beta_7 X_{it7} + \beta_8 X_{it8} + \beta_9 X_{it9} + \beta_{10} X_{it10} + \beta_{11} X_{it11} + \beta_{12} X_{it12} + \beta_{13} X_{it13} + \beta_{14} X_{it14} + \beta_{15} X_{it15} + \beta_{16} X_{it16} + \beta_{17} X_{it17} + \beta_{18} X_{it18} + \beta_{19} X_{it19} + \beta_{20} X_{it20} + \beta_{21} X_{it21} + \alpha_i + u_{it}, t = 1, 2, 3, 4, 5.$
1 B Between Effects	$y_{it} = \beta_1 X_{it1} + \beta_2 X_{it2} + \beta_3 X_{it3} + \beta_4 X_{it4} + \beta_5 X_{it5} + \beta_6 X_{it6} + \beta_7 X_{it7} + \beta_8 X_{it8} + \beta_9 X_{it9} + \beta_{10} X_{it10} + \beta_{11} X_{it11} + \beta_{12} X_{it12} + \beta_{13} X_{it13} + \beta_{14} X_{it14} + \beta_{15} X_{it15} + \beta_{16} X_{it16} + \beta_{17} X_{it17} + \beta_{18} X_{it18} + \beta_{19} X_{it19} + \beta_{20} X_{it20} + \beta_{21} X_{it21} + u_{it} + \varepsilon_i, t = 1, 2, 3, 4, 5.$
Equation 7 Model 2 All organizations; HRSA funding prior to 2008 as dependent variable; All other independent lagged variables	
2 A Fixed Effects	$\beta_4 X_{it4}$ as $y_{it} = \beta_1 X_{it1} + \beta_2 X_{it2} + \beta_3 X_{it3} + \beta_5 X_{it5} + \beta_6 X_{it6} + \beta_7 X_{it7} + \beta_8 X_{it8} + \beta_9 X_{it9} + \beta_{10} X_{it10} + \beta_{11} X_{it11} + \beta_{12} X_{it12} + \beta_{13} X_{it13} + \beta_{14} X_{it14} + \beta_{15} X_{it15} + \beta_{16} X_{it16} + \beta_{17} X_{it17} + \beta_{18} X_{it18} + \beta_{19} X_{it19} + \beta_{20} X_{it20} + \alpha_i + u_{it}, t = 1, 2, 3, 4, 5.$
2 B Between Effects	$\beta_4 X_{it4}$ as $y_{it} = \beta_1 X_{it1} + \beta_2 X_{it2} + \beta_3 X_{it3} + \beta_5 X_{it5} + \beta_6 X_{it6} + \beta_7 X_{it7} + \beta_8 X_{it8} + \beta_9 X_{it9} + \beta_{10} X_{it10} + \beta_{11} X_{it11} + \beta_{12} X_{it12} + \beta_{13} X_{it13} + \beta_{14} X_{it14} + \beta_{15} X_{it15} + \beta_{16} X_{it16} + \beta_{17} X_{it17} + \beta_{18} X_{it18} + \beta_{19} X_{it19} + \beta_{20} X_{it20} + u_{it} + \varepsilon_i, t = 1, 2, 3, 4, 5.$
Equation 8 Model 3 Funded organizations; Predicted funding as dependent variable; All independent lagged variables	
3 A Fixed Effects	y_{it} (where $y > 0$) $= \beta_1 X_{it1} + \beta_2 X_{it2} + \beta_3 X_{it3} + \beta_4 X_{it4} + \beta_5 X_{it5} + \beta_6 X_{it6} + \beta_7 X_{it7} + \beta_8 X_{it8} + \beta_9 X_{it9} + \beta_{10} X_{it10} + \beta_{11} X_{it11} + \beta_{12} X_{it12} + \beta_{13} X_{it13} + \beta_{14} X_{it14} + \beta_{15} X_{it15} + \beta_{16} X_{it16} + \beta_{17} X_{it17} + \beta_{18} X_{it18} + \beta_{19} X_{it19} + \beta_{20} X_{it20} + \beta_{21} X_{it21} + \alpha_i + u_{it}, t = 1, 2, 3, 4, 5.$
3 B Between Effects	y_{it} (where $y > 0$) $= \beta_1 X_{it1} + \beta_2 X_{it2} + \beta_3 X_{it3} + \beta_4 X_{it4} + \beta_5 X_{it5} + \beta_6 X_{it6} + \beta_7 X_{it7} + \beta_8 X_{it8} + \beta_9 X_{it9} + \beta_{10} X_{it10} + \beta_{11} X_{it11} + \beta_{12} X_{it12} + \beta_{13} X_{it13} + \beta_{14} X_{it14} + \beta_{15} X_{it15} + \beta_{16} X_{it16} + \beta_{17} X_{it17} + \beta_{18} X_{it18} + \beta_{19} X_{it19} + \beta_{20} X_{it20} + \beta_{21} X_{it21} + u_{it} + \varepsilon_i, t = 1, 2, 3, 4, 5.$

Equation 9
Model 4
Funded organizations; HRSA funding prior to 2008 as dependent variable; All other independent lagged variables

4 A Fixed Effects	$\beta_4 X_{it4}\ as\ y_{it}\ (where\ y > 0) = \beta_1 X_{it1} + \beta_2 X_{it2} + \beta_3 X_{it3} + \beta_5 X_{it5} + \beta_6 X_{it6} + \beta_7 X_{it7} + \beta_8 X_{it8} + \beta_9 X_{it9} + \beta_{10} X_{it10} + \beta_{11} X_{it11} + \beta_{12} X_{it12} + \beta_{13} X_{it13} + \beta_{14} X_{it14} + \beta_{15} X_{it15} + \beta_{16} X_{it16} + \beta_{17} X_{it17} + \beta_{18} X_{it18} + \beta_{19} X_{it19} + \beta_{20} X_{it20} + \alpha_i + u_{it}, t = 1, 2, 3, 4, 5.$
4 B Between Effects	$\beta_4 X_{it4}\ as\ y_{it}\ (where\ y > 0) = \beta_1 X_{it1} + \beta_2 X_{it2} + \beta_3 X_{it3} + \beta_5 X_{it5} + \beta_6 X_{it6} + \beta_7 X_{it7} + \beta_8 X_{it8} + \beta_9 X_{it9} + \beta_{10} X_{it10} + \beta_{11} X_{it11} + \beta_{12} X_{it12} + \beta_{13} X_{it13} + \beta_{14} X_{it14} + \beta_{15} X_{it15} + \beta_{16} X_{it16} + \beta_{17} X_{it17} + \beta_{18} X_{it18} + \beta_{19} X_{it19} + \beta_{20} X_{it20} + u_{it} + \varepsilon_i, t = 1, 2, 3, 4, 5.$

List of Variables for Equations 6 – 9.

Variable Label	Variable Definition
y	amount of HRSA funding received for the following fiscal year
Organizational Variables	
X_{it1}	number of board members for each fiscal year
X_{it2}	number of volunteers for each fiscal year
X_{it3}	number of employees in thousands for each fiscal year
Financial Variables	
X_{it4}	receiving HRSA funding prior to 2008 (dichotomous where 1 = yes and 0 = no)
X_{it5}	total revenue in millions for each fiscal year
X_{it6}	total assets in millions for each fiscal year
X_{it7}	grant revenue in millions for each fiscal year
X_{it8}	amount of contributions in millions for each fiscal year
X_{it9}	grant expenditures in millions for each fiscal year
Relationship Variables	
X_{it10}	total number of ties to other nonprofit agencies for each fiscal year
X_{it11}	total years of nonprofit ties for each fiscal year
X_{it12}	total number of ties to government agencies for each fiscal year
X_{it13}	total years of government ties for each fiscal year
X_{it14}	total number of ties to for-profit agencies for each fiscal year
X_{it15}	total years of for-profit ties for each fiscal year
X_{it16}	total number of ties to universities for each fiscal year
X_{it17}	total years of university ties for each fiscal year
X_{it18}	total number of memberships in a professional association for each fiscal year
X_{it19}	total years of memberships in a professional association for each fiscal year
X_{it20}	total number of appointments to other nonprofit boards for each fiscal year
X_{it21}	total years of appointments to other nonprofit boards for each fiscal year
α_i	fixed population variables over time
u_{it}	amount of fixed error in the model
t	fiscal year where 1 = fiscal year 2008, 2 = fiscal year 2009, …5 = fiscal year 2012

REFERENCES

Adler, P. S., and Kwon, S. (2002). Social capital: Prospects for a new concept. *The Academy of Management Review, 27*(1), 17-40.

Alexander, J., & Nank, R. (2009). Public-nonprofit partnership: Realizing the new public service. *Administration & Society, 41*(3), 364-386.

Baron, J.N., Dobbin, F., & Jennings, P.D. (1986). War and Peace: The evolution of modern personnel administration in U.S. industry. *American Journal of Sociology, 92,* 350-83.

Baron, J.N., Mittman, B.S., Newman, A.E. (1991). Targets of opportunity: Organizational and environmental determinants of gender integration within the California civil service, 1979-1985. *American Journal of Sociology, 96*, 1362-1401.

Borgatti, S.P., Mehra, A., Brass, D.J., and Labianca, G. (2009, February 13). Network analysis in the social sciences. *Science, 323*(5916), 892-895.

Brooks, A.C. (2000). Public subsidies and charitable giving: Crowding out, crowing in, or both? *Journal of Policy Analysis and Management, 19*(3), 451-464.

Bureau of Labor Statistics. (2016). Consumer Price Index Table. *CPI Detailed Report, March 2016.* Retrieved from: http://www.bls.gov/cpi/cpid1603.pdf.

Burt, R.S. (1980). Cooptive corporate actor networks: A reconsideration of interlocking directorates involving American manufacturing. *Administrative Science Quarterly, 25*(4), 557-582.

Casciaro, T. & Piskorski, M.J. (2005). Power imbalance, mutual dependence, and

    constraint absorption: A closer look at resource dependence theory.

    Administrative Science Quarterly, 50, 167–199.

Coleman, J. S. (1988). Social capital in the creation of human capital. *American Journal*

    of Sociology, 94, S95-S120.

Diamond, A.M. (1999). Does federal funding "crowd in" private funding of science?

    Contemporary Economic Policy, 17(4), 423-431.

Dranove, D. (1988). Pricing by non-profit institutions: The case of hospital cost-shifting.

    Journal of Health Economics, 7, 47-57.

Eng, T., Liu, C. G., and Sekhon, Y. K. (2012). The role of relational embedded network

    ties in resource acquisition of British nonprofit organizations. *Nonprofit and*

    Voluntary Sector Quarterly, 41(6), 1092-115.

Galaskiewicz, J., & Rauschenbach, B. (1988). The corporation-culture connection: A test

    of interorganizational theories. In C. Milofsky (Ed.), *Community organizations:*

    Studies in resource mobilization and exchange, pp. 119-135. New York: Oxford

    University Press.

Goodstein, J., and Boeker, W. (1991). Turbulence at the top: A new perspective on

    governance structure changes and strategic change. *Academy of Management*

    Journal, 34(2), 306-330.

Granovetter, M. (1972). The strength of weak ties. American Journal of Sociology 78(6),

    1360-1380.

Granovetter, M. (1985). Economic action and social structures: The problem of

    embeddedness. *American Journal of Sociology, 91,* 481-510.

Grant, R. M., & Baden-Fuller, C. (2004). A knowledge accessing theory of strategic

   alliances. *Journal of Management Studies, 41* (1), 61-84.

GuideStar USA, Inc. (2015). *GuideStar Premium database.* Retrieved from

   http://www.guidestar.org.

Guo, C., & Acar, M. (2005). Understanding collaboration among nonprofit organizations:

   Combining resource dependency, institutional, and network perspectives.

   Nonprofit and Voluntary Sector Quarterly, 34(3), 340-361.

Haunschild, P.R. (1993). Interorganizational imitation: The impact of interlocks on

   corporate acquisition activity. *Administrative Science Quarterly, 38*(4), 564-592.

Harlan, S. L., & Saidel, J. R. (1994). Board members' influence on the government-

   nonprofit relationship. *Nonprofit Management & Leadership, 5*(2), 173-196.

Health Resources and Services Administration. (2014). Active grants for HRSA key

   programs. Downloaded on November 21, 2014 from:

   http://datawarehouse.hrsa.gov/tools/ DataPortal.aspx

Hillman, A. J., Cannella, A. A., and Paetzold, R. L. (2000). The resource dependence role

   of corporate directors: Strategic adaptation of board composition in response to

   environmental change. *Journal of Management Studies, 37*, 235-255.

Hillman, A. J., Withers, M. C., and Collins, B. J. (2009). Resource dependence theory: A

   review. *Journal of Management, 35*(6), 1404-1427.

Heutel, G. (2014). Crowding out and crowding in of private donations and government

   grants. *Public Finance Review, 42*(2), 143-175.

Internal Revenue Service. (2015). *Form 990: Return of Organization Exempt from

   Income Tax.* Retrieved from https://www.irs.gov/pub/irs-pdf/f990.pdf.

Internal Revenue Service. (2014). Exempt organizations business master file extract: Region 2: Mid-Atlantic and Great Lakes Areas. Downloaded November 21, 2014 from: http://www.irs.gov/file_source/pub/irs-soi/eo2.csv

Kotter, J.P. (1979). Managing external dependence. *The Academy of Management Review, 4*(1), 87-92.

Kratzer, J., Leenders, R., & Van Engelen, J. (2005). Informal contacts and performance in innovation teams. *International Journal of Manpower, 26*(6), 513-528.

Lester, R. H., Hillman, A. J., Zardkoohi, A., and Cannella, A. A. (2008). Former government officials as outside directors: The role of human and social capital. *Academy of Management Journal, 51*(5), 999-1013.

Lewis, J. M. (2006). Being around and knowing the players: Networks of influence in health policy. *Social Science & Medicine, 62*, 2125-2136.

Li, D., and Schürhoff, N. (2014). Dealer networks. *Swiss Finance Institute Research Paper*, No. 14-50. http://dx.doi.org/10.2139/ssrn.2023201

LinkedIn. (2016). *LinkedIn Premium database.* Retrieved from https://www.linkedin.com.

March, J. G. (1962). The business firm as a political coalition. *Journal of Politics*, 24, 662-678.

March, J. G., and H. A. Simon. (1958). *Organizations.* New York, NY: John Wiley and Sons.

Marlowe, J. (2013, April 22). Structure and Performance in Municipal Debt Management Networks. *Social Science Research Network.* Retrieved from http://dx.doi.org/10.2139/ssrn.2254756.

Marquis Who's Who Ventures. (2016). *Marquis Biographies Online.* Retrieved from

http://www.marquiswhoswho.com.

Mikkelsen, M. (2006). Policy network analysis as a strategic tool for the voluntary sector.

Policy Studies, 27(1), 17-26.

Milward, H. B., & Provan, K. G. (2000). Governing the hollow state. *Journal of Public*

Administration Research and Theory, 10(2), 359-379.

Mizruchi, M.S. (1996). What do interlocks do? An analysis, critique, and assessment of

research on interlocking directorates. *Annual Review of Sociology, 22,* 271-298.

Oh, H., Chung, M., & Labianca, G. (2004). Group social capital and group effectiveness:

The role of informal socializing ties. *Academy of Management Journal, 47*(6),

860-875.

Oliver, C. (1990). Determinant of interorganizational relationships: Integration and

future directions. *Academy of Management Review, 15*(2), 241-265.

Oliver, C. (1991). Strategic responses to institutional processes. *The Academy of*

Management Review, 16(1), 145-179.

O'Toole, L. J. (2014). Networks and networking: The public administrative agendas.

Public Administration Review. doi: 10.1111/puar.12281.

Parsons, T. (1956). Suggestions for a sociological approach to the theory of

organizations. *Administrative Science Quarterly, 1*, 63–85.

Pearce, J.L., Dibble, R., & Klein, K. (2009). The effects of governments on management

and organization. *The Academy of Management Annals, 3*, 503-541.

Pfeffer, J. (1973). Size, composition, and function of hospital boards of directors: A study of organization-environment linkage. *Administrative Science Quarterly, 18*(3), 349-364.

Pfeffer, J. (1974). Cooptation and the composition of electric utility boards of directors. *The Pacific Sociological Review, 17*(3), 333-363.

Pfeffer, J. (1987). A resource dependence perspective on intercorporate relations. In M.S. Mizruchi & M. Schwart (eds.), *Intercorporate relations: The structural analysis of business*, pp. 22-25. New York: Cambridge University Press.

Pfeffer, J., and Salancik, G. R. (1978). *The external control of organizations: A resource dependence perspective*, pp 23-61. New York: Harper & Row.

Provan, K. G. (1980). Board power and organizational effectiveness among human service agencies. *Academy of Management Journal, 23*(2), 221-236.

Thompson, J. D. (1967). Domains of organized action. In *Organizations in action: Social science bases of administrative theory*, pp. 25-38.

U.S. Department of Health and Human Services. (2016a). About HRSA. Retrieved from: http://www.hrsa.gov/about

U.S. Department of Health and Human Services. (2016b). Open opportunities. Retrieved from: http://www.hrsa.gov/grants/index.html

U.S. Department of Health and Human Services. (2016c). The fundamentals of writing a responsive application: How the pieces fit. Retrieved from: http://www.hrsa.gov/grants/apply/writingresponsiveapplication.pdf

Uzzi, B. (1997). Social structure and competition in interfirm networks: The paradox of embeddedness. *Administrative Science Quarterly, 42*, 35-67.

Westphal, J. D., Boivie, S., & Chng, D. H. M. (2006). The strategic impetus for social

    network ties: Reconstituting broken CEO friendship ties. *Strategic Management*

    Journal, 27, 425-445.

Zinn, J. S., Proenca, J., and Rosko, M. D. (1997). Organizational and environmental

    factors in hospital alliance membership and contract management: A resource-

    dependence perspective. *Hospital and Health Services Administration, 42*(1), 67-

    86.

A. HEATH RICO

EDUCATION

University of Tennessee-Chattanooga, Chattanooga, TN
M.S., Industrial/Organizational Psychology (May 1998)

University of the South, Sewanee, TN
B.A., Psychology (May 1996)

RESEARCH INTERESTS

Public Management, Public Finance, Nonprofit Management, Network Analysis.

CURRENT RESEARCH

Dissertation
"Web of Ties: Network Ties as a Determinant of Government Funding for Nonprofit Agencies". Working Paper.

"Brownfield of Dreams: Redevelopment Differences of Former Brownfield Projects in Chicago TIF Districts". Working Paper

TEACHING EXPERIENCE

Adjunct Instructor
　　　　Ivy Tech Community College, Sellersburg, IN
　　　　Political Science 101: Introduction to American Government. 2015

University Tutor
　　　　University of Kentucky, Lexington, KY
　　　　Psychology 100: Introduction to Psychology. 2012-2014.
　　　　Psychology 215: Statistics in Psychology. 2012-2014.
　　　　Psychology 223: Developmental Psychology. 2012-2014.
　　　　Math 123: Elementary Calculus. 2012-2014.
　　　　Economics 201: Introduction to Microeconomics. 2012-2014.

PROFESSIONAL EXPERIENCE

Graduate Assistant
> University of Kentucky, Lexington, KY
> Martin School for Public Policy and Administration. Summer 2012.

Statistical Analyst Supervisor/Project Coordinator
> State of Tennessee, Department of Health, Nashville, TN. 2006-2011.

Planning Analyst
> State of Tennessee, Department of Finance and Administration,
> Nashville, TN. 2004-2006.

Statistical Analyst
> State of Tennessee, Department of Correction, Nashville, TN. 2002-2004.

Associate Personnel Analyst
> Los Angeles Unified School District, Personnel Commission,
> Los Angeles, CA. 2000-2001.

HONORS AND AWARDS

Southern Regional Educational Board Doctoral Scholars Program Fellowship.
2011-2016.
Graduate School Travel Funding for Conference Presentation, 2015.
ARNOVA Travel Funding for Conference Presentation, 2015
ARNOVA Diversity Scholars Funding, 2015.

CONFERENCE PAPERS

"Web of Ties: Network Ties as a Determinant of Government Funding for
Nonprofit Agencies". Presented at the Public Management Research Association
Conference. June 11-13, 2015; Minneapolis, MN.

"Brownfield of Dreams: Redevelopment Differences of Former Brownfield
Projects in Chicago TIF Districts". Presented at The Association for Budgeting
and Financial Management Annual Conference. October 1-3, 2015; Washington,
DC.

"Web of Ties: Network Ties as a Determinant of Government Funding for
Nonprofit Agencies". Poster presented at the Association for Research on
Nonprofit Organizations and Voluntary Action. November 18-21, 2015; Chicago,
IL.

"Barriers to Self-Sufficiency". Presented to Lexington Fayette Urban County Government. August 27, 2013.

SERVICE

Reviewer for *Nonprofit Management & Leadership*

PROFESSIONAL MEMBERSHIPS

Association for Public Policy Analysis and Management
American Society for Public Administration
Association for Budgeting and Financial Management
Association for Research on Nonprofit Organizations and Voluntary Action
Public Management Research Association