Published in final edited form as:

Nonprofit Volunt Sect Q. 2013 December ; 42(6): 1155–1175. doi:10.1177/0899764012451369.

Administrative Coordination in Non-Profit Human Service Delivery Networks: The Role of Competition and Trust

Alicia C. Bunger, MSW, Ph.D.

Assistant Professor, College of Social Work, The Ohio State University, 1947 College Road, Columbus, OH 43210, Phone: 614-292-6288, Bunger.5@osu.edu

Abstract

Non-profit human service organizations operating within the same regional network are often faced with dual pressure to compete as well as coordinate administrative operations (by sharing funding, staff or space) to enhance efficiency. Emerging evidence has demonstrated that competing organizations coordinate, despite the risks. Trust, or perceived trustworthiness between two organizations may mitigate the negative influence of competition on coordination, however there have been few explicit tests of this hypothesis among non-profit organizations. Drawing on quantitative data collected from a network of 36 non-profit children's behavioral health organizations, this paper empirically tests how competition and perceived trustworthiness interact to influence administrative coordination. Results support the hypothesis that trustworthiness moderates the influence of competition on administrative coordination. Findings suggest that as competing non-profit leaders build trust, the more their agencies coordinate their administrative functions. This study highlights the importance of leaders' perceptions for organizational strategy.

Keywords

coordination; competition; trust; network analysis

Introduction

As funding for human services is increasingly targeted toward the costs of service delivery, rather than agency operations (Smith, 2010), non-profit organizations are under pressure to reduce administrative costs. Sharing administrative resources like space, funding, or staff expertise may promote efficiencies that help organizations survive in resource scarce environments, or secure a competitive advantage when applying for grants and contracts from funders that value coordination, and low administrative costs. Administrative coordination is therefore a potential strategy for advancing economic survival.

However, organizational leaders are often faced with a dilemma, as they are encouraged to coordinate their administrative functions with agencies competing for the same resources (Smith, 2010). Competition can undermine coordination because one organizations' success in obtaining needed funding, clients, or staff may come at the expense of a partner, leading to partnership failure or dissolution (Baker, Faulkner, & Fisher, 1998).

This tension between competition and coordination is exemplified in children's "Systems of Care" where advocates have encouraged community-based agencies to integrate their services as well as administrative operations (Stroul & Friedman, 1986). Yet, these agencies often compete with one another for the same grants, contracts, and professional labor within their region or state.

Despite the risks, evidence demonstrates that competing nonprofit organizations do collaborate (Valente, Coronges, Stevens, & Cousineau, 2008) and trust may offset the risks of coordinating with a competitor (Snively & Tracy, 2002; Uzzi, 1997). It is widely accepted that trust figures prominently in inter-organizational coordination. However, we know little about how trust interacts with competitive organizational environments to influence the degree to which agencies coordinate administrative operations particularly in the non-profit sector. Drawing on quantitative data from a network of children's behavioral health organizations, this paper addresses the question, Does perceived trustworthiness moderate the negative influence of competition on administrative coordination?

This question is best addressed through the perspective of organizational leaders. How organizational environments are perceived or enacted by leaders may matter more than objective measures for understanding organizational strategies (Smircich & Stubbart, 1985). Organizational leaders are usually responsible for strategic decisions, including those that involve coordinating operations with another agency (Vangen & Huxham, 2003a). Therefore, strategic decisions may be understood by examining how leaders perceive, make sense of, and act on competition and trust. Next, theoretical explanations of administrative coordination, coordination with a competitor, and the role of perceived trustworthiness are presented.

Administrative Coordination

Administrative coordination represents an agreement between organizations to align support activities like human resources, planning, and financial management (Shortell, Gillies, Anderson, Erickson, & Mitchell, 2000), provider training, or sharing specialized staff so that both organizations benefit from service expertise (SAMHSA, 2002). Thus, administrative coordination links organizations' infrastructure and processes through sharing and exchange of funding, staff, space and other core organizational resources where the more resources that are shared, the more agencies coordinate administratively. Common examples of administrative coordination might include co-located services (Blue-Howells, McGuire, & Nakashima, 2008), or shared service cooperatives where agencies pool their human resource management, managerial, supervisory, billing or other administrative functions (Cefola, Brotsky, & Hanson, 2010).

Most often, organizations coordinate administrative processes and structures as a strategy for advancing their own economic interests and survival. Organizations may coordinate to access needed resources, enhance efficiency, or secure a competitive advantage by complying with institutional mandates or standards (Haveman, 2000; Reitan, 1998).

The Negative Influence of Competition on Coordination

Competition occurs when multiple organizations rely on the same resources (such as funding, staff, and new clients) to produce similar products or services (Hunt, 2007). Particularly when resources are scarce, an organization that is successful in obtaining resources, in effect, reduces those available for other similar agencies. Therefore, competition emerges when an organization's success in winning new funds, hiring qualified staff, or cornering a new market niche of clients comes at the expense of another agency (Bengtsson & Kock, 2000). The nature of funding and contract awards, which are typically based on competitive procurement processes, may exacerbate competition.

Coordination among organizations that compete for similar resources is especially risky. For any coordinating organizations, there is risk that one organization will dominate the relationship and by gaining control, threaten its partner's autonomy and survival (Das and Teng, 1998). This power can be used opportunistically, to gain as a result of a partner's failure or control a partner (Pfeffer & Salancik, 2003). The more organizations coordinate, the more they share control over key resources (such as funding, staff, and space), and the more they become vulnerable to exploitation by their partner. These risks of opportunistic behaviors are heightened when competitors coordinate because both partners have an economic interest in the other's failure. Contracts and other formal governance structures can help protect organizations from risk, but can be costly to negotiate and monitor. As a result, organizations may avoid or limit the degree to which they coordinate with competitors.

Why Would Competitors Coordinate?—Although competition can negatively influence coordination, there is emerging evidence in both the for- and non-profit sectors that suggests the opposite. Competitors frequently coordinate for mutual gain in several for-profit industries including financial markets (Faerman, McCaffrey, & Slyke, 2001), technology ventures (Katila, Rosenberger, & Eisenhardt, 2008), education (Baer, 2000) and health care (Peng & Bourne, 2009). In fact, the idea of “co-opetition” has been advanced as business strategy (Brandenburger and Nalebuff, 1996).

More recently, evidence of coordination among competitors has emerged in the non-profit human services field as well (Valente et al., 2008). For example, it has been well-documented that human service organizations that share similar funding sources, geographic proximity, age (Shumate, Fulk, & Monge, 2005), and service sector (Bolland & Wilson, 1994; Rivard & Morrissey, 2003) are likely to partner. Yet these organizations are also likely to be competing with one another suggesting that non-profit organizations, like those in the for-profit sector, coordinate with the competition (Tsasis, 2009). However, unlike the for-profit sector, this simultaneous cooperative-competitive dynamic among non-profit agencies has not been explicitly and empirically examined.

Although risky, there are several reasons why non-profit human service leaders may coordinate administrative operations with their competitors. When competitors coordinate, leaders bring organizations together that have and need similar resources. Relationships facilitate resource sharing, based on traditional resource dependence theory, therefore coordination with a competitor is a potential strategy for stabilizing uncertain resource

inflows (Hillman, Withers, & Collins, 2009). Second, administrative coordination may be a strategy for enhancing efficiency, especially in resource scarce environments (Snively & Tracy, 2002). From a transaction cost economics perspective, instead of competing against one another for scarce resources, organizations may share with one another, or contract with another agency to reduce overhead costs (Guo & Acar, 2005; Reitan, 1998). Third, coordinating with a competitor may be a strategy for reducing the impact of competition and funding shortfalls, from an ecological perspective (Fligstein, 1996). By coordinating, organizations can pool their capacity, power and influence to outbid other providers for contracts or grants, and control the market. Finally, from an institutional perspective, competing organizations may coordinate to maintain compliance or gain legitimacy from funders that require partnerships, or encourage agencies to consolidate administrative functions for efficiency purposes (Eschenfelder, 2011).

Regardless of the reasons why competing organizations coordinate, there remain risks that can undermine the degree to which agencies coordinate. However, the preponderance of examples of coordination among competitors in the non-profit sector begs the question, what could mitigate the negative influence of competition on administrative coordination in human services?

The Role of Trust

Economic transactions like the exchange of administrative resources are embedded within social relationships governed by social structures and norms (Granovetter, 1985). Therefore, the nature and quality of social ties such as trustworthiness and reliability may be just as important as economic motivations for understanding administrative coordination.

Trustworthiness is an expectation for a partner's behavior: that an organizational partner will not behave opportunistically to exploit a partner's vulnerability. Rather, a partner will behave in a way that demonstrates fairness, reliability, and goodwill (Krishnan, Martin, & Noorderhaven, 2006; Rousseau, Sitkin, Burt, & Camerer, 1998). Thus trustworthiness is a characteristic of an organization as perceived by its partner.

Trustworthiness is relevant for organizational partnerships involving administrative coordination because trust reduces the uncertainty, risks and costs associated with a partner's behavior. There are two potential ways that perceived trustworthiness influences administrative coordination as depicted in Figure 1. First, perceived trustworthiness may directly influence how closely organizations coordinate their administrative operations regardless of whether they compete (Hosmer, 1995). The more partnering organizations perceive one another as trustworthy, the more administrative resources they are likely to share; otherwise organizations may be hesitant to align their operations or do so in a more limited way.

The human services literature has highlighted the association between trust and partnership sustainability. Partners that have a history of coordinating (and establish trust), are likely to sustain their partnerships (Isett & Provan, 2005; Provan, Nakama, Veazie, Teufel-Shone, & Huddleston, 2003; Rivard & Morrissey, 2003), and coordinate to a greater extent with the same partners in the future (Foster-Fishman, Salem, Allen, & Fahrback, 2001; Shumate et

al., 2005). Typically, authors have inferred that trust leads to coordination although it is also possible that coordination builds trust. For example, while mandates or strong institutional pressure may initially lead agencies to partner even in the absence of trust (Guo & Acar, 2005), the extent of this coordination may be limited; however, mandated partners that are able to build trust as they initially partner with one another are likely to coordinate in closer, more meaningful and productive ways in the future (Snively and Tracey, 2002). These considerations lead to a hypothesis:

H1: Perceived trustworthiness is directly and positively associated with the degree to which agencies coordinate administratively—

Second, perceived trustworthiness may influence administrative coordination by moderating the negative influence of competition (Uzzi 1997). The competitive nature of the relationship may undermine efforts to coordinate administratively because of the heightened risks and uncertainties involved in working with a competitor. Given these uncertainties, organizational leaders may have reason to be more distrustful of competitors than non-competitors. However it does not preclude them from establishing opinions about the trustworthiness of their potential partners. Leaders of non-profit organizations that compete for similar resources have frequent opportunities to develop social ties with one another because they operate within the same institutional environment. By attending the same conferences and meetings, and belonging to similar coalitions, leaders of competing organizations have opportunities to build working relationships in other contexts. These opportunities to work together inform their expectations for one another's behavior and establish trustworthiness, which may inform strategic decisions about administrative coordination (Snively & Tracy, 2002).

Trust among competitors may facilitate coordination by mitigating uncertainties of a competing partner's behavior (Krishnan, Martin, & Noorderhaven, 2006). For example, trustworthiness may reduce perceived risks of opportunism, threats to autonomy, and costs of monitoring partnerships (Gulati & Nickerson, 2008; Jones, Hesterly, & Borgatti, 1997). As a result, when agencies perceive their partners as trustworthy, they are less likely to develop formal agreements (Gulati, 1995), and spend less time monitoring partners' compliance (Alter & Hage, 1993).

Because trustworthiness engenders confidence that an organization will not exploit its partner, administrative coordination among competitors may be less risky. Therefore, competing agencies may share greater amounts of administrative resources, and coordinate more with one another. Put another way, perceived trustworthiness may moderate the influence of competition on administrative coordination. This suggests a second hypothesis:

H2: Perceived trustworthiness indirectly facilitates the degree to which agencies coordinate administratively by moderating the negative influence of competition—

The non-profit field has produced qualitative accounts (e.g. Tsasis, 2009) and exploratory survey findings (e.g. Snively & Tracy, 2002) describing how agency leaders perceive that competition and trust influence coordination. The next step in this research trajectory is to specifically test this interaction. This paper contributes to the literature by empirically testing the interaction and influence of these variables on

administrative coordination from the perspective of non-profit human service leaders. Understanding the interaction between competition and trustworthiness will generate insight into leaders' coordination decisions, and inform non-profit management strategies.

Methods

To test these hypotheses, I use quantitative dyadic (pair-wise) data collected via a network survey and archival records from a regional coalition of 36 non-profit children's behavioral health organizations in an urban mid-Western county in the US. This data set represents a whole network of organizations that operate in a single policy environment therefore, the potential variation in organizational behavior introduced by different state and regional mental health policies is controlled.

Network Setting and Population

The 36 organizations in this study were part of a newly formed coalition of non-profit agencies serving children and adolescents with behavioral health problems. The coalition was selected for this study because of the unusual opportunity to work with a whole network of child-service agencies in one city. These agencies had an interest in building new partnerships, as well as strengthening existing relationships, thus providing a natural laboratory for understanding partnership dynamics.

Coalition membership eligibility criteria included formal registration with the U.S. Internal Revenue Service as a 501(c)3 (non-profit designation), and direct provision of children's mental health services in the county, which they defined broadly to include crisis intervention; school and home-based prevention programs; temporary shelter; outpatient psychiatric and substance abuse treatment; individual, group and family counseling; services for pregnant teens; and respite care. For this study, the network boundary was defined as current paid annual membership in the coalition.

Of the 36 direct service organizations, 89% (n=32) participated. Of the four non-responding agencies, one declined due to time constraints, and three provided no reason. All four provided highly specialized services and therefore may not generate a high volume of resource exchanges in the network. Responses from the 32 agencies yielded information about a total of 992 possible dyadic relationships [(32*31)] (Wasserman & Faust, 1994). Due to missing data on individual items, analysis is conducted with 926 dyads (94% of total) with complete data.

Data Collection

Quantitative data were collected in two ways. First, quantitative data on one control variable (financial performance) was derived from IRS 990 forms available on Guidestar.org. Second, data on three focal variables (competition, trust, and administrative coordination) and two control variables (size and relationship duration) were collected via a network survey. The survey was administered from late October 2009 through early March 2010, although nearly two thirds completed the survey within the first two months. Inter-organizational relationships tend to remain stable (Isett & Provan, 2005), therefore despite

the extended data collection period, these data likely represent valid and similarly time referenced partnership reports.

Executive directors of all organizations were emailed a link to an online survey that they were asked to complete voluntarily. They were given the option of completing the survey themselves or asking another manager or person who was more knowledgeable about coordination to complete it. The network survey utilized a roster format, where for each survey item, respondents were given a list of all other organizations in the network and asked to respond to the survey item for each organization (Wasserman & Faust, 1994). Given the survey's length and complexity, respondents were offered the opportunity to complete the survey over the telephone (6%), or a self-administered paper copy (8%).

Survey Development and Piloting—The survey was developed for this study. Items were adapted from standardized measures of partnerships from Van de Ven and Ferry's Organizational Assessment (1980) (see below for specific details). Response scales were adapted to 11 point phrase completion scales which respond to the limitations of traditional Likert scales (multi-dimensionality, ordinality, and difficulty assigning consistent meaning of scale values across subjects) (Hodge & Gillespie, 2003; 2007). Measures represent categorical variables, but the 11 point response scale approximates a continuous scale.

Prior to data collection, the instrument was piloted with a network of 15 HIV/AIDS service organizations in a different state. Pilot participants were asked to estimate the length of the instrument, and comment on the clarity of items, directions, ease of answering, and survey structure. Only five agencies responded limiting psychometric testing however, most feedback related to the heavy respondent burden – with only 15 agencies in the network (fewer than half the number of agencies in children's behavioral health coalition), the survey took 30 minutes to complete and respondents felt that the time was prohibitive. Therefore, multi-item scales were trimmed to only include the most relevant items, and the language used in the instructions and items was further clarified. Psychometric properties are reported below.

Variables

Each variable is defined and the survey items are described. Survey items assess each leader's perception of the other agencies in the network, representing one half of the dyadic relationship. In reality, relationships may be asymmetric in terms of trust, competition or administrative resource exchanges therefore the network was left unsymmetrized. Symmetrizing the network data by summing or averaging across the dyad would mask asymmetric responses from partners (Krackhardt, 1990).

Independent variables—Competition, the degree to which organizations have overlapping markets (and compete for similar resources) was measured using three items drawn from Van de Ven and Ferry's (1980) five item domain similarity measure assessing the extent that each organization competes for similar resources as each of its partners. In the original scale, items address competition for funding, client populations, achievement of services program goals and professional staff along a five point Likert scale but had low reliability ($\alpha=.31$). The scale was trimmed to include three items that assess the degree to

which the responding agency competes with each of the other agencies for funding, staff, and new clients. These resources were selected because clients, funding and staff represent inputs: client populations represent a production input, or the raw materials that are transformed by the organization, and funding and professional staff are both considered maintenance inputs (Sandfort, 2010). Responses could range from no competition to competition for 100% of the agency's resources. The reliability of the three-item adapted scale was improved ($\alpha=.66$). Although just below the commonly accepted modest threshold of .70 for early stage work, the internal consistency may be improved in future instrument iterations by adding items (Nunnally & Bernstein, 1994).

Trustworthiness was measured using one item from the inter-organizational trust scale that assessed the perceived trustworthiness of another agency (Zaheer, McEvily, & Perrone, 1998). The original scale included five items that assessed the cognitive, behavioral and emotional components of trust ($\alpha=.77$) however four items may not be valid for all partnerships in this newly formed coalition. These four items assessed partners' behavior related to partnership specifications, opportunism, negotiating, and keeping promises. These items may have been difficult for leaders to answer about their newer partners (that have not yet had the opportunity to fulfill their commitments, or behave opportunistically) or informal relationships (developed without formal negotiations or specifications). Since the network in this study was comprised of many agencies that were only beginning to partner, and may have only had informal partnering experiences with one another, only one item was retained and reworded such that respondents rated the degree to which they perceive an agency to be trustworthy. Responses could range from not trustworthy at all to completely trustworthy. The interaction of trustworthiness and competition was calculated by multiplying trustworthiness and competition scores.

Dependent variable—Administrative coordination is defined as the degree to which organizations exchange organizational resources and measured using three items from Van de Ven & Ferry's (1980) Resource Flows scale. This measure assesses the extent an organization shared money, staff, or physical space in the past six months with each of the other organizations in the network. Responses could range from zero to all of the agency's resources. The three scores were summed where higher total scores denoted greater coordination. The original Van de Ven and Ferry scale also measures the resources received by agencies, and included four other resources. However, in response to feedback obtained during pilot testing, the scale was condensed to include measures of those resources directly pertinent to administrative coordination to reduce respondent burden. Similar measures have been used in previous mental health services research (Morrissey, Johnsen, & Calloway, 1997).

Control Variables—Organizations tend to partner with other agencies that have resources to share thus organizational financial performance and size may also be associated with coordination and were controlled in the analysis. Size was measured with two open-ended items in the survey that assessed the number of full- and part-time employees which were summed. Organizational financial performance was measured in terms of the three year average of total net gains or losses (difference of total revenues and expenses) found in the

IRS 990 forms. Higher performing organizations will yield net gains over time, while more poorly performing organizations run deficits. To smooth out yearly fluctuations due to grant, contract, or reimbursement irregularities, a three year average (2004–2007) of revenues and expenses were used. Given the impact of the recession on non-profit organizations, the three reporting years immediately prior to the first full year of the recession (2008) were selected. To account for differences in the size of annual revenue among the organizations, these figures were normalized by taking the proportion of the net gain/loss to the total average annual revenue.

In addition, while trust is important for bringing two parties to the table to begin coordinating (a precursor to coordination), trust may also grow over time through positive interactions (Rousseau et al., 1998). Relationships that are well-established are also likely to have higher levels of trust, and exchange a greater amount of resources. Therefore the duration, or years that two organizations worked together, was also controlled in analysis and assessed using an ordinal survey item.

Social Network Analysis

Bivariate relationships among the data were assessed in UCINET 6.0 using the quadratic assignment procedure (QAP), a non-parametric test that accounts for the autocorrelation inherent in network data (Borgatti, Everett, & Freeman, 2002). Network data violate the independence assumptions of linear models, and the error terms for each variable are likely to be related to one another (Martin, 1999).

QAP generates p-values and errors that account for autocorrelation. QAP correlations are a two-step process. First, the correlation between two matrices is assessed yielding a Pearson's correlation coefficient. Next, one of the matrices is reshuffled multiple times (2000 iterations) and values are reassigned within rows and columns generating a sample of matrices. Each of the matrices in the new sample is correlated with the non-shuffled matrix yielding a sample of correlation coefficients. The original coefficient is compared to this new sample, yielding a p-value and/or errors (Krackhardt, 1988).

The QAP has been extended to multiple regression (MRQAP) which has been used to test hypotheses with dyadic data (Carley & Krackhardt, 1996). Coefficients (either correlation coefficients or betas) are based on OLS, however significance tests are based on QAP permutations which have been shown to outperform OLS significance tests (where dummy codes are created for each of the 37 organizations and included in the model, or least squares with dummy variables, LSDV) (Krackhardt, 1990).

Results

Among the network of 32 member organizations (that reported data), all (100%) were involved in some type of partnership involving the exchange of funds, space, or staff expertise at the time of data collection. In general, organizations coordinated their administrative functions with an average of 9 other agencies in the network and this number ranges from one to 15. Organizations reported a total of 141 administrative ties out of 992 potential ties in the network ($32 \times 31 = 992$) resulting in a moderately connected network

(density=.275) where 28% of all potential administrative ties are present. The average administrative coordination score for the dyads was .5 (SD=1.1). Univariate and bivariate results are further summarized in Table 1.

Regression Results

To test the hypotheses about administrative coordination, two MRQAP models were examined. First, a basic model was estimated to test direct effects of trustworthiness and competition on coordination (hypothesis 1), while controlling for size, financial performance and relationship duration. This model explained 15% of the variance in administrative coordination. Second, a model was estimated to test the interaction effect of competition and trustworthiness on administrative coordination that included the same variables as Model 1 with the addition of an interaction term. Model 2 explained 17% of the variance in administrative coordination. In both models, two of the control variables, (duration and size) were positively associated with administrative integration suggesting that organizations that have worked together before, and are larger tend to share more of their administrative resources. Model estimates (standardized coefficients) are presented in Table 2, and the results for each specific hypothesis are discussed below.

Hypothesis 1: Direct influence of Trustworthiness on Integration—The data demonstrate that trustworthiness is directly associated with administrative coordination supporting the first hypothesis. In Model 1, which tests the direct relationships between the independent variables and administrative coordination, trustworthiness is positively associated with coordination ($b=.18$, $SE=.24$, $p<.001$). This positive relationship holds when the interaction of trustworthiness and competition is entered into Model 2 ($b=.12$, $SE=.26$, $p<.05$) although the strength of the direct relationship between trustworthiness and administrative coordination is lower in Model 2. Thus, the more leaders perceive their partner as trustworthy, the more they coordinate their administrative resources.

Hypothesis 2: Trustworthiness Moderates Influence of Competition on Administrative Coordination—It was hypothesized that trustworthiness moderates the negative influence of competition. As the data indicate in Model 1, competition does not have a negative direct effect on administrative coordination, rather, the influence is positive ($b=.18$, $SE=.24$, $p<.001$). This positive association between competition and administrative coordination also emerged in the bivariate analysis ($r=.26$, $p<.001$).

However, when the influence of the interaction of competition and trustworthiness is tested in Model 2, results demonstrate a significant and positive influence of this interaction on administrative coordination ($b=.44$, $SE=.29$, $p<.001$) suggesting that the positive influence of competition on administrative coordination is amplified by perceived trustworthiness, and the strength of the interaction is moderately strong. The main effect of competition on administrative coordination in Model 2 is negative ($b=-.21$, $SE=.32$, $p<.05$). These results highlight that under low levels of perceived trustworthiness, competition undermines administrative coordination. The data suggest that trustworthiness moderates the negative influence of competition on administrative coordination supporting the second hypothesis.

Discussion

Overall, this study suggests that agency directors' perceptions of trustworthiness play a role in administrative coordination, especially when it comes to coordinating with a competitor, supporting the original hypotheses. When partners perceive one another as highly trustworthy, competing organizations coordinate their administrative operations more by sharing their funding, space and staff expertise. However, in the absence of trustworthiness, competition is negatively associated with coordination, suggesting that competition can undermine collaborative behavior among non-profits. These findings support emerging discussions and empirical evidence of coordination among competitors across many industries including human services. Implications for non-profit managers are discussed further.

Trustworthiness

This study tested two hypotheses related to trustworthiness: 1) Trustworthiness is directly and positively associated with administrative coordination and 2) Trustworthiness indirectly facilitates administrative coordination by moderating the negative influence of competition. The findings support the first hypothesis: trustworthiness directly and positively impacts administrative coordination, where the more agency directors perceive one another as trustworthy, the more they coordinate their operations. The results also support the second hypothesis: trustworthiness also indirectly influence coordination by moderating the influence of competition. Thus, competition has a strong positive influence on coordination when organizations perceive one another as trustworthy; but a negative relationship on coordination in the absence of trust.

These findings support sociological explanations for coordination such as Granovetter's (1985) which explains how trust and social ties influence economic relationships, potentially by mitigating costs and risks associated with coordination. Trapido (2007) notes that organizational interactions do not always need to be positive, non-conflicting or non-competitive for trust to emerge. Rather, organizations are often knowledgeable about their competitors, and interact with them frequently. As competitors become familiar with one another, trust builds through their interactions (even if the context of their interactions is competitive), which may influence coordination (Vangen & Huxham, 2003b). In this study, the organizations had some collaborative experience forming the coalition and some have a long history of working together. The duration of the working relationship was weakly related to both trustworthiness and coordination, whereby organizations that have a longer history of working together coordinate more, partially supporting Trapido's (2007) argument.

Importance of Organizational Leaders

The findings highlight the importance of the perceptions of organizational leaders and contribute to the literature on organizational strategy conducted from the perceived or enacted environment perspectives. Traditionally, strategy research treats the organizational environment as an objective, observable entity. However, others have argued a more subjective approach, where the organizational environment is perceived by organizational

leaders or enacted through their patterns of activity (Smircich & Stubbart, 1985). While some empirical work has begun to focus on the impact of leaders' attitudes, values and perceptions on partnerships [e.g. perceptions of their role and decision making (Ritchie, Kolodinsky, & Eastwood, 2007; Vangen & Huxham, 2003a)] the literature has barely touched on how leaders' perceptions of competition and trustworthiness on other organizations influence administrative coordination.

Implications for Non-Profit Managers and Policy

The findings of this study have implications for non-profit leaders and policy makers. First, the importance of trustworthiness among organizational leaders' is highlighted. The risks of coordinating with a competitor are mitigated by selecting the right partner – one that is trustworthy. Seeking out or creating opportunities for non-profit leaders to network, interact in a variety of other ways (i.e. share information, joint advocacy activities) and test the waters of working together perhaps in the context of larger coalitions may help leaders learn about one another, establish the trustworthiness of potential partners, and pave the way for administrative coordination among organizations (Gulati, 1995; Lee, Robertson, Lewis, Sloane, Galloway-Gillaim, & Nomachi, 2011; Snively & Tracy, 2002).

Second, these findings support the notion that “co-opetition” occurs in the non-profit sector. Leaders of competing organizations can coordinate when there is trust. Therefore, introducing or increasing competition for funding may not have a deleterious impact on coordination, at least among organizations with leaders that trust one another. In fact, if coordinating with a competitor is a successful strategy for securing needed resources, or reducing administrative costs, providing trust-building opportunities for leaders of competing agencies may be one way that policy makers and public administrators can trigger more administrative efficiency in the system.

Although the findings suggest that organizations are able to simultaneously manage competition and administrative coordination, there are also potential negative, unintended consequences of this phenomenon that can impact systems, organizations, and the clients they serve. The tendency for competitors to coordinate may be desirable for increasing efficiency in administrative operations. However, over the long term, administrative coordination among competitors may give way to eventual mergers, consolidation within the sector, and the dissolution of small organizations that are unable to compete with the larger, more powerful entities. Milbourne (2009) observes that as competition drives collaboration, specialized organizations (which often are key for engaging marginalized populations in human service delivery systems) may be forced to integrate with larger agencies to maintain power and competitiveness at the expense of preserving specialized functions, cultures, and other features that enable them to carry out key roles in the system. This issue is particularly timely given resource scarcity in this challenging economic climate.

Also, coordination among competitors is a strategy that organizations use to indirectly reduce competition (Fligstein, 1996) by adapting to or pushing back against competitive environments. Individual competitors may be forced to integrate or merge to remain viable, thus competition may emerge more fiercely between collaborative groups than between individual organizations, as has been noted in other industries (Gomes-Casseres, 1994; Van

de Ven, 2005). With fewer competing entities submitting bids, individual organizations may be protected from the direct impact of competition because the risk of failure (and success) is shared.

Although reducing competition may be desirable for non-profit leaders invested in the survival of their organization, the *lack* of competition among human service organizations can be problematic for public and private funders (Smith & Smyth, 1996; Van Slyke, 2003). Competitive procurement processes are funders' controls for promoting quality, accountability, efficiency and innovation among contracted human service agencies, the effect of which may be reduced when competitors coordinate.

Limitations and Future Directions for Research

This study's findings and implications should be interpreted in light of several limitations. First, the cross-sectional data prohibit definitive inferences about causes of coordination, or how these relationships change over time. A basic cross-sectional test at one point in time is important to determine whether and how administrative coordination is associated with competition and trustworthiness. The next step in this research is to move beyond statistical control for relationship duration and examine these relationships longitudinally to establish temporal order.

Second, although the response rate was high (89%), four agencies declined to respond. While these agencies were marginal to the network in terms of administrative coordination, they may have declined to participate because leaders felt uncomfortable responding, or mistrusted the other coalition agencies. If true, the findings from this study may not be applicable to agencies that tend to be less engaged or likely to trust.

Third, these findings are limited by self-report measures. Although this study intended to examine leaders' perceptions, social desirability biases may have inflated respondents' reports of coordination or down-played competition. Also, leaders may have had difficulty recalling the amount of resources shared with partners. Developing observable measures of coordination, competition and trust would enhance the validity of this research. Also related, multiple measures of each construct, especially trustworthiness, could improve measurement. Items were culled from the survey to reduce respondent burden, which might have limited measurement reliability and validity.

Fourth, generalizability to other regions and service delivery systems has not been established. This study focuses on the children's behavioral health organizations that belong to a new self-organized coalition in one county. The findings may be an artifact of the region's political and financial environment, service needs, or the developmental stage of the network. Replication in other regions and service delivery systems at different stages of development is necessary for addressing generalizability.

Finally, the impact of administrative coordination on organizations and service delivery systems is relatively unknown (Tuckman, 1998). Future work is necessary for understanding both the motivations and impact of coordination among competing organizations. As noted, coordinating administrative functions may be a strategy for accessing needed resources,

improving efficiency, reducing competition or gaining legitimacy. Even though this study suggests that trust allows competing organizations to overcome coordination risks, it is unclear whether administrative coordination or other strategies for managing the environment are the most effective for accomplishing those goals. Moreover, the impact on the larger system is relatively unknown. What are the benefits? Does administrative coordination enhance efficiency for the whole system; facilitate care coordination among providers? To what degree must agencies coordinate their administrative functions to produce these outcomes? A robust mix of qualitative and quantitative methods is critical for understanding why organizational leaders coordinate with the competition, and the impact on organizations, services, and systems.

Conclusion

Coordinating administrative operations with the competition is not just a strategy seen in the for-profit sector. This study provides empirical evidence of administrative coordination among competing children's behavioral health agencies. The findings suggest that the burgeoning literature on "co-opetition" is applicable to the non-profit sector and opens the door for further inquiry about how agencies manage these dual pressures to coordinate and compete. The findings from this study validate that trust is a key mechanism that facilitates cooperative behavior under risky conditions, like competition.

Although it is well established that trust facilitates partnerships (e.g. Isett & Provan, 2005), the specific role that trustworthiness plays in facilitating coordination among competing organizations has not been empirically tested. This study makes a unique contribution to the knowledge by explicitly testing theoretically grounded hypotheses about dyadic partnership within the context of a whole network. The need to understand how organizations build trust, and the impact of administrative coordination on organizations and systems offer an agenda for future research on competition and coordination among non-profit human service organizations

Acknowledgments

This research was supported by a National Research Service Award Predoctoral Fellowship for Dissertation Research (F31 MH088037) and Postdoctoral Traineeship (T32 MH019117) from the National Institute of Mental Health jointly sponsored by Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill, and the Department of Psychiatry and Behavioral Sciences, Duke University Medical Center. The author wishes to thank the agencies that participated in this study, as well as the anonymous reviewers, Rebecca Wells, David Gillespie, and Bowen McBeath for their helpful comments on earlier drafts.

Biography

Alicia Bunger is an Assistant Professor at the College of Social Work at The Ohio State University. Her research interests include non-profit administration, organizations and systems, mental health services, social networks, and implementation of new practices.

References

Alter, C.; Hage, J. *Organizations Working Together*. Newbury Park, CA: Sage Publications; 1993.

- Baer WS. Competition and collaboration in online distance learning. *Information, Communication & Society*. 2000; 3(4):457–473.
- Baker WE, Faulkner RR, Fisher GA. Hazards of the market: The continuity and dissolution of interorganizational market relationships. *American Sociological Review*. 1998; 63(2):147–177.
- Blue-Howells J, McGuire J, Nakashima J. Co-location of health care services for homeless veterans: a case study of innovation in program implementation. *Social work in health care*. 2008; 47(3):219–231. [PubMed: 19042482]
- Bengtsson M, Kock S. “Coopetition” in Business Networks—to Cooperate and Compete Simultaneously. *Industrial Marketing Management*. 2000; 29(5):411–426.
- Bolland JM, Wilson JV. Three faces of integrative coordination: A model of interorganizational relations in community-based health and human services. *Health Services Research*. 1994; 29(3): 341–366. [PubMed: 8063569]
- Borgatti, SP.; Everett, MG.; Freeman, LC. *Ucinet for Windows: Software for Social Network Analysis*. Harvard, MA: Analytic Technologies; 2002.
- Brandenburger, A.; Nalebuff, BJ. *Co-opetition*. New York: Doubleday; 1996.
- Carley KM, Krackhardt D. Cognitive inconsistencies and non-symmetric friendship. *Social Networks*. 1996; 18:1–27.
- Cefola, J.; Brotsky, C.; Hanson, R. *Shared Services: A Guide to Creating Collaborative Solutions for Nonprofits*. San Francisco, CA: 2010.
- Das TK, Teng B-S. Between trust and control: Developing confidence in partner cooperation in alliances. *The Academy of Management Review*. 1998; 23(3):491–512.
- Eschenfelder B. Funder-initiated integration: Partnership challenges and strategies. *Nonprofit Management and Leadership*. 2011; 21(3):273–288.
- Faerman SR, McCaffrey DP, Slyke DMV. Understanding interorganizational cooperation: Public-private collaboration in regulating financial market innovation. *Organization Science*. 2001; 12(3): 372–388.
- Fligstein N. Markets as politics: A political-cultural approach to market institutions. *American Sociological Review*. 1996; 61(4):656–673.
- Foster-Fishman PG, Salem DA, Allen NA, Fahrbach K. Facilitating interorganizational collaboration: The contribution of interorganizational alliances. *American Journal of Community Psychology*. 2001; 29(6):875–905. [PubMed: 11800511]
- Gomes-Casseres B. Group versus group: How alliance networks compete. *Harvard Business Review*. 1994; 72(4):62–74.
- Granovetter, M. *American Journal of Sociology*. Vol. 91. The University of Chicago Press; 1985. Economic action and social structure: The problem of embeddedness; p. 481–510.
- Gulati R. Does familiarity breed trust? The implications of repeated ties for contractual choice in alliances. *The Academy of Management Journal*. 1995; 38(1):85–112.
- Gulati R, Nickerson JA. Interorganizational trust, governance choice, and exchange performance. *Organization Science*. 2008; 19(5):688–708.
- Guo C, Acar M. Understanding collaboration among nonprofit organizations: Combining resource dependency, institutional, and network perspectives. *Nonprofit and Voluntary Sector Quarterly*. 2005; 34(3):340–361.
- Haveman H. The future of organizational sociology: Forging ties among paradigms. *Contemporary Sociology*. 2000; 29:476–486.
- Hillman AJ, Withers MC, Collins BJ. Resource dependence theory: A review. *Journal of Management*. 2009; 35(6):1404–1427.
- Hodge DR, Gillespie DF. Phrase completions: An alternative to likert scales. *Social Work Research*. 2003; 27(1):45–54.
- Hodge DR, Gillespie DF. Phrase completion scales: A better measurement approach than likert scales? *Journal of Social Service Research*. 2007; 33(4):1–12.
- Hosmer LT. Trust: The connecting link between organizational theory and philosophical ethics. *Academy of Management Review*. 1995; 20(2):379–403.

- Hunt SD. Economic growth: should policy focus on investment or dynamic competition? *European Business Review*. 2007; 19(4):274–291.
- Isett KR, Provan KG. The evolution of dyadic interorganizational relationships in a network of publicly funded nonprofit agencies. *Journal of Public Administration Research and Theory*. 2005; 15(1):149–165.
- Jones C, Hesterly WS, Borgatti SP. A general theory of network governance: Exchange conditions and social mechanisms. *Academy of Management Review*. 1997; 22(4):911–945. *Academy of Management*.
- Katila R, Rosenberger JD, Eisenhardt KM. Swimming with sharks: Technology ventures, defense mechanisms and corporate relationships. *Administrative Science Quarterly*. 2008; 53(2):295–332.
- Krackhardt D. Predicting with networks: Nonparametric multiple regression analysis of dyadic data. *Social Networks*. 1988; 10:359–381.
- Krackhardt D. Assessing the political landscape: Structure, cognition, and power in organizations. *Administrative Science Quarterly*. 1990; 35(2):342–369.
- Krishnan R, Martin X, Noorderhaven NG. When does trust matter to alliance performance? *Academy of Management Journal*. 2006; 49(5):894–917.
- Lee H-W, Robertson PJ, Lewis L, Sloane D, Galloway-Gilliam L, Nomachi J. Trust in a cross-sectoral interorganizational network: An empirical investigation of antecedents. *Nonprofit and Voluntary Sector Quarterly* (Published online before print). 2011
- Martin JL. A general permutation-based QAP analysis approach for dyadic data from multiple groups. *Connections*. 1999; 22(2):50–60.
- Milbourne L. Remodelling the third sector: Advancing collaboration or competition in community-based initiatives? *Journal of Social Policy*. 2009; 38(02):277–297.
- Morrissey J, Johnsen M, Calloway M. Evaluating performance and change in mental health systems serving children and youth: An interorganizational network approach. *The Journal of Behavioral Health Services and Research*. 1997; 24(1):4–22.
- Nunnally, JC.; Bernstein, IH. *Psychometric theory*. 3rd ed.. New York: McGraw Hill; 1994.
- Peng T-JA, Bourne M. The coexistence of competition and cooperation between networks: Implications from two Taiwanese healthcare networks. *British Journal of Management*. 2009; 20(3):377–400.
- Pfeffer, J.; Salancik, GR. *The External control of organizations: A resource dependence perspective*. Stanford, CA: Stanford University Press; 2003.
- Provan KG, Nakama L, Veazie MA, Teufel-Shone NI, Huddleston C. Building community capacity around chronic disease services through a collaborative interorganizational network. *Health Education and Behavior*. 2003; 30(6):646–662. [PubMed: 14655861]
- Reitan TC. Theories of interorganizational relations in the human services. *Social Service Review*. 1998; 9:285–309.
- Ritchie WJ, Kolodinsky RW, Eastwood K. Does executive intuition matter? An empirical analysis of its relationship with nonprofit organization financial performance. *Nonprofit and Voluntary Sector Quarterly*. 2007; 36(1):140–155.
- Rivard JC, Morrissey J. Factors associated with interagency coordination in a child mental health service system demonstration. *Administration and Policy in Mental Health and Mental Health Services Research*. 2003; 30(5):397–415. [PubMed: 12940683]
- Rousseau DM, Sitkin SB, Burt RS, Camerer C. Not so different after all: A cross-discipline view of trust. *Academy of Management Review*. 1998; 23(3):393–404.
- Sandfort, JR. Human service organizational technology: Improving understanding and advancing research. In: Hasenfeld, Y., editor. *Human Services as Complex Organizations*. 2nd ed.. Thousand Oaks, CA: Sage Publications, Inc; 2010. p. 269–290.
- Substance Abuse and Mental Health Services Administration. Report to Congress on the Prevention and Treatment of Co-Occurring Substance Abuse Disorders and Mental Disorders. Washington DC: US Department of Health and Human Services; 2002. Retrieved May 4, 2011 from <http://www.samhsa.gov/reports/congress2002/index.html>

- Shortell, SM.; Gillies, R.; Anderson, DA.; Erickson, KM.; Mitchell, JB. *Remaking Health Care in America: The Evolution of Organized Delivery Systems*. 2nd ed.. San Francisco, CA: Jossey-Bass; 2000.
- Shumate M, Fulk J, Monge P. Predictors of the international HIV-AIDS INGO network over time. *Human Communication Research*. 2005; 31(4):482–510.
- Smircich L, Stubbart C. Strategic management in an enacted world. *The Academy of Management Review*. 1985; 10(4):724–736.
- Smith, SR. Chapter 8: The political economy of contracting and competition. In: Hasenfeld, Y., editor. *Human Services as Complex Organizations*. 2nd ed.. Thousand Oaks, CA: Sage Publications, Inc; 2010. p. 139-160.
- Smith SR, Smyth J. Contracting for services in a decentralized system. *Journal of Public Administration Research and Theory*. 1996; 6(2):277–296.
- Snavely K, Tracy MB. Development of trust in rural nonprofit collaborations. *Nonprofit and Voluntary Sector Quarterly*. 2002; 31(1):62–83.
- Stroul, BA.; Friedman, RM. *A System of Care for Children and Youth with Severe Emotional Disturbances*. Washington DC: Georgetown University Child Development Center; 1986.
- Trapido D. Competitive embeddedness and the emergence of interfirm cooperation. *Social Forces*. 2007; 86(1):165–191.
- Tsasis P. The social processes of interorganizational collaboration and conflict in nonprofit organizations. *Nonprofit Management and Leadership*. 2009; 20(1):5–21.
- Tuckman HP. Competition, commercialization, and the evolution of nonprofit organizational structures. *Journal of Policy Analysis and Management*. 1998; 17(2):175–194.
- Uzzi B. Social structure and competition in interfirm networks: The paradox of embeddedness. *Administrative Science Quarterly*. 1997; 42(1):35–67.
- Valente TW, Coronges KA, Stevens GD, Cousineau MR. Collaboration and competition in a childrens health initiative coalition: a network analysis. *Evaluation and program planning*. 2008; 31(4):392–402. [PubMed: 18639933]
- Van De Ven, AH.; Ferry, D. *Measuring and Assessing Organizations*. New York: Wiley Interscience; 1980.
- Van de Ven AH. Running in packs to develop knowledge-intensive technologies. *MIS Quarterly*. 2005; 29(2):365–378.
- Van Slyke DM. The mythology of privatization in contracting for social services. *Public Administration Review*. 2003; 63(3):296–315.
- Vangen S, Huxham C. Enacting leadership for collaborative advantage: Dilemmas of ideology and pragmatism in the activities of partnership managers. *British Journal of Management*. 2003a; 14(Supplement):S61–S76.
- Vangen S, Huxham C. Nurturing collaborative relations: Building trust in interorganizational collaboration. *The Journal of Applied Behavioral Science*. 2003b; 39(1):5–31.
- Wasserman, S.; Faust, K. *Social Network Analysis: Methods and Applications*. New York: Cambridge University Press; 1994.
- Zaheer A, McEvily B, Perrone V. Does trust matter? Exploring the effects of interorganizational and interpersonal trust on performance. *Organization Science*. 1998; 9(2):141–159.

Figure 1.
Conceptual Framework

Table 1

Univariate and Bivariate Results

Variable	Definition	Univariate Results	Bivariate (QAP) Correlation (<i>p</i> -value in parentheses)					
			1	2	3	4	5	6
1 Admin. Coordination	The degree to which organizations exchange resources (funding, space and staff expertise) within the past 6 months.	N=992 Mean: .5 SD: 1.1 Range: 0–9	--	.26*** (.00)	.26*** (.00)	.11* (.03)	.01 (.14)	.23*** (.00)
2 Competition	Degree to which partners compete for similar resources (funding, clients & staff)	N= 974 Mean: 1.2 SD: .2 Range: 1–1.8	--	--	.19* (.02)	.02 (.40)	.17+ (.07)	.29* (.02)
3 Trustworthiness	Degree to which partners perceive one another as trustworthy.	N= 948 Mean: 9.9 SD: 1.1 Range: 0–20	--	--	--	-.01 (.27)	.11 (.15)	.15+ (.06)
4 Size	Number of Staff (full and part time)	N= 992 Mean: 160.4 SD: 166.8 Range: 3–730	--	--	--	--	.13 (.26)	.11 (.23)
5 Financial Performance	Proportion of net gains or losses to total revenue (3 year average)	N= 992 Mean: .9 SD: .1 Range: .5–1.1	--	--	--	--	--	.09 (.31)
6 Duration	Approximate duration of previous working relationship (ordinal)	N=992 Mean: 1.5 SD: 2.4 Range: 0–7	--	--	--	--	--	--

+ $p < .10$ * $p < .05$;** $p < .01$;*** $p < .001$

Table 2

Predictors of Administrative Coordination (standardized coefficients) (n=936)

	Model 1 – Baseline		Model 2 –Moderation	
	B	SE	B	SE
Competition	.18 **	.24	-.21 ⁺	.32
Trustworthiness	.22 **	.35	.12 ⁺	.26
Trustworthiness*Competition			.44 **	.29
Duration	.14 *	.35	.15 *	.24
Size	.11 ⁺	.28	.11 ⁺	.23
Financial Performance	-.08	.28	-.07	.28
R ²	.15		.17	

**
p<.001*
p<.01⁺
p<.05