Characteristics of Effective Leadership Networks

Summary of Results and Implications

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Objectives

Undertaken during the 2014-15 school year as part of the LSA: Networks for Learning annual evaluation, this study had three purposes:

- To identify the characteristics of effective school leadership networks or Principal Learning Teams;
- To determine the contributions of such networks to the capacity development of individual members; and
- To assess the relative contribution to individual capacity development of networks, as compared with other typical sources of such development.

“Principal Learning Teams” have been strongly advocated as a source of professional learning by the LSA project for the past eight years and most members now belong to at least one such network typically based in their own districts. Annual project evaluations conducted over the life of the LSA project indicate that participation in these networks is consistently rated by members as among the most useful sources of their own professional growth. A desire by the project Steering Team to offer practical, evidence-based guidance to members about how to further improve the productivity of their networks was the primary motivation giving rise to this study.

Framework

The framework which guided this study was developed from an extensive review of existing evidence about effective networks in both school and other organizational contexts. Figure 1, summarizing this framework, proposes a set of relationships among six constructs.
Network Leadership influences the other three network constructs - Structure, Health and Connectivity. These three constructs interact with one another and the status or condition of these constructs account for variation in both cognitive and affective Network Outcomes. Not all Network Outcomes are either intended or desirable, however. The number and nature of Unintended Challenges may influence the positive effects of network characteristics on Network Outcomes.

While a detailed description of prior evidence about each of the constructs in this framework is provided in the full report of the study, later sections of this summary provide a brief synopsis of that prior evidence, in combination with the results of this study.

Figure 1: Conceptual Framework

Research Methods

Evidence for the study was provided by responses to a 53 closed-item survey by 450 members of LSA Principal Learning Teams. Building on prior research and the results of a focus group interview with LSA members, survey questions asked about the status of each of the
constructs in the framework in respondents’ own networks. The survey was administered in paper form to those attending an annual LSA project symposium and was available on-line to symposium participants, as well as all other project members not in attendance. Analysis of survey responses included the calculation of means and standard deviations for all items and scales. Scale reliabilities were computed (all scales met acceptable standards) and correlations estimated among all constructs measured by the survey. Causal relationships among constructs in the framework were tested using path-analytic techniques (results largely support those relationships).

The next section provides a brief description of prior evidence for each construct included in the framework and descriptions of the mean or average responses to many of the survey items. A four point scale was used with all of these items (1 = the lowest rating while 4 = the highest rating).

**The Current Status of Leadership Networks**

**Network Leadership**

*Prior research*

The concept of network leadership is very much contested. So our purpose was not to represent it sufficiently to test its contribution to network outcomes. We selected four characteristics which are endorsed by evidence about both individual and network leadership. Such leadership, this evidence indicates:

- *Is widely shared.* Peer leadership networks are typically networks of equals, so the role of network leadership often changes over time – both formal and emerging leadership - sometimes as members volunteer to undertake particular tasks on behalf of their colleagues. A considerable amount of recent leadership research, both in schools and other organizations, has argued that shared or distributed leadership is common in individual organizational units as well as in networks and some of that research provides evidence that at least coordinated forms of such distribution enhance organizational effectiveness.

- *Creates a clear and widely shared sense of purpose and focus.* Leadership is important to a network when it fosters members’ clarity and agreement about their collective reasons for interacting. Communicating goals and accomplishments as well as establishing agreement on the
nature of tasks receives more attention in networks than in single organizational units. Evidence from the considerable body of research about effective leadership indicates that direction-setting practices on the part of leaders have significant effects on a range of consequential organizational effects.

- *Monitors network progress.* A leadership network typically includes members bringing a wide range of interests to network interactions. Unlike members of single unit organizations, furthermore, there is no bureaucratic mechanism or well-defined incentive for ensuring concerted action in pursuit of common purposes. For these reasons, monitoring network activity becomes an especially important and challenging network leadership practice. Network monitoring is also the basis for demonstrating network accountability in addition to feeding back information to network members so they can assess and modify their activities to better realize collective purposes.

- *Provides support.* Leadership can encourage and inspire others without preventing them from sharing leadership. Network leadership support can take many forms, for example, locating resources needed for network tasks, encouraging stakeholder support, facilitating connections with sources of needed expertise, providing advice about a member’s own organizational challenges, serving as a model of successful approaches to leadership, and offering encouragement. Some evidence indicates that network leadership is significantly more people-than-task-oriented, as compared with single unit leadership.

**Current study**

The five items measuring Network Leadership in this study received similar and relatively strong ratings ranging from 2.82 (monitors progress) to 3.08 (reinforces the vision and focus for our work). Perceptions about the nature of their networks’ leadership were relatively consistent among survey respondents. There are significant relationships (correlations) between Network Leadership and the other five variables in the framework guiding the study. These relationships are relatively large with respect to Network Health (.78), Network Connectivity (.68) and Network Outcomes (.59), weak but significant with Network Structure (.11) and moderate but negative with Unintended Challenges (-.38). Network Leadership effects, as a whole, account for a little more than half of the variation in network outcomes among the variables in our model of effective networks.
Network Health

Prior research

Characteristics of network health included in our framework are threefold:

- **Explicit purpose with clear expectations.** Through the efforts of network leaders or by some other means, effective networks have an explicit purpose, clear expectations and develop more specific goals linked to identifiable groups. Priorities should be kept simple, concise and clear, and limited to a small number of achievable goals at a time. Extensive evidence in the educational leadership literature also points to the importance of a positive and inspiring vision, widely accepted, shared and focused on raising the achievement of all students and closing the achievement gap between successful and underachieving students.

- **Effective communication mechanisms.** Effective networks create a variety of communication mechanisms to foster knowledge exchange and development including, for example, peer-to-peer collaboration, expert input, face-to-face contacts and events such as conferences, symposia etc. Emerging from research on effective communication mechanisms in networks is advocacy for comprehensive approaches which incorporate both traditional approaches and 21st century social media tools. Comprehensive approaches to communication increase knowledge sharing opportunities, as well as achieving higher levels of transparency, an important contribution to trust building within and across networks.

- **Collaborative environments and trusting relationships.** Effective networks encourage strong collaborative relationships with like-minded individuals working within and across organizations. Networks such as these provide time for collaboration between and among groups, align resources to meet group goals, and support the flow of adequate resources within and across groups. Conditions likely to increase the value of collaboration for network members include clear goals for collaboration, members’ direct engagement in one another’s thinking and a focus on the application of new knowledge to authentic problems of practice. Reciprocal trust is a key precondition for productive collaboration within leadership networks.

Current study

Responses to four of the ten items measuring Network Health were rated above 3 on the 4 point response scale. Respondents perceived high levels of trust among their network colleagues (m = 3.23), opportunities to share and discuss problems of practice (m = 3.21), multiple ways of connecting with colleagues (m = 3.16) and encouragement for surfacing and challenging
disagreements and alternative perspectives (m = 3.08). The lowest rated of the remaining six items concerns monitoring progress (m = 2.63), a function also rated lowest among items in the scale measuring Network Leadership. Network Health is strongly related to Network Outcomes (a correlation of .68). The direct effect of Network Health on Network Outcomes is second only to Network Leadership.

**Network Structure**

*Prior Research*

The conceptualization of network structure was defined by two primary characteristics—network size and selected characteristics of network members.

- **Size.** Effective networks are organized and structured to include everyone who has a contribution to make towards the organization goals, objectives and performance. Network size influences the structure of network relationships and the availability, access, and flow of resources but there is little evidence about optimum network size.

- **Member characteristics.** Characteristics that matter are those which can influence the flow of social capital within and across a network, a function of members’ “centrality” in their networks (e.g., advice centrality, friendship centrality). The two member background characteristics included in the framework for this study were the range of members’ formal leadership positions, and years’ experience in a formal leadership role.

*Current study*

The average size of the leadership networks in this study was in the 10 to 15 range, while the number of different positions in these networks was between 3 and 4. Supplementary data indicate that survey respondents occupied more than six different positions in their districts or schools. The largest majority (72.3%) were elementary principals, the remainder included elementary vice-principals (7.5%), secondary principals (7%), secondary vice-principals (4.4%), system principals (4.4%), superintendents (2.9%) and “other” positions (1.5%). On average, these respondents had between three and four years of experience in school or district leadership roles. Neither size nor range of formal leadership positions in a network seemed to matter much to a network’s effectiveness. Network Structure was unrelated to three other variables in the framework and significantly but weakly related to two - Network Leadership (correlation of .11) and Network Connectivity (correlation of .23).
Network Connectivity

**Prior research**

Connectivity refers to the nature and extent of relations among network members, as well as with others from time-to-time. Increased connectivity “fosters information propagation, enhances information flow, and influences how effectively individuals can act and plan future activities”\(^{iii}\) Some evidence suggests that denser ties among network members are more effective for preserving and maintaining resources, while weaker ties may be more effective for obtaining new resources. Effective network connectivity aligns relationships to facilitate organizational objectives and performance. Networks which accomplish such alignment have at least four features.

- **Frequency.** One of these features is the frequency of interactions among members aimed at sharing of information, ideas and resources. Frequency of interaction depends significantly on the centrality of a member in his or her network. Network connectivity aims to provide opportunities for frequent interactions among network participants by creating formal, planned opportunities for such interaction.

- **Local knowledge.** A second feature of effective network connectivity is access to useful local knowledge and experience. Effective leadership networks provide members with opportunities to share knowledge. Newly appointed school leaders, for example, are able to learn from their more experienced local colleagues with whom they would otherwise have little or no contact.

- **External expertise.** While much of the value of networks is attributed to the sharing of information among members and the learning that occurs through such sharing, cross fertilization of member-only knowledge will not always be sufficient to solve some of the problems of practice with which network members grapple. In such cases, effective networks also search for expertise outside the network in the form of facilitators or other extra-network connections.

**Current study**

The six items measuring Network Connectivity were less highly rated, as a whole, than those items measuring either Network Leadership or Network Health. However, opportunities for both collaboration with peers, and opportunities for new principals to interact with their more
experienced colleagues were viewed quite positively (m = 3.06 and m = 2.98). Rated lowest among the six items was “I interact with at least some other members of my network at least weekly, if not more frequently” (m = 2.36).

Network Connectivity has moderate to strong relationships with Network Outcomes (.62) and is associated significantly with the two other mediators in our framework, Network Structure (.23) and especially Network Health (.74). The total effects of Network Connectivity on Network Outcomes ($R^2 = .46$) rivals the effects of Network Leadership and Network Health.

**Network Outcomes**

*Prior evidence*

Networks of principals in districts may serve multiple goals. However, the primary goal in this study was limited to the development of the professional capacities of their individual members (the proximal goal) in order to provide more effective leadership in individual schools (the distal goal). This focus was influenced by the expectations for networking in the LSA project context giving rise to the study; it was also based on the assumption that at least many of the broader group and organizational outcomes as, for example, changes in classroom instruction across a district depend on the achievement of individual-level outcomes of the type selected for this study.

Two sets of individual-level outcomes were part of this variable.

- **Cognitive outcomes** included a sample of individual professional capacities and understandings ranging from specific strategies for school improvement and the provision of instructional support to teachers, to broader understandings about both district and provincial initiatives.

- **Affective or emotional outcomes** included three variables which considerable evidence suggests contribute to school leader effectiveness including job satisfaction, organizational commitment and professional self-efficacy.

*Current study*

Survey results about Network Outcomes (4 point scale) indicate that, in general, respondents were very positive about the consequences of their network participation. Respondents reported learning a great deal from their network participation (m = 3.20). This learning was not only generally useful to their leadership efforts (m = 3.14), it also provided
them with quite specific strategies to use in their school improvement work (m = 3.05). Network participation gave respondents a broader understanding of their districts’ improvement initiatives, increased their commitment to improvement work in their schools (m = 3.02) and served as an important source of their job satisfaction (m = 3.02).

**Unintended Challenges**

*Prior evidence*

The framework included Unintended Challenges, a variable not investigated to our knowledge in other research on networks and their effects. Unintended Challenges captures a selection of some of the often unanticipated difficulties and frustrations that network members encounter as part of their network membership. These challenges may arise from outside the network. One example of a challenge is micro management of the network by district office leaders. More frequently the challenges are internal to the network itself (e.g., reduction in time for members to work in their own individual organizations). Specific challenges included in the study were based on the results of the focus group interview with LSA members.

*Current study*

Eight items were included in the scale measuring Unintended Challenges. None of these challenges dominated the thinking of participants about the functioning of their networks. Rated highest (but still relatively low) was “Reduces time available to work in my own school” (m = 2.17) followed by “Meetings which focus mostly on providing information rather than problem solving” (m = 2.10). There were significant negative correlations between unintended challenges and network leadership (-.38), network health (-.51), network connectivity (-.32) and network outcomes (-.43). Unintended Challenges had quite small and negative effects on network outcomes.

**Networks as Sources of School Leaders’ Learning.**

Results described to this point indicate that under conditions specified in the study’s framework, leadership networks are significant sources of professional capacity development for individual network members. But how do networks compare with other commonly available sources? The survey asked respondents to rate eleven such sources (4 point scale) including
participation in a leadership network. Principal networks (“my principal learning team”) are the second highest rated source (m = 3.01), edged out of first place by individual professional reading (m = 3.15). Central office leaders with close knowledge of one’s school (m = 2.88) and one or more staff members (2.88) are also rated relatively highly, as is district-sponsored professional development (m = 2.76). University-sponsored professional development programs (m = 1.72) trail all other sources by a wide margin.

Four Implications for Practice

1. *Networks as key sources of professional learning*

   Evidence about the relative value of sources of leaders’ learning provides significant justification for including leadership networks as a key part of districts’ overall plans for ongoing school leadership development. However, simply creating network structures provides no guarantee of such development. The capacity-development potential of networks depends on their alignment with the characteristics of effective networks described in this paper. Absent a large proportion of these features, networks are likely to be a waste of members’ time.

2. *Training for network leadership*

   Substantial resources are now devoted to programs and other interventions, such as mentoring, coaching and internships, designed to develop single unit leadership. Unless systematic initiatives are also undertaken to further develop the capacities needed for effective network leadership, the significant time and money spent on leadership networks in districts is likely to have disappointing results. Such initiatives should, in particular, help prepare network leaders to foster the forms of collaboration (described in the section on Network health) that are so central to professional capacity development.

3. *Specific features of productive collaboration*

   The conception and measure of Network Health in this study reflect the strong collaborative relationships with like-minded individuals working within and across organizations that the small amount of previous evidence associates with productive network. There is very little evidence, however, about whether or not the forms of collaboration generally found in leadership networks within districts are capable of significantly developing the professional capacities of their members. Indeed the outcomes of collaboration, more generally, are less well
documented than is often believed.

Attending to the specific qualities of collaboration is an important practical implication of our results and there are two lines of evidence that shed light on what this entails. One line of evidence is about the “dark side” of collaboration. Under some conditions collaboration may, for example, empower network members to more effectively resist potentially valuable changes in their practices; increase the time and resources required for decision making; nurture confusion and uncertainty about priorities; reduce openness to robust evidence from external sources; create in-groups and out-groups; allow for social loafing (some people become free-riders while other do all the work), and provide fertile grounds for “groupthink”. Attending to the quality of network health entails explicit attention to these dark side features and how they can be managed.

A second line of evidence directly relevant to the quality of network collaboration is about the conditions needed for the outcomes of collaborative learning to exceed the outcomes of individual learning. Only under quite specific conditions do the contributions of collaborative learning processes exceed the contributions of individual learning processes. Those conditions include network members directly engaging one another’s thinking, listening and actively responding to what their peers say, and developing shared representations of their problems of practice. Optimal forms of collaborative learning also require constant efforts to apply new concepts. The extensive line of theory and research about knowledge building processes would add to these conditions, for example, the value of treating all or most ideas as improvable, shared responsibility by all network members for knowledge advancement (no free riders), and consistent use of authoritative sources (e.g., relevant research) to further network members capacities.

In relation to leadership networks aiming to further develop the professional capacities of their members, the main implication for practice is to intentionally monitor and ameliorate dark side conditions, as well as explicitly encouraging the positive conditions for collaborative learning outlined above. The main implication for future research about network health is to explicitly measure those conditions that both detract from (dark side variables) and foster collaborative knowledge building among network members.

4. **Face-to-face interactions as a priority for relatively small networks and technology assistance for relatively large networks**
In relatively small networks, members’ connection to colleagues can and should be largely face-to-face because of the hard-to-duplicate rich interactions with colleagues and others that lead to significant professional capacity development. Face-to-face interactions are much harder to arrange in relatively large networks, however, relying much more on technology. However, larger networks can be useful because of the increased range of ideas potentially available. This is especially likely when those technology-assisted interactions include systematic support for community knowledge building as, for example, the Knowledge Forum software associated with Scardamalia and Bereiter’s (2006) approach to knowledge building.

Conclusion

This study provides solid support for the value attributed PLTs by their members, as many years of LSA: Networks for Learning evaluations have demonstrated. In addition to verifying this judgement about the value of networks, results point to features of networks that warrant special attention on the part of those responsible for refining their PLT’s functioning.
References


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i For a full report of the study contact:
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ii Aboelela, 2007, p. 11

iii See Kuhn (2015) for more details about productive collaboration.


v For compelling evidence on this point, see Pentland (2014, pp 69-71).