

TRAINING CIVIC BRIDGE BUILDERS:
OUTCOMES OF COMMUNITY LEADERSHIP DEVELOPMENT PROGRAMS

BY

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DISSERTATION

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ABSTRACT

As rural communities experience rapid economic, demographic, and political change, program interventions that focus on the development of community leadership capacity could be valuable. Community leadership development programs have been deployed in rural U.S. communities for the past 30 years by university extension units, chambers of commerce, and other nonprofit foundations. Prior research on program outcomes has largely focused on trainees' self-reported change in individual leadership knowledge, skills, and attitudes. However, postindustrial leadership theories suggest that leadership in the community relies not on individuals but on social relationships that develop across groups akin to social bridging. The purpose of this study is to extend and strengthen prior evaluative research on community leadership development programs by examining program effects on opportunities to develop bridging social capital using more rigorous methods. Data from a quasi-experimental study of rural community leaders ($n = 768$) in six states are used to isolate unique program effects on individual changes in both cognitive and behavioral community leadership outcomes. Regression modeling shows that participation in community leadership development programs is associated with increased leadership development in knowledge, skills, attitudes, and behaviors that are a catalyst for social bridging. The community capitals framework is used to show that program participants are significantly more likely to broaden their span of involvement across community capital asset areas over time compared to non-participants. Data on specific program structure elements show that skills training may be important for cognitive outcomes while community development learning and group projects are important for changes in organizational behavior. Suggestions for community leadership program practitioners are presented.

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CHAPTER 1: INTRODUCTION

Global market dynamics combined with decentralization of federal government programs for community service have forced small, local communities to be creative in their own economic and social problem-solving. In the spirit of asset-based and self-help community development (Green & Haines, 2002; Kretzmann & McKnight, 1993; Robinson & Green, 2011), one strategy being pursued by an increasing number of communities is the deliberate identification and cultivation of a cadre of local citizens to serve in leadership roles for community development.

Cultivation of community leaders often takes the form of formal training programs designed by a network of local citizens, broadly known as community leadership development programs (CLDP's). CLDP's are typically designed and delivered by university extension units, local chambers of commerce, or other nonprofit institutions that focus on local or regional community development. Programs aim to increase human capital and both bonding and bridging social capital (Flora & Flora, 2008; Pigg, 2001; Putnam, 2000) in the community. Bonding social capital is found in homogenous groups and is used for reinforcing identities and values. Bridging social capital is found in more inclusive social networks and is the norms of trust that tie people in dissimilar networks together, often across some kind of 'social cleavage' such as differences in race, class, sex, or age. Social bridging can also be found across groups that differ in political orientation, community interest, or tenure in the community. Since leadership at the community level requires collective action and influence relationships among different networks and organizations, the outcomes of program interventions should be evaluated for their effect on opportunities to develop bridging. *The study presented here examines the cognitive and behavioral outcomes of participants in CLDP's with a focus on bridging social capital.*

Significance of Study

As the number of CLDP's has grown over the past three decades, so too has interest in studying the participants, designs, and outcomes of these programs, reflecting both academic and policy concerns (Black, 2006; Black & Earnest, 2007, 2009; Black, Metzler, & Waldrum, 2006; Bono, Shen, & Snyder, 2010; Duehr, Bono, & Snyder, 2004; Earnest, 1996; Emery, Fernandez, Gutierrez-Montes, & Flora, 2007; Kelsey & Wall, 2003; Pigg, 2001; Rasmussen, Armstrong, & Chazdon, 2011; Rohs & Langone, 1993; Walker & Gray, 2009). The research presented here will not only contribute to this literature by examining leadership development of individuals, but it does so by taking a more relevant theoretical approach and a more rigorous analytical approach.

Only one other study to date has recognized the need to evaluate CLDP's for their impact on bridging social capital (Rasmussen et al., 2011). Rasmussen et al. (2011) used only one county (n = 20 participants) and used data from past program participants only. The research presented here isolates the effects of CLDP's by using a comparison group design and by using one of the largest sample sizes of any similar study (n = 768). The current study uses data from multiple types of CLDP's across rural counties in six states and, with imputation for missing data, examines both cognitive and behavioral outcomes for the same cohort. The current study also controls for individual characteristics and for county-level variation, adding strength to findings for CLDP effects. Moreover, the current study is the first of its kind to use the community capitals framework (Flora & Flora, 2008) to analyze data on different types of community organizations. The growth in the number of community capital asset areas of involvement after program participation is viewed as an indicator of increased opportunities to develop bridging social capital in the community.

Research Questions

Using survey data collected in 2008 from the EXCEL Community Leadership Survey (Pigg, 2001), the goal of this research is to determine whether community leadership development programs actually facilitate change. Specifically, this study will examine three main questions. First, *does participation in community leadership development programs affect participants' leadership development?* Leadership development here will be considered as both cognitive change (i.e., knowledge, skills, and attitudes about community leadership) and behavioral change (i.e., organizational involvement). Second, *does participation in community leadership development programs increase opportunities for developing bridging social capital in communities?* Finally, the study also informs the question *are variations in program structure associated with specific types of change in leadership development and in opportunities for developing bridging social capital?* Study results are expected to be meaningful for practitioners who design and deliver community leadership development programs.

Organization of Study

The purpose of the study presented here is to determine if participation in community leadership development programs uniquely facilitates change in individuals' community leadership cognitions and behaviors from the perspective of opportunities to develop bridging social capital.

Chapter 2 presents a review of the literature that is relevant to the current study of the outcomes of community leadership development programs. First, Chapter 2 gives an overview of three inter-related theoretical bases for the current study: interactional field theory, social capital theory and its extension into community capitals framework, and leadership and leadership development paradigms. The second part of Chapter 2 describes recent empirical studies that

have examined both cognitive and behavioral outcomes of CLDP and shows how the current study addresses prior methodological shortcomings.

Chapter 3 describes in detail the methods that are used in the analyses and includes descriptions of the sample, the data, and the measures. This chapter also describes how the community capitals framework is employed as a mechanism for analyzing data on community organizations. The plan for statistical analyses and regression modeling is also presented.

Chapter 4 presents results from the analyses of both cognitive and behavioral community leadership outcomes with a focus on specific CLDP effects. Findings from the study on program structure variables on trainee outcomes are also presented.

An overall discussion of findings is presented in Chapter 5. Study limitations and suggestions for community development practitioners are also presented in Chapter 5.

CHAPTER 2: LITERATURE REVIEW

This chapter will first review the major theoretical foundations that undergird the current study of community leadership development programs. Next, a discussion of the relevant prior research will be presented followed by an outline of the specific research questions in this study.

Theoretical Foundations for Community Leadership

As does much work in community studies, research in community leadership development draws from multiple theoretical areas, coming from sociological, psychological, economic and other perspectives. From a definitional standpoint, both *community* and *leadership* continue to be hotly debated in the academic literature. Under these conditions, it becomes problematic to design programs to develop these very constructs. Nonetheless, it is helpful to deconstruct the notion of *community leadership development* using three theoretical areas and the relevant concepts associated with each domain. The proposed research is grounded in interactional field theory, specific aspects of social capital theory, and emerging areas of leadership theory.

Interactional field theory. This study views community as an interactional field where geographic space is essential. Kaufman (1959) first advanced the conception of community as an interactional field by stressing the importance of organizations. The community field “consists of an organization of actions carried on by persons working through various associations or groups” (Kaufman, 1959, p. 10). Kaufman (1959) asserts that the essential, distinctive process of the community field “is that of generalization across interest lines” (p. 10). Interest fields are limited in scope (e.g., church groups, arts council, farmer co-op) while the community field is general and emerges as these groups come together to address a common issue (e.g., poverty).

Interactional field theory stresses integration and coordination among groups, and analysis of community leadership is central.

Wilkinson (1970, 1991) advanced interactional field theory and looked particularly at community leadership. According to Wilkinson (1991), “the community field abstracts and combines the locality-relevant aspects of disparate social fields and integrates them into a generalized whole” (p. 36). Wilkinson (1991) suggests that the process of integrating separate interest fields into a “generalized whole” occurs when people act in “community leadership roles” (p. 90). Furthermore, people acting in these roles do not need to occupy positions in order to be involved in leadership. This aligns with postindustrial leadership paradigms discussed later.

According to Wilkinson’s (1991) theory, community development is a process in which local actors attempt deliberately to create or to strengthen social networks in order to work together to solve their community problems and express their shared interest in the locality (p. 93). Interactional field theory views development as a process, not an outcome, and suggests that it occurs when people attend explicitly to the relationships among themselves and try in some way to alter those relationships, specifically to increase the generality of relationships (Wilkinson, 1991, p. 95). This idea of building community relationships is, essentially, the development of stocks of social capital.

Increasing “generality” in relationships can be found, says Wilkinson (1972), in as simple an act as “introducing a leader in one interest field to a leader in another” (p. 48). When this is done purposively, it is considered community development. It is also, arguably, an operationalization of bridging social capital – a basis upon which community leadership programs can be designed. Indeed, Wilkinson has warned that leadership education programs that focus on individual skills and efforts may lead to fragmented community-building. Instead

community leadership education should focus on skills and networks that build community structure.

The interactional field theory of community with its emphasis on locale, dynamic inter-relationships among groups, and generalization across interest fields makes it an appropriate framework for the study of community leadership development. Though interactional field theory relies on social interaction in communities of place and the power of relationships, it does not fully address the processes by which those relationships operate. For that, social capital theory is a helpful corollary.

Social capital theory. The research presented here is based in part on Putnam's version of social capital theory and focuses on the importance of bridging social capital (Putnam, 1993, 2000). The community capitals framework (Flora & Flora, 2008) will also be employed as a useful extension in analyzing community development efforts.

Putnam (1993) defines social capital as "the features of social organization such as networks, norms, and trust that facilitate coordination and cooperation for mutual benefit" (p. 35-36). Clearly Putnam's focus is on the benefits to members of society that accrue by working together. As such, Putnam's work is essential for studies of community leadership development. He suggests that a community can have more or less of a stock of social capital; the more it has, the easier it may be to address challenges on its agenda. One of the main goals of community leadership development efforts is just that: to grow the community's stock of social capital so that it can be leveraged to improve other community assets.

For Putnam, social capital is embodied in norms and networks of civic engagement. Networks of civic engagement embody past success that can serve as a template for future collaboration. This aligns with interactional field theory wherein changes to the structure of the

community field change community capacity. This notion, too, is relevant to community leadership development efforts that are designed as annual academies and that engage program alumni to remain active in solving community problems. Putman asserts that successful collaboration in one endeavor builds connections and trust that facilitate future collaboration in unrelated areas.

Putnam defines two types of social capital: bonding and bridging. Bonding social capital is found in homogenous groups and is used for reinforcing identities and values (Putnam 2000). The group similarities may be in class, kinship, ethnicity, gender, or other social characteristics. It is by nature, exclusive. It is useful for supporting specific reciprocity and mobilizing solidarity. Bridging social capital is found in more inclusive networks. It ties people in dissimilar networks together, often across some kind of 'social cleavage' such as differences in race, class, gender, religion, age, or tenure in the community (Putnam, 2000). Put in terms of interactional field theory, the more inclusive the social networks in a community, the more community development becomes possible. That is, the more bridging, the more development potential.

Further, bridging social capital links people and groups to each other inside the community and to groups outside the community. It connects groups to external assets and facilitates information diffusion and diversity of ideas. Such cross-cutting links are important for breaking down inequalities of power and access (Flora & Flora, 2008). Putnam carefully points out that bonding and bridging are not mutually exclusive categories into which social networks can be divided. Rather, bonding and bridging are relative – dimensions along which different forms of social capital can be compared (Putnam, 2000). Organizations can simultaneously foster bonding and bridging. It is the bridging form of social capital that is central to the research proposed here.

Flora and Flora (2008) have offered a helpful typology of the dimensions of bonding and bridging social capital. Levels of both bonding and bridging in the community can theoretically be plotted along these two dimensions. Communities plotted in the quadrant containing high levels of both bonding and bridging are said to feature “progressive participation” (Flora & Flora, 2008, p. 126)¹. They are communities that, more often than not, make decisions for the common good. There are four characteristics of networks that build bridging social capital. These networks have horizontal dimensions, vertical dimensions, flexibility, and open boundaries (Flora & Flora, 2008, p. 127). Flora and Flora (2008) assert that communities that are high on both bridging and bonding social capital “are poised for action, able to engage the community field” (p. 131).

Community capitals framework. The community capitals framework (CCF) as developed by Flora and Flora (2008) serves as a highly useful extension of the capitals approach to community and is an effective rubric for designing, analyzing, and evaluating community development efforts (Figure 1.0). According to the CCF, capital includes resources used to create new resources. Small rural communities must turn resources into different forms of capital, first by identifying them and then by investing in them. The CCF recognizes seven capitals: natural, cultural, human, social, political, financial, and built. According to the framework, outcomes of strong and overlapping community capitals are healthy ecosystems, vibrant economies, and social inclusion. The research presented here will use the CCF as a method of analyzing survey data about the types of community organizations that community leaders engage in.

¹ Flora and Flora (2008: 126-131) have labeled all four quadrants in the bonding/bridging typology. High bonding and bridging is discussed above. High bridging but low bonding results in clientelism, whereby communities make decisions based on outside power holders. Low bridging but high bonding, by contrast, would result in ‘strong boundaries’ where particularistic internal investments are made based on closed networks. Both low bonding and bridging (i.e., very little if any social capital) would result in extreme individualism, according to the typology.

Further, the concept of “spiraling-up” (Emery & Flora, 2006) represents a process by which assets gained increase the likelihood that other assets will be gained. Spiraling-up is a cumulative causation process in which asset growth becomes a self-reinforcing cycle of increasing opportunity and community well-being. In their study of the outcomes of a community leadership program in one Midwestern state, Emery and Flora (2006) found from qualitative data that the best entry point to spiraling-up was bridging social capital.

Leadership paradigms for community. The research presented here views community as an interactional field where cooperation and social bridging among organizations is the key to developing the community. This view aligns with postindustrial leadership paradigms which depart from traditional conceptualizations of leadership as person-centered and trait-based (Bass, 2008). ‘New’ theories of leadership recognize that an industrial or management model of leadership is not appropriate in all contexts. Indeed, community leadership is distinct because it operates under a different structure or purpose than organizations or specific individuals (Ricketts & Ladewig, 2008). Community leaders cannot rely on power or formal authority to get things done. Community leaders must rely on networks, influence, and specifically the relationships developed through extensive interaction within the community (Pigg, 1999).

Rost (1993) advances a definition of leadership which moves away from a leader-centered approach toward a social conception of leadership appropriate for community: “Leadership is an influence relationship among leaders and followers who intend real changes that reflect their mutual purposes” (p. 102). This view of leadership holds that a person does not have to be in a position of leadership to exercise leadership. Further, leadership in this sense does not require that actual changes come about, only that change was intended by people with a shared purpose. This view aligns with leadership as it is practiced in the community.

In terms of developing this type of leadership in the community, management scholar David Day (2001) argues for a link between *leader development* – human capital building – and *leadership development* which emphasizes the creation of social capital in organizations or communities. Day sees the development of leadership as coming from two complementary perspectives. One angle is building individual leaders by training on skill sets and assuming that leadership will result in certain situations and contexts. Indeed, some CLDP's rely on this approach alone. The other angle approaches leadership as a social process that engages everyone in the community (Barker, 1997; Wenger & Snyder, 2000). This notion is embodied in the purpose statement of the University of Missouri's EXCEL community leadership development program: "To increase the capacity of individuals and organizations who can address community problems effectively by mobilizing the human and social capital in the community to common purpose" (Pigg, 2001, p. 4).

Day asserts that leadership development is "expanding the collective capacity of organizational members to engage effectively in leadership roles and processes" (McCauley, Moxley, & Van Velsor, 1998 quoted in Day, 2001). Day views this capacity-building as the expansion of cognitive and behavioral complexity and asserts that capacity, once expanded, provides for better individual and collective adaptability across a wide range of situations. As such, the research presented here will examine both cognitive and behavioral changes in individuals' community leadership over time with a focus on organizational involvement.

Israel and Beaulieu have also addressed community leadership with a focus on organizational behavior (1990). They contend that three elements comprise community leadership behavior: 1) the degree to which an individual is involved in various phases of local action, 2) the span of an individual's participation in interest areas, and 3) the extent to which an

individual is involved in actions that involve a common set of actors who are working for concerns of the community (Israel & Beaulieu, 1990). They conclude that a unique type of leadership training should be offered in communities. With this in mind, one of the main research questions in the study presented here examines individuals' degree of involvement in community organizations and their span of involvement across community interest areas.

Similarly, Crosby and Bryson (2010) have sounded a call for *integrative public leadership* in communities. Integrative public leadership is defined as “bringing diverse groups and organizations together in semi-permanent ways, and typically across sector boundaries, to remedy complex public problems and achieve the common good” (Crosby & Bryson, 2010, p. 211). Crosby and Bryson argue that such problems are often due to the “characteristic failings of government, business, and civil society and that sustainable remedies must draw on the characteristic strengths of each sector while overcoming or minimizing their weaknesses” (2010, p. 211). This view implies a bridging approach to community leadership.

Inasmuch as leadership is viewed as a relationship process that expands cognitive and behavioral capacity for collective action, then the implication is that leadership can be taught and learned (Chrislip & Larson, 1994; Kouzes & Posner, 1987; Ospina & Schall, 2001; Pigg, 1999; Rost, 1993). Pigg (2001) offers an approach to community leadership development as follows:

“...if community leaders (1) share a common, generalized purpose, (2) are able to work together in ways that leverage existing assets (collaborate), (3) possess a sense of individual and collective efficacy, and (4) possess a broad knowledge of the community and its civic decision-making process(es), and then there will result an increased civic capacity for local self governance (community action) leading to satisfying community needs and achieving community success” (p. 6).

Pigg (1999) argues that people in communities should change the way they look at and develop leadership. Instead of identifying individual people who possess certain perceived traits or

accomplishments, communities should identify and cultivate sets of relationships among people with mutual purpose.

In sum, the study presented here views community as an interactional field where the geographic and cultural space is essential. Community development is interpreted liberally to mean purposive actions that increase the generalization and cooperative potential across interest fields such that actors become positively oriented toward the structure of the community field. Social capital is viewed in the Putnamian sense as both a personal and a collective asset. But, specifically, bridging social capital is viewed as the key mechanism that holds dissimilar groups together in willing suspension as they get episodic chances to collaborate, integrate, and practice. When networks are linked through bridging social capital for positive change to the structure of the community field, this is community leadership. Leadership, then, may be considered the relationship itself among these community collaborators. Perhaps leadership emerges through relationships and networks from different places across the community in unpredictable ways. Through repeated interactions of people and groups across interest fields, a collective consciousness arises where people in organizations come to “work through” each other toward common goals with social capital both lubricating and holding the system together. As such, community leadership development efforts may be considered those deliberate acts to encourage, develop, and support bridging social capital across interest fields toward the beneficial structuring of the community. Though the theoretical discussion of community leadership development has advanced in the literature, empirical research on community leadership and programs to promote the development of community leadership are pitched from various theoretical angles and use various designs. An overview of the prior research relevant to the

current study is presented next.

Prior Research

The prevalence of community leadership development programs in the United States has grown considerably in the past three decades. However, only recently have programs been systematically studied by community scholars and practitioners (Community Leadership Association, 2008; Pigg, 2000). Indeed the scarcity of consistent methods and instruments for measuring community leadership has led Black and Earnest (2007) to state, “The lack of research evaluating the outcomes of leadership development programs and the lack of a suitable evaluation instrument are evident in the literature” (p. 195).

Most of the published studies on community leadership development programs are program evaluation studies. Researchers have advanced findings which suggest that community leadership development programs do influence the thoughts and behaviors of participants in unique ways. Outcome studies have focused on cognitive changes and behavior changes (or intended behavior change) at the individual level. The majority of studies on community leadership development programs have measured change in various types of leadership skills and in leadership behaviors such as getting involved in organizations and participating in community projects. While ‘newer’ leadership development theories emphasize the deliberate structuring of social relationships and boundary-crossing, only one study to date has examined community leadership program outcomes for their potential to increase bridging social capital in the community (Rasmussen et al., 2011). Key studies relevant to the current research are outlined next.

CLDP and cognitive outcomes. Most of the empirical studies of community leadership development programs have measured change in knowledge, skills, and attitudes of program

participants. Several studies have found that community leadership program participants report increases in self-perceptions of leadership skills (Black & Earnest, 2007; Black et al., 2006; Duehr et al., 2004; Earnest, 1996; Kelsey & Wall, 2003; Pigg, 2001; Rohs & Langone, 1993; Walker & Gray, 2009). Though no single evaluation model is widely used among community leadership researchers, a handful of reliable tools have been used in multiple studies that measure leadership knowledge, skills, and attitudes including the Leadership Practices Inventory (Kouzes & Posner, 1987), the Experience in Community Enterprise and Leadership (EXCEL) survey (Pigg, 2001), and the Leadership Programs Outcome Measure (LPOM) (Black, 2006). Of these three tools, only the EXCEL survey and the LPOM were specifically developed for community leadership (versus business or organizational leadership). The study presented here uses the EXCEL Community Leadership Survey.

Pigg (2001) used the EXCEL survey – a retrospective pre/post test design – with graduates of Missouri Extension’s EXCEL community leadership program (n = 277) and found positive changes in five factors of leadership – Personal Growth and Efficacy, Community Knowledge, Community Commitment, Shared Future and Purpose, and Civic Engagement. In a subsequent analysis, Pigg and his colleagues confirmed a sixth leadership factor in the EXCEL data – Social Cohesion – representing the skills and attitudes people have for expanding and deepening their social relationships across groups in the community (Pigg, Lovell, & Reed-Adams, 2007).

Scheffert (2007) used the EXCEL instrument with a group of CLDP alumni from the University of Minnesota’s U-Lead program (n = 286) and found that after program participation, alumni reported significant increases in Pigg’s original five factors of community leadership. Changes in Community Knowledge were greatest.

In 2004, University of Minnesota researchers conducted a study on behalf of the Community Leadership Association for the purpose of evaluating programs across the country for effectiveness (n = 49 programs; n = 750 participants) (Duehr et al., 2004). Analysis of pre and post-survey data revealed significant increases in community knowledge, leadership skills, and intent to get involved in the community. Interestingly, the majority of participants' responses to open-ended questions of program value were about the social networking opportunities and the relationships they formed, though these social or group-level outcomes were not considered part of the original effectiveness measures.

In terms of social outcomes, Black et al., (2006) used focus group data to determine outcomes of two statewide community leadership programs using the EvaluLead framework Grove, Kibel, and Haas (2005). Focus group data from 22 randomized alumni showed that participant's "community level" outcomes were reported as "increased ability to bring diverse groups together to develop consensus" and "an appreciation for the diversity of others ... (both their classmates and those that they came into contact with over the program period).... and self awareness and the ability to recognize the gifts others bring to a situation" (Black et al., 2006, p. 60). Though the authors did not use the term, these findings point to program effects on bridging social capital.

While results from studies of leadership program participants are, by themselves, illuminating, some researchers have employed quasi-experimental designs to isolate unique program effects. Rohs and Langone (1993) used a treatment and comparison design to study a statewide community leadership development program in Georgia. They surveyed people in seven treatment counties (n = 281) and eight comparison counties (n = 110) with a nine-statement instrument featuring Likert-type agreement scales relative to skills, abilities, and

knowledge of working with groups and individuals on community issues. They found significant differences between pre- and post-test mean scores between the two groups in seven of the nine leadership skill items. The comparison group showed higher mean change scores on the item “ability to influence community affairs.” Authors attributed this finding to a type of response shift bias (Martineau & Hannum, 2004) among the treatment group who were assumed to have inflated their pre-test scores unwittingly, since they later came to learn in the program just how complex it can be to influence community affairs. Despite the findings for significant difference between treatment and comparison groups, Rohs and Langone did not use regression analysis to isolate effects of the training variable nor did they control for individual differences or for county-level variation. The study presented here addresses these aspects.

In another comparison group study, Walker and Gray (2009) compared a group of graduates of the North Carolina “Community Voices” program to a group of rural community leaders who had not gone through the training in order to assess differences in leadership competencies. Using post-only survey data, analysis of mean scores from the independent samples revealed that the treatment group scored significantly higher than the comparison group on multiple sub-items of all five scales of the Leadership Practices Inventory (Kouzes & Posner, 1987). However the authors do not examine the leadership competencies of the treatment group pre-program. Thus, program effects were not truly isolated.

CLDP and behavioral outcomes. Cognitive changes in community leadership do not necessarily translate to action in the community. It is also important to look at community leadership behaviors. Several studies have examined community leadership behaviors using a variety of methods and measures. Indeed, studies have documented that CLDP participants do increase their level of community activity after program participation compared to before the

program (Black & Earnest, 2007, 2009; Bono et al., 2010; Emery et al., 2007; Pigg, 2001; Rohs & Langone, 1993). However, no studies to date have used a comparison group design in order to specifically isolate leadership program effects on community activities (i.e., behaviors).

Moreover, program evaluation studies have reported increased community activities in different ways, using community organizations and community projects as indicators of community leadership behavior. Black and Earnest (2007) found an increase in organizational involvement in the community among graduates of CLDP's in Ohio (n = 196). Though the study reports organizational involvement increases across 12 different organizational types, the data is not organized into any sort of framework. Additionally, because the program and the study were conducted from an Extension perspective, 10 of the 12 community organizations reported by respondents were agriculturally related. As a follow-up to their 2007 study, Black and Earnest (2009) analyzed the open-ended responses of the program graduates in the original survey data. Qualitative data revealed that 40% of respondents championed new community projects as a result of their community leadership program experience (p. 193).

Bono et al. (2010) have taken an integrative leadership approach to examine changes in community organization involvement of a sample of community leadership program graduates (n = 750) across 43 types of programs. Using pre-post survey data, authors found on average, participants engaged in 1.99 new community activities and .76 new leadership activities in the first post-program year (Bono et al., 2010). The top five activities where new participation occurred included joining a speakers bureau, joining the board of a nonprofit organization, participating in a community support group, getting involved in political activities, and volunteering at a school.

Only a few studies have begun to explicitly examine the social networking behaviors after participation in leadership programs and, thus, the potential for increasing social capital in the community. In an exploratory case study, Fredricks (2003) found that alumni from both a statewide and countywide CLDP in a single state (n = 763) were using the new social networks they gained in the program up to five times per year. Network contacts were made for community, political, personal, or business reasons. The study further found that while networking was strongly recognized as one of the most important outcomes of the program, both groups of graduates found that their newfound networking was not happening deliberately, but rather became useful to them as they “bumped into one another” (Fredricks, 2003, p. 49). Fredricks (2003) has argued for more deliberate social networking goals in community leadership programs stating that “networks should be an important component of course curricula because they are the medium through which a variety of information is disseminated, issues are addressed, relationships are built and change can occur” (p. 50).

Two studies have used a community capitals approach to document community activities and projects that CLDP participants have engaged in. Emery et al. (2007) conducted in-depth interviews with a cohort of 13 past participants in a single community leadership development program more than 10 years after their graduation. Findings demonstrated that program participants did indeed go on to contribute greatly to specific projects from which the community benefitted. However, authors suggest that community capacity, as measured by changes in community capitals (i.e., community capitals framework) was not as strong – the past participants did not explicitly link the different projects. Emery illustrates this outcome as many arrows of impact, but no directed, concerted alignment of the various arrows aimed at capacity building.

The community capitals framework has been employed in the recent work of Rassmussen et al. (2011). Authors conducted interviews with 20 CLDP alumni in a rural county in Minnesota and found that after program participation, participants were engaging in the types of community activities where the biggest impact was felt in social capital asset areas. Based on their results, authors argue that the focus of CLDP studies should be on outcomes related to bridging social capital. While this small, single-county study is promising, it did not involve a comparison group to isolate program effects.

Program structure and individual outcomes. Though there is much scholarly value in the findings of various outcomes studies of CLDP's, community leadership practitioners and stakeholders value research results that can ultimately help shape leadership programs effectively. A few studies have examined the relationship between CLDP program structure and individual outcomes (Bono et al., 2010; Scheffert, 2007; Vandenberg & Fear, 1988). Scheffert (2007) found that longer duration programs (16 or more sessions) produced higher levels of cognitive change in the five factors of community leadership measured by the EXCEL survey compared to short and medium duration programs (n=286 participants). The study also found, however, that program duration had no effect on participants' commitment to take on more leadership positions in the community.

Bono et al. (2010) examined different program structure variables in community leadership programs (n = 43 programs) to determine whether or not program variables influence individuals' organizational behavior outcomes. While the authors found that curricular focus was unrelated to new community involvement (e.g., joining organizations different from pre-program), they did find a significant positive relationship between programs that focus on team-

building and participants' engagement in new leadership activities during the first post-program year, controlling for size of community, program selectivity, and participant demographics.

The research presented here will examine program structure variables similar to those studied by Bono et al. including program hours spent on skills training, field experiences, community development learning, and group projects. Moreover, the current research will control for different types of program sponsors, including university extension, chambers of commerce, extension/chamber partnerships and other nonprofit sponsors.

Individual characteristics and program outcomes. Only a few studies have examined individual characteristics related to community leadership program outcomes for individuals. Whent and Leising (1992) surveyed graduates from a California agricultural leadership program spanning 20 years. Using regression analysis, they found that years of education was inversely related to beneficial outcomes of community leadership training. Further, Dhanakumar, Rossing, and Campbell (1996) found that age and income were negatively related to feelings of satisfaction and value out of leadership development program participation in rural Wisconsin. The research presented here will use individual characteristics (age, sex, income, education, and years in community) as control variables in regression models in an effort to best isolate the effect that CLDP participation has on community leadership cognitions and behaviors.

Current Study

A body of research on long-term community-level program impacts of CLDP's is still on the horizon (Black & Earnest, 2009). Prior research on community leadership development has been informative, despite its unsystematic path and its appearance in disparate literatures. Taken together, program evaluation studies of varying scope and designs do seem to point in the direction of positive program effects. This is promising for future study. However, with some

exceptions, much of the published research on community leadership development programs suffers from deficits in two areas: theoretical consistency and design challenges.

Though studies using the EvaluLead framework and the EXCEL framework may be exceptions (Grove et al., 2005; Pigg, 2001), most studies of community leadership programs are specific program evaluations that simply measure criteria spelled out in the program design – explicit logic models. The absence of solid and consistent theoretical approaches is likely due to the practice-based origins of these local programs – many are deployed under a national or statewide curriculum originating from large foundations or university Extension organizations. Emphasis in these programmatic efforts is typically on reaching a maximum number of people with a limited number of episodes and then assessing individual change shortly after the program concludes. Program evaluation is normally done in order to justify previous investments, to mobilize resources toward the program, or to inform program changes. Very few are aimed at building or testing theory. Only a few studies have focused on the importance of social capital outcomes, specifically those related to bridging social capital.

Research design and analysis issues are also a problem with some of the prior studies of community leadership development programs. Results from studies that lack a comparison group must be interpreted with caution, especially those that claim a program effect. With the exception of Rohs and Langone (1993) and Walker and Gray (2009), none of the community leadership program evaluation literature to date has compared a training group to a similar peer group whose members have not participated in community leadership training (i.e., a comparison group). Results from a quasi-experimental design can make a stronger case for unique program effects, though sampling bias is a recognized challenge. However, the comparison group studies by Rohs and Langone and by Walker and Gray did not use multivariate analysis to isolate effects

for program participation nor did they control for individual differences. The research presented here is the first of its kind to make this analytical advance.

Likewise, studies that do not examine changes over time such as those that use some type of pre/post design or a longitudinal design are also at risk for untenable conclusions about program effects. For example, while the independent samples t-test results from trainee vs. non-trainee groups presented by Walker and Gray (2009) are somewhat convincing, their study did not take into account the leadership competencies of trainees pre-program. Further, those studies that have looked at individuals' change in organizational involvement have not typically reported such data in any consistent or a priori framework.

Finally, most of the prior research has reported findings from single programs or common statewide programs, yielding results that are limited in their generalizability. With the exception of Duehr et al. (2004) and the same participant data used by Bono et al. (2010), no studies have examined community leadership training programs across multiple states and counties and across multiple types of program designs.

The current study fills theoretical and empirical gaps in the literature in several ways. First, this study is tethered to three theoretical foundations – community field theory, social capital theory, and the relational leadership paradigm. Specifically, this study recognizes the critical importance of bridging social capital as a prerequisite to community leadership development and will measure outcomes related to opportunities to develop bridging.

Second, this study will address empirical shortcomings of prior research in several ways. From a design standpoint, it utilizes a quasi-experimental design in order to more reliably test for program effects. It also takes into account leadership cognitions and behaviors pre-program by using retrospective data collection and relative change scores as outcome variables. The study

also controls for individual characteristics and for variation at the county (group) level. In addition, missing data is managed using multiple imputation methods. Further, the current study uses an established framework (i.e., the community capitals framework) to analyze data about community organizations. Finally, this study uses data from multiple communities and multiple program designs in order to answer questions related to differences in program structure and their impact on program outcomes. This new line of inquiry is promising for scholars and may be especially helpful for practitioners who design and deliver program content.

Research Questions

Community leadership development program outcomes can be assessed at the individual, organizational, and community levels. Three related studies focus on individuals and their potential for acting through community organizations.

Study 1. Taking into account individual characteristics, does participation in community leadership development programs affect cognitive change in community leadership? Cognitive change will be measured using EXCEL's six factors of community leadership (Pigg, 2001; Pigg et al., 2007):

1. Personal Growth and Efficacy
2. Community Commitment
3. Shared Future and Purpose
4. Community Knowledge
5. Civic Engagement
6. Social Cohesion

Study 2. Cognitive changes related to community leadership do not necessarily translate into behavior changes. Thus, this study seeks to inform the question, does participation in community leadership development programs affect behavioral change in community leadership? Individual characteristics will be taken into account. Three dichotomous measures of behavior change will be used:

1. Whether an individual joins more community organizations over time
2. Whether an individual increases her/his overall level of involvement in community organizations
3. Whether an individual increases, over time, the span of organization types as measured by the number of unique community capital asset areas.

Study 3. A third study takes into consideration the variety of leadership program types across different communities. Therefore, it only uses data from the treatment groups. This study asks, do different program structure variables in community leadership development programs predict differences in either cognitive or behavioral community leadership outcomes?

Each of the research questions in this study will help to inform the broader question, do community leadership development programs enhance opportunities to develop bridging social capital in communities? The methods used to answer these research questions are detailed next in Chapter 3.

CHAPTER 3: METHODS

This chapter describes the methods used to investigate the association between community leadership program participation and community leadership outcomes. In this chapter, the details of the data, the sample, the measures used, and the plan for the statistical analyses for the three related studies are described.

Data & Sample

This research uses a survey dataset from an ongoing project entitled “The Impact of Community Leadership Education in the New Economy” (Pigg et al., 2010). The project is funded by the United States Department of Agriculture, National Institute of Food and Agriculture (National Research Initiative) and is led by faculty investigators at University of Missouri, University of Illinois, and Ohio State University. The project was approved by the University of Illinois Institutional Review Board (#08312). The project began in 2007 as a multi-phase study using both quantitative and qualitative methods and is currently in the final stages of data analysis. I have served as research assistant to this project and have been instrumental in data collection. The dataset used for this study consists of self-report survey data about community leadership knowledge, skills, attitudes, and behaviors at time-one and time-two conditions from both a post-hoc “treatment” group and a “comparison” group. The survey was administered online from April – September 2008.

All participants in the study were sampled purposively. The sampling proceeded in two stages: first the selection of localities and then the selection of people within each locality. In terms of locality, the sample consists of individuals nested in 36 rural counties in six different states – Illinois, Minnesota, Missouri, Ohio, South Carolina, and West Virginia. These states

were chosen by convenience, as faculty investigators had familiarity with or Extension contacts in these states.

Selection of counties. Counties within each state were chosen by a specific strategy. First, counties had to fit in either the rural county or the mixed-rural county classification of Isserman's (2005) urban-rural density typology. Further, as of the 1990 Census, counties had to be central places with physical independence from larger places, have a localized economy and social organization, and be outside the immediate influence of a metropolitan statistical area. Also, the major city in each county had to have a population of less than 20,000. Application of this selection technique eliminated a handful of metropolitan counties in each state. Counties were then further ranked in terms of a rural viability index. Using 1990 Census data, an index was constructed using a composite of population change data, employment data, and per capita income, each compared to the average for the state. Counties in each state were then ranked and placed in quartiles. Researchers sought to sample counties across a distribution of quartiles so as to capture data from a range of rural situations. Mindful of this distribution and dealing with practical concerns, investigators identified four counties per state in which community leadership programming was actively in place. Similarly, they identified two counties in each state where no community leadership programming had ever been offered.²

Selection of participants. The treatment group consists of individuals grouped in counties who participated in the local community leadership development program offered in their community. This group includes people from 24 counties, four in each of the six states.

² Viability indices were calculated using data on county population change statistics and change in per capita personal income. Then each county was ranked by quartile based on the index. When selecting counties for the sample – both treatment and comparison – researchers were mindful of sampling from a distribution of quartiles. This had to be balanced with practical considerations. For example, few counties in Illinois and in Minnesota have leadership programs specific only to their county. Many are multi-county regional programs not of interest to the study. Other practical issues that arose had to do with levels of cooperation with each of the county contacts. Since this was a multi-year research effort, securing cooperation from local contacts was paramount and at times trumped selection based on quartiles.

Complete rosters of leadership program graduates were sent to investigators by program directors in each of the participating counties. Participants were limited to those individuals who graduated from leadership programs during the years 2001 to 2006. All individuals whose names appeared on class rosters from 2001-2006 were sent an invitation to participate in an online survey.

Comparison group participants live in counties that are demographically and economically similar to the treatment group counties but had no local community leadership development programs in place at the time of the survey administration. This includes a total of 12 counties, two in each of the six states. Snowball sampling was used to identify participants in the comparison group, starting with the same three positional leaders in each county: a county government official, the local Extension officer, and the local chamber of commerce president. Each of those three officials was asked to give the names of three people whom they considered to be community leaders (i.e., “who people call on to get things done”). Then those nine people were contacted, and this proceeded iteratively until a minimum of 18 people were identified in each comparison county.

A tailored design method was used in contacting survey participants (Dillman, 2007). Treatment county participants were first contacted by email message from their local leadership program administrators. This pre-survey message was supplied to program administrators by project investigators and was used to alert participants that an online survey link was going to be sent to them soon. The message also described the importance of the survey and encouraged participation.

Comparison county participants were initially sent an email from project investigators including the survey link and an explanation of how a (named) community peer had

recommended them for the survey. In both treatment and comparison counties, investigators followed up with non-respondents a minimum of two times (each two weeks apart) to help maximize the response rate.

A total of 1,027 people were surveyed in treatment counties, and approximately 216 people were surveyed in comparison counties. The response rate for treatment counties was 60.6%. The response rate for comparison counties is estimated at 67.6%³. A total of 622 people make up the treatment group; a total of 146 people make up the comparison group. The overall sample is 768 people.

Missing data. The dataset contains a considerable amount of missing data. The percent of missing values of the independent variables used in the analyses ranges from 6.3% to 22.0%, and missing values for the outcome variables range from 7.5% to 24.1%. Table 2 shows a summary of the missing values across individual characteristics, cognitive outcome variables and behavioral outcome variables. Considerably more missing values are found for the treatment group versus the comparison group. Missing values analyses indicated that the data are not missing completely at random, an assumption that must be met in order to obtain unbiased estimates from listwise or pairwise deletion methods. Therefore, missing data was imputed via multiple imputation commands available in STATA SE 9.0 (StataCorp, 2005; Royston, 2004). Multiple imputation methods replace missing values with predicted values generated from statistical models which include all the variables used in the analysis. Multiple imputation is the preferred method of managing missing data and is preferred over deletion methods or replacing

³ The actual response rate in comparison counties is not known due to incomplete record keeping among research teams. The explicit goal of each team was to identify and to invite a minimum of 18 community leaders to participate in the survey, however it is unknown as to how many people were actually invited. The total number of actual responses in comparison counties ranged from 9 to 28. Had the research gone according to plan, a total of 216 people would have been sent a survey invitation. The response rate estimate of 67.6% reflects 146 of the estimated 216.

missing values with the mean (Rubin, 1987). The resulting dataset that is used in regression modeling includes complete values for all 768 people in the sample.

Nested data. The research presented here uses a modeling approach to take into account the nested structure of the data. Studies of community leadership programs that use multiple participant groups end up with data that is nested or clustered in groups. That is, individuals from the same community would be more likely to give similar responses compared to individuals drawn randomly from the general population. Even if the program structure is standard, variation in delivery across local communities is certain to occur. As such, some of the variance in the dependent variable may be explained by group-level phenomena. Although this research is essentially an individual-level analysis, the “treatment” individuals were clustered in counties (wherein they participated in like programs). So in comparing differences in leadership scores between trainees and non-trainees, correction of standard errors for clustering is necessary. The robust cluster command in STATA 9.0 (StataCorp, 2005) is used and corrects standard error estimates, accounting for the nested data.

Survey Instrument

The survey instrument used to gather the current data was the EXCEL Community Leadership Survey developed by Pigg (Pigg, 2001). Pigg developed the evaluation survey to measure outcomes of the EXCEL – Experience in Community Enterprise and Leadership – program administered by University of Missouri Extension. Since then, several scholars of community leadership have used the instrument in their research (Bono et al., 2010; Kelsey & Wall, 2003; Rasmussen et al., 2011; Scheffert, 2007). The evaluation design uses an approach to measuring impact that is adapted from the discrepancy model initially described by Provus (1971). The discrepancy approach collects data for two periods of time or between two “states”

of behavior on a common scale of measurement. The approach then requires the computation of the difference between the two measures to produce a measure of discrepancy or change. In the EXCEL evaluation, participants in the program were asked to rate their pre- and post-program levels of knowledge, skill, and attitude on several measures. Thus, the discrepancy between the time one and time two ratings represents change that may be attributed to participation in the leadership program (Pigg, 2001).

In the current survey, sections 1 – 3 of the survey instrument used a type of retrospective pretest or “then/post” design. The survey instrument featured a set of 32 post questions and the same set of 32 pre questions about individual leadership knowledge, skills and attitudes. A Likert-type scale of agreement with various statements about one’s own leadership skills and beliefs was used in the survey instrument (1 for strongly agree, 4 for strongly disagree). For the treatment group, respondents first rated items about their self-perceptions post-training (i.e., as of today) and then were asked to rate the same 32 items about their self-perceptions before the training took place. For the comparison group, respondents were instructed to first rate the 32 items about self-perceptions as they felt currently. Next, they were instructed to answer the same battery of questions about self-perceptions in terms of how they felt about themselves *five years ago*. This technique was used in order to set up a pre and post dataset for direct comparison to the pre-training/post-training results of the treatment group. This type of then/post design is known as retrospective pretest and is used to guard against response-shift bias.

Response-shift bias occurs when individuals have rated themselves at one time and then change their responses later because their perspectives have changed (Martineau & Hannum, 2004). Response-shift bias is avoided when participants rate themselves within a single frame of reference. Pratt, McGuigan, and Katzev (2000) state that retrospective designs produce a more

legitimate assessment of program outcomes than traditional pretest-posttest methodology. Furthermore, Rockwell and Kohn (1989) argue that program participants may have limited knowledge at the beginning of a program which prevents them from determining their baseline behaviors. By a program's end, the content may have affected their responses. Therefore, if a pretest were used, the participants would have no way to know if they have made an accurate assessment, and this would cause response-shift bias. As a case in point, an evaluative study of nutrition training programs demonstrated that the then/post evaluation design provided more significant change data than did the traditional pretest/posttest design, indicating that a response shift occurred (Rohs, Langone, & Coleman, 2001). Such differences in evaluation findings suggest that the educational benefit of training programs may be underestimated when using the traditional pre/post evaluation design.

Open-ended behavioral questions about involvement in community organizations were presented in the same retrospective way. Data on demographic variables (age, sex, race, years living in community, education, employment, and income) were also collected in the survey, and those questions were asked at the end.

The survey used to produce the current dataset consisted of six sections (See Appendix A):

1. Ratings of knowledge, skills, and attitudes now (post-program for treatment group; as of today for comparison)
2. Ratings of knowledge, skills, and attitudes then (pre-program for treatment group; five years ago for comparison)
3. Qualities of leaders and communities
4. Involvement in community organizations, now and then
5. Opinions about leadership program (treatment only)
6. Demographic information

For the research presented here, data from section 3 (qualities of leaders and communities) and section 5 (opinions about leadership program) are not immediately relevant to this research and are not included.

Outcome Variables

The outcome variables to be measured include both cognitive and behavioral variables about community leadership. For each of the outcome variables, a type of change score is used as the dependent variable in analyses, reflecting any degree of difference between the pre and post conditions. The use of change scores has been shown to be a reliable and effective method of measuring change (Allison, 1990; Maxwell & Howard, 1981; Zimmerman & Williams, 1982). Table 1 outlines the outcome variables and their metrics.

Cognitive measures. Cognitive variables consist of pre and post scores from rated items about community leadership knowledge, skills and attitudes. They were measured using a 1 - 4 Likert scale in both the pre and post conditions, where 1 = strongly agree and 4 = strongly disagree. Responses to scaled items have been reverse coded to reflect the idea that higher ratings are positive – meaning *more* agreement with an attribute. The current survey dataset was subjected to reliability analysis (SPSS Inc., 2009) to determine if Pigg’s six leadership factors (Pigg, 2001; Pigg et al., 2007) were in fact reliable scales, and these results are presented in Table 3. Cronbach’s alpha was calculated for each factor and ranged from 0.77 to 0.82, indicating high reliability. Below are the six cognitive factors of community leadership that are used in the analyses:

1. Personal Growth and Efficacy - sum of ratings of survey items related to skills in analysis, problem-solving, and self-efficacy.
2. Community Commitment - sum of ratings of survey items related to attitudes of dedication to improving the community and taking responsibility.

3. Shared Future and Purpose - sum of ratings of survey items related to attitudes and skills about envisioning new and positive possibilities along with others in the community.
4. Community Knowledge - sum of ratings of survey items related to knowledge about local community structure, community issues, and one's self-efficacy to affect them.
5. Civic Engagement - sum of ratings of survey items related to one's skills and attitudes about civic involvement.
6. Social Cohesion - sum of ratings of survey items related to deepening and expanding social relationships and working with others.

For the analysis on change in cognitive community leadership, relative change scores are used as dependent variables and are calculated by taking the difference between the post and pre factor scores and dividing by the pre factor score. Relative change scores are a type of change score and are a commonly used method to control for the influence of the pretest score on the posttest score (Bonate, 2000). Relative change scores convert the pretest and posttest scores into a proportional change score and are often reported as percentages.

Behavioral measures. In this study, various aspects of participation in community organizations are used as indicators of leadership behavior. The survey measured community organization involvement for both the pre and post conditions. Respondents had the opportunity to write in up to three organizations they were involved in at the present time and also up to three organizations they were involved in during the pre condition. Respondents also indicated by numeric rating the degree to which they were involved in those organizations (i.e., 1 = inactive member, 2 = active member, 3 = leader role). Degree of involvement ratings were summed across all organizations to arrive at an index score for both the pre and the post conditions. Three types of organizational behavior are examined. For the analysis, each behavioral measure has

been dichotomized into a yes/no variable to indicate whether or not there has been positive change in a behavior over time:

1. Membership – whether or not the community leader increased his or her total number of community organizations from the pre to the post condition (1 = greater total organizations in the post condition compared to pre; 0 = else).
2. Involvement – whether or not the community leader increased his or her total involvement level across all community organizations from the pre to the post condition⁴ (1 = greater involvement index in the post condition compared to pre; 0 = else).
3. Capitals – whether or not the community leader got involved in a greater variety of organization types as measured by the difference in the total number of unique community capital asset areas from pre to post⁵ (1 = greater number of unique capitals in the post condition compared to the pre; 0 = else).

Independent Variables

Below are the independent (predictor) variables that are used in the analysis. Table 1 outlines the metrics for each independent variable and also shows descriptive findings.

CLDP participation. Since this research examines training effects on changes in leadership cognitions and behaviors, a dichotomous variable for CLDP participation was created for each respondent, where 1 = participated in community leadership development program and 0 = not participated in community leadership development program.

Individual characteristics. Respondents' age, sex, residential tenure, educational attainment and income were used as control variables in all the analyses. Residential tenure was

⁴ An involvement index was summed across each of the quantitative responses to questions about degree of involvement in each of the named organizations. For example, if a respondent in the pre condition was an active member in the first named organization (score 2), a leader in the second named organization (score 3) and an inactive member in a third named organization (score 1), the overall involvement index for the pre condition would be 6.

⁵ Data for each open-ended response to the community organization items were first coded using the community capitals framework (CCF). Organizations were assigned a code according to which of the seven community capital asset areas the organization's mission is aimed at affecting. Two raters were used to interpret the data and to apply the coding scheme: myself and the director for the department's community and economic development laboratory, each who have extensive backgrounds and expertise in community organizations. Inter-rater reliability statistics were obtained. Cases that were ambiguous were flagged for follow-up until a code was agreed upon. Appendix B describes the process used to obtain inter-rater reliability statistics. Table 8 shows some of the frequently occurring organizations and the community capitals codes they were assigned.

measured as the number of years respondents reported living in the community. Educational attainment was measured as an ordinal variable ranging from 1 (less than high school) to 7 (graduate degree). Income was measured at the household level and ranged from 1 (less than \$10,000) to 7 (more than \$100,000). See Table 1 for more details.

Program structure. Study 3 uses treatment group data only and examines the effects of different program structure components on trainee outcomes – both cognitive and behavioral. Data on the program structure in treatment counties was collected six months after the survey administration⁶. The following program structure variables are used as independent variables.

1. Skill Hours – total number of hours offered to trainees in individual skills training activities (e.g., self awareness, leading a team, conflict management).
2. Field Hours – total number of hours offered to trainees in field-based learning activities (e.g., factory tours, visits to institutions, tours of communities).
3. Community Development Hours – total number of hours offered to trainees in community awareness and community development learning (e.g., community asset mapping, community visioning, resource identification).
4. Project Hours – total number of hours trainees spent on community-based group project work as part of program requirement.
5. Sponsor – dichotomous variables assigned to the following types of primary program sponsors that administer the leadership program (1 = yes; 0 = no):
 - a. University Extension
 - b. Chamber of Commerce
 - c. Extension & Chamber Partnership
 - d. Other Nonprofit Sponsor

⁶ Six months after the collection of survey data from leadership program participants and non-participants, investigators followed up with leadership program administrators in treatment counties in order to gather data on the specific leadership program structure in each county. Data from the four South Carolina treatment counties was unavailable due to a loss of reliable contact and thus are left out of analyses for Study 3 (i.e., data from the 20 counties in Illinois, Missouri, Minnesota, Ohio, and West Virginia are used instead of the full treatment dataset of 24 counties). Investigators developed a structured, open-ended questionnaire that was administered either by email or by telephone survey (See Appendix C). In addition to the responses gathered from the questionnaire, investigators also analyzed the content of leadership program publications (i.e., promotional and recruitment pieces), including web sites and printed program materials sent to investigators by mail.

Statistical Analysis

Figure 2 shows a conceptual model of the effects of CLDP participation on community leadership cognitive factors and on community leadership behaviors. The model shows hypothetical relationships among individual characteristics and CLDP and their effects on changes in community leadership cognitive factors and on community leadership behaviors (i.e., organizational behaviors). This conceptual model drives the statistical analyses. The model hypothesizes that CLDP participation and individual characteristics of participants have direct effects on community leadership cognitions and behaviors. Since program participants may differ from non-participants on a range of individual characteristics and since program outcomes may differ across individual characteristics, age, sex, income, education, and residential tenure are controlled to better isolate the program effects.

Community leadership cognitions are viewed broadly as the knowledge, skills, and attitudes related to one's self-efficacy, commitment to the community, shared sense of purpose with others, community knowledge, civic engagement attitudes, and social relationship building. These are each constructs measured by the survey instrument. Community leadership behaviors are outcomes related to the degree of one's involvement within and across various community organizations. Taken together these cognitive and behavioral outcomes are viewed as indicators of the potential to develop bridging social capital in the community.

Study 1: Community leadership cognitions. Taking into account individual characteristics, does participation in community leadership development programs affect cognitive change in community leadership? Cognitive change is measured using relative change scores between pre and post survey ratings on six factors of community leadership:

1. Personal Growth and Efficacy
2. Community Commitment

3. Shared Future and Purpose
4. Community Knowledge
5. Civic Engagement
6. Social Cohesion

To answer these questions, multiple regression models (OLS) are estimated using the relative change scores on each of the six cognitive leadership factors as dependent variables (i.e., separate models for Personal Growth and Efficacy, Community Commitment, Shared Future and Purpose, Community Knowledge, Civic Engagement, and Social Cohesion). The dichotomous training variable (participation in a community leadership development program) is added as an independent variable to determine if there are unique program effects on changes in leadership cognitions. Individual characteristics of age, sex, residential tenure, income, and education are included in the models as controls. The robust cluster command takes into account the nested structure of the survey design and is used to correct standard error estimates for nested data (StataCorp, 2005).

Study 2: Community leadership behaviors. Does participation in community leadership development programs affect behavioral change in community leadership? Three measures of behavioral change are used, each consisting of a binary variable representing whether or not there was an increase in the behavior from pre to post:

1. Membership – whether there is a positive change in total number of organizations from pre to post, where 1 = added to total number of organizations and 0 = else.
2. Involvement – whether there is a positive change in the overall level of an individual’s involvement in organizations, where 1 = increased total involvement from pre to post and 0 = else.
3. Capitals – whether there is a positive change in the total number of organization types as measured by the number of unique community capital asset areas, where 1 = added to total number of capital areas from pre to post and 0 = else.

Logistic regression modeling is used for all three behavioral outcomes since each of these dependent variables is binary. The dependent variable membership is modeled first. Membership

is regressed on training along with the controls for individual characteristics (i.e., age, sex, residential tenure, income, and education) to determine if participation in a community leadership program is uniquely associated with community leaders joining more community organizations over time.

This same logistic regression procedure is repeated in the model for the dependent variable involvement. Involvement is regressed on training and all the individual characteristics to determine if leadership program participation is uniquely associated with changes in the level of involvement in community organizations over time, controlling for age, sex, residential tenure, income and education.

Similarly, for the data analysis involving capitals, logistic regression modeling is used to estimate the effects of leadership program participation on the likelihood of getting involved in a wider variety of the community's asset areas over time. The training variable is included as an independent variable to determine if there are any unique program effects on the variety of the types of organizations people become involved in over time. Individual characteristics of age, sex, residential tenure, income, and education are controlled. This variety in organization type is important as an indicator of the capacity people possess to bridge groups and organizations across multiple capital asset areas in the community.

Taken together, these analyses of behavioral outcomes help to determine if CLDP participation increases the likelihood that a person a) joins more community organizations, b) becomes more active in organizations, and/or c) gets involved in a wider variety of community capital asset areas over time.

Study 3: Program structure effects on community leadership outcomes. Are different program structure variables in community leadership development programs associated with

differences in cognitive community leadership outcomes? Are different program structure variables in community leadership development programs associated with differences in behavioral community leadership outcomes? For Study 3, only data from the treatment group are used. As with analytical procedures described for Study 1 and Study 2 above, separate regression models are estimated using each of the dependent variables listed below.

Cognitive Outcomes:

1. Personal Growth and Efficacy
2. Community Commitment
3. Shared Future and Purpose
4. Community Knowledge
5. Civic Engagement
6. Social Cohesion

Behavioral Outcomes:

1. Membership
2. Involvement
3. Capitals

The analyses for the effects of program structure variables on cognitive and behavioral outcomes are performed separately. Analysis for program structure effects on cognitive outcomes uses OLS regression modeling similar to Study 1. Analysis for program structure effects on behavioral outcomes uses logistic regression modeling, similar to Study 2. The following independent (program structure) variables are entered into the regression models to determine any unique program structure effects on specific community leadership cognitive and behavioral outcomes:

1. Skill Hours
2. Field Hours
3. Community Development Hours
4. Project Hours

The variables for sponsorship type are controlled in the analysis (i.e., Extension, Chamber, Extension/Chamber, Other Nonprofit) since community leadership development programs are

administered in local communities by various organizations including university extension units, chambers of commerce, partnerships between chambers and extension, and various other nonprofit groups such as development authorities and private foundations. Even when program goals and program structures are similar, the approach taken by each type of sponsor is assumed to be different. Variation in outcomes could be partially explained by the type of organization delivering the program. This variation by sponsor type is controlled in order to best isolate specific program structure effects. Individual characteristics of age, sex, residential tenure, income, and education are also entered into models as controls. This analysis helps to determine which, if any, program structure elements are uniquely associated with changes in community leadership cognitions and behaviors.

Taken together, these three studies will help us to better understand the unique effects that community leadership programs may be having on individuals' community leadership cognitions and leadership behaviors in community organizations – pathways toward the development of bridging social capital in communities. The study will also shed light on any programmatic elements that may be specifically associated with leadership outcomes. Results from the three main studies are outlined in the next chapter.

CHAPTER 4: RESULTS

Descriptive Results

Table 1 shows the descriptive results for each of the independent variables and the outcome variables used in the analyses by treatment and comparison groups. The range, mean, and standard deviations are presented for all continuous variables, and frequency counts for categorical variables are presented. Cognitive outcome variables are relative change scores (proportion change) from the pre to post condition on each factor. For each of the six cognitive factors, the treatment group reported, on average, a higher degree of relative change compared to the comparison group. Mean relative change scores on cognitive factors for the treatment group ranged from 17% (Social Cohesion) to 38% (Community Knowledge). Mean relative change scores for the comparison group ranged from 11% (Social Cohesion) to 18% (Community Knowledge).

Behavioral outcome variables are dichotomous and reported as frequencies in Table 1. Compared to the comparison group, the treatment group, over time, had a higher incidence of joining more organizations, of increasing involvement in organizations, and of increasing the total number of unique community capital asset areas of involvement.

In terms of individual characteristics, Table 1 shows that the treatment group, on average, is younger, has lived in the community less time, is slightly less educated and has lower household incomes. Notably, the treatment group also contains a majority of females (66%) versus the comparison group (33% female).

Table 1 also includes descriptive data for the program structure variables. Of the four different types of learning activities examined in this study – skill building, field activities, community development learning, and group projects – programs are devoting, on average, the highest number of hours to community development learning and to field activities. Moreover,

descriptive data shows a fairly even distribution of programs across different sponsor types. In this study, the highest number of program participants is coming from chamber of commerce programs (30.4%).

Pearson correlation coefficients showing the relationships among all variables used in the analysis are presented in Tables 4, 5, 6, and 7. Table 4 shows the correlations among individual characteristics, cognitive leadership outcomes, and behavioral leadership outcomes. In terms of individual characteristics and leadership outcomes, age has a significant negative relationship with three of the six cognitive leadership outcomes and with all three of the behavioral leadership outcomes. Being female has a slight but significant positive relationship with five of the six cognitive leadership outcomes and with two of the behavioral outcomes. Residential tenure has a slight negative relationship with four of the six cognitive outcomes and with two of the behavioral outcomes. Education is negatively related to Personal Growth and Efficacy and to joining more community organizations. Similarly, income has a slight negative relationship with three of the six cognitive outcomes and with the behavioral outcome of joining more organizations. These significant relationships between individual characteristics and cognitive and behavioral outcomes underscore the need to control for individual characteristics in the analyses for program effects.

Table 4 also shows the relationships among the cognitive outcomes themselves. As expected, the cognitive leadership outcomes are all significantly positively correlated at values ranging from .51 (Personal Growth and Community Knowledge) to .77 (Civic Engagement and Shared Future and Purpose). Indeed, Civic Engagement outcomes are highly correlated to all five of the other cognitive leadership outcomes.

With regard to behavioral leadership outcomes, membership has a significant, positive relationship with both involvement and capitals as expected. Further, though the strength is low, all cognitive leadership outcomes have a significant positive relationship with both membership and involvement behaviors. The behavioral outcome for capitals has a significant positive relationship with cognitive outcomes for Community Commitment and Shared Future and Purpose.

Tables 5, 6, and 7 show the correlation coefficients between program structure variables and individual characteristics, cognitive outcomes and behavioral outcomes, respectively. Participants who are older and have more tenure in the community are significantly associated with leadership programs sponsored by university extension. While extension sponsorship is negatively associated with program designs using skills training, field activities, and community development learning, it is positively associated with programs that use group projects. Programs sponsored by chambers of commerce, on the other hand, are associated with younger participants who have less tenure in the community. Chamber sponsored programs are negatively associated with program designs that use skill building and group project work but are positively associated with hours spent on community development learning. Programs sponsored by a partnership between a chamber of commerce and a university extension unit are positively related to program designs that feature group projects and field activities. Sponsorship by other nonprofit groups has a significant positive relationship with program designs that feature skills training. The variation in these relationships across different program sponsor types highlights the need to control for sponsor type when analyzing outcomes for program structure effects.

Table 6 shows correlation coefficients for the relationships between cognitive outcomes and program structure variables. The number of hours spent on skill building has a significant,

positive relationship with all cognitive leadership outcomes except for Community Commitment. The number of hours spent on field activities and in group projects are not significantly related to cognitive outcomes, while the number of hours spent in community development learning has a significant, positive relationship with all cognitive outcomes except for Personal Growth and Efficacy. Sponsorship is unrelated to cognitive outcomes with the exception of the positive relationship between other nonprofit sponsorship and outcomes for Personal Growth and Efficacy and Social Cohesion.

Table 7 shows the relationships between program structure variables and behavioral outcomes. Data shows that the number of hours spent in the program on skill building is slightly negatively related to increasing capital asset areas of involvement. In terms of sponsor types, extension sponsorship has a slight positive relationship with increasing capital asset areas of involvement, while other nonprofit sponsorship is slightly negatively associated with an increase in capitals.

Overall, results from correlation analysis underscore the importance of using regression modeling to isolate program participation effects and to control for variation in individual characteristics and program sponsor type. Next, results from each of the three main studies will be presented.

Study 1: Program Participation and Cognitive Change in Community Leadership

Study 1 sought to answer *does participation in community leadership development programs affect cognitive change in community leadership?* Cognitive change in community leadership was measured along six factors: Personal Growth and Efficacy, Community Commitment, Shared Future and Purpose, Community Knowledge, Civic Engagement, and Social Cohesion. Descriptive data for relative change scores are reported for both the treatment

and the comparison groups in Table 1. Relative change scores above zero are interpreted as gain in an attribute from the pre condition to the post, while subzero relative change scores – though perhaps counterintuitive – indicate decreased levels of an attribute from the pre condition to the post condition. The highest mean relative change for the treatment group was found in Community Knowledge ($M = .377$), followed by Civic Engagement ($M = .309$), Shared Future and Purpose ($M = .282$), Community Commitment ($M = .230$), and Personal Growth and Efficacy ($M = .220$). The lowest mean relative change for the treatment group was found in Social Cohesion ($M = .173$).

For the comparison group, the mean values for relative change were lower across all factors but followed a similar pattern of rank order. The highest mean relative change for the comparison group was found in Community Knowledge ($M = .183$), followed by Civic Engagement ($M = .165$), Shared Future and Purpose ($M = .146$), Personal Growth and Efficacy ($M = .132$), and Community Commitment ($M = .119$). As with the treatment group, the lowest mean relative change for the comparison group was found in Social Cohesion ($M = .109$).

The first set of analyses examines the relative change scores for each of the cognitive factors for both the treatment and comparison groups. Independent samples t-tests were conducted for change scores on each factor in the treatment and comparison groups (along with test for equal variance). Results from independent samples t-tests shows that the mean relative change scores on each of the cognitive leadership factors are significantly different between the treatment and comparison groups ($p < .001$) (See Appendix D). Since mean relative change scores are significantly different between treatment and comparison groups, regression models are estimated to determine if CLDP participation has unique effects.

Results from ordinary least squares regression models for all six cognitive factors of leadership are presented in Table 9. The independent variables in each model include the dummy variable for program participation (1 = participation) along with controls for age, sex, income, education, and years living in the community⁷. The models also take into account the nested structure of the data (i.e., individuals grouped into counties). The results are presented next for each measure of cognitive change in community leadership.

Personal growth and efficacy. Individuals who participated in a community leadership program reported having better self-efficacy and problem solving skills compared to similar individuals who did not go through a training (Model 1). Specifically, participation in community leadership programs is associated with a 6.2% incremental increase in the relative change score in Personal Growth and Efficacy, controlling for age, sex, income, education, and years in community. In addition, individuals who reported higher incomes tended to experience less change in Personal Growth and Efficacy regardless of program participation.

Community commitment. As expected, participation in community leadership programs is also associated with increases in Community Commitment over time (i.e., taking responsibility, dedication to improving the community). Specifically, individuals who participated in community leadership programs reported an 8.0% incremental increase in the relative change score in Community Commitment, with all other variables held constant (Model 2). In terms of individual characteristics, both higher incomes and more years living in the community are found to be associated with less change in Community Commitment over time, despite training status.

⁷ Control variable for race was initially added to models but was found non-significant in each case. There was very little variation in race in the sample. Of all 631 responses to the race question, n=610 for white.

Shared future and purpose. Similar to Community Commitment and Personal Growth and Efficacy, participation in community leadership programs is also found to be associated with increased change in Shared Future and Purpose (Model 3). Individuals who participated in leadership training reported an additional 9.6% increment to the relative change score on Shared Future and Purpose compared to non-participants, holding age, sex, income, education, and years in community constant. Individuals who have longer tenure in the community were again less likely to report a positive change in their attitudes and skills related to envisioning new possibilities for their communities.

Community knowledge. Results from Model 4 show that participation in a community leadership training program adds an incremental 15.1% to the relative change score in Community Knowledge. That is, compared to non-participants, participation in a training program is significantly associated with an increased knowledge concerning the community's structure and issues, controlling for age, sex, education, income, and years in community. Longer residential tenure is associated with slightly less gain in Community Knowledge over time, regardless of training status.

Civic engagement. Participation in community leadership training is associated with increases in Civic Engagement cognitions (Model 5). Specifically, leadership program participation is associated with an additional 9.1% increment to relative change in Civic Engagement scores, controlling for age, sex, income, education, and years in community. In addition, females are more likely to increase their attitudes about civic involvement over time compared to men, despite training status.

Social cohesion. Model 6 shows that participation in leadership training, versus non-participation, is associated with a 4.9% incremental increase to relative change scores in Social

Cohesion over time, controlling for age, sex, income, education, and years in community (i.e., expanding relationships with people in the community). None of the individual characteristics is found to be significantly related to changes in Social Cohesion over time.

Summary: Cognitive factors. As expected, all six of the cognitive factors of community leadership, participation in community leadership programming is associated with higher gains on each factor over time. That is, people who participate in community leadership programs – versus non-participants – report more growth in the following: problem solving skills and self-efficacy, attitudes about dedication to the community, skills in communicating an optimistic vision for the community, knowledge about community structure and issues, skills and efficacy about participating in public issues, and skills in expanding social relationships in the community, controlling for individual demographic characteristics. The incremental gains in these leadership knowledge, skills, and attitudes ranged from 4.9% to 15.1%.

In terms of individual characteristics, age and education were not found to be associated with changes in leadership cognitions. Although income and residential tenure showed some scattered effects on cognitive outcomes, those effects were smaller than the effects of program participation across all outcomes. Data show that people with higher incomes are less likely to gain in self-efficacy and in attitudes of community commitment, despite training status. Similarly, people who live in the community longer are less likely to make gains in attitudes of community commitment, skills in envisioning a shared future, and in knowledge related to community structure and issues. With regard to sex effects, one significant relationship was found: females are likely to report more growth in attitudes about civic engagement versus males, regardless of leadership program participation. Taken together, the cognitive factors measured in this study are essentially about mutual problem solving, appreciation of others, and

efficacy about working together for the public good. As such, the development of these community leadership skills and attitudes furthers the potential for bridging social capital in the community – the potential to connect heterogeneous groups and thereby foster the diffusion of information and the development of trust.

Study 2: Program Participation and Behavioral Leadership Outcomes

While Study 1 examined the changes in knowledge, skills, and attitudes about community leadership, Study 2 sought to answer *does participation in community leadership development programs affect behavioral change in community leadership?* Behavioral leadership outcomes were measured using three variables related to community organizations: membership, involvement, and capitals. Each variable was coded as a binary outcome of whether there was a differential increase in a specific organizational behavior from the pre to the post condition. Membership was coded a 1 if the respondent reported more total organizations in the post condition compared to the pre. Involvement was coded a 1 if the respondent's total level of organizational involvement was higher in the post condition compared to the pre (an involvement index was first created by summing scores across all organizations in the pre and post conditions where for each organization 1 = inactive member, 2 = active member, and 3 = leadership position). Capitals reflects the scope of one's organizational affiliations across different types of asset areas in the community and was coded a 1 if the total number of unique capital asset areas of involvement was higher in the post condition compared to the pre. Descriptive data on behavioral leadership outcomes is presented in Table 1. Table 10 presents the results of binary logistic regression analysis of factors that may predict changes in behavioral leadership development. Each of the models for membership, involvement, and capitals is described next.

Membership. Model 1 shows that community leadership program participation is associated with joining more community organizations over time (Table 10). The odds of joining more community organizations over time are 2.8 times higher for participants in community leadership programs compared to non-participants with similar years of education, residential tenure, age, sex and income. In addition, the odds of joining more community organizations over time are significantly lower for older people and for people with higher education and income levels.

Involvement. In Table 10, Model 2 shows the results from binary logistic regression analysis illustrating factors associated with the degree of involvement in community organizations over time (i.e., summative index of inactive member, active member, and leader role). Controlling for individual characteristics, participation in community leadership training is associated with higher levels of involvement in community organizations over time. Specifically, for individuals who participate in a community leadership program, the odds are 2.8 times higher that, over time, they will increase their level of involvement in organizations versus individuals who do not participate in community leadership programs. The results also show that older people and people who have lived in the community longer are less likely to increase their level of involvement in community organizations, controlling for all other variables including training.

Capitals. Model 3 shows results from binary logistic regression analysis predicting the likelihood of getting increasingly involved in more capital asset areas in the community. Controlling for age, sex, income, education, and years in community, people who participate in community leadership training are more likely to get involved in a greater number of capital asset areas over time. The model shows that if an individual has participated in a community leadership program, the odds are 1.5 times higher that, over time, he or she will increase the

number of capital asset areas of involvement compared to leaders who do not participate in community leadership programs. Age is again negatively associated with adding capitals in this model.

Summary: Behavioral factors. Results from binary logistic regression analysis show that participation in community leadership programs – versus non-participation – is associated with significantly higher odds of all three community leadership behaviors: increased organizational membership, increased organizational involvement, and an expanded reach into multiple capital asset areas in the community. Regardless of training, age remains a robust variable. As age increases, the odds of joining more organizations, of becoming more deeply involved, and of reaching out to multiple asset areas decreases. Further, highly educated leaders and leaders with higher incomes are less likely to increase their total number of organizational memberships over time, even when controlling for training. Taken together, the growth in these organizational behaviors sets up opportunities for bridging social capital in the community. As residents become more deeply engaged in a wider array of organizations, there becomes a greater potential for making meaningful social connections across different capital asset areas in the community.

Study 3: Program Structure Elements and Community Leadership Outcomes

While the previous studies looked for unique leadership program effects on cognitive and behavioral leadership outcomes, Study 3 asks *are differences in the way community leadership development programs are structured associated with differences in cognitive and behavioral community leadership outcomes?* Thus, Study 3 uses data only from community leadership trainees to examine the relationships between various leadership program structure variables and both cognitive and behavioral leadership outcomes. Program structure elements include hours of the program devoted to skill building lessons, community development learning, field activities,

and group project work. Another set of program structure variables reflects the type of organization sponsoring the leadership program, and these variables are used as controls in the models. To explain, different sponsoring organizations are assumed to take different approaches to the design and delivery of leadership programs. The study seeks to control for this possible variation. Four types of community leadership program sponsors are recognized in this study and are coded into dichotomous categories: university extension, chamber of commerce, extension-chamber partnerships, and other nonprofit sponsors. For the regression models, other nonprofit sponsors is the omitted category. That is, university extension, chamber of commerce, and extension-chamber sponsorship types are included as controls and each type is compared to the other and to the omitted category, all other nonprofits.

The first part of Study 3 examines the effects of program structure variables on the six cognitive leadership development outcomes. Table 11 shows the results from OLS regression analyses predicting relative change in cognitive leadership development using program structure elements as independent variables along with sponsor type and individual characteristics as controls. Each of the models for cognitive outcomes is discussed next.

Program structure and personal growth and efficacy. As shown in Table 11, Model 1 includes program structure variables for hours spent in individual skill development, field activities, community development learning, and group project activities. The model includes both individual characteristics and program sponsor types as control variables. According to the results, community leadership programs that offer more hours in skill building are associated with trainees who make slightly higher gains in Personal Growth and Efficacy. Controlling for individual characteristics and for sponsor type, each additional hour of individual skill

development in the curriculum is associated with a 0.7% incremental increase in relative change in Personal Growth and Efficacy among trainees from pre to post program.

Program structure and community commitment. Model 2 shows that none of the program structure variables has a significant relationship with changes in Community Commitment cognitions among trainees, controlling for individual characteristics and for program sponsor type. In terms of individual characteristics, trainees with higher incomes are found to be associated with less change in Community Commitment over time. Likewise, trainees with longer residential tenure are associated with less change in Community Commitment.

Program structure and shared future and purpose. Model 3 shows results from OLS regression analyses predicting relative change in Shared Future and Purpose among program participants. The number of hours devoted to skill building in the curriculum is associated with bigger gains in Shared Future and Purpose among trainees. Each additional hour of skill building in the curriculum is associated with an additional 1.0% incremental gain in Shared Future and Purpose, controlling for individual characteristics and for program sponsor type. Each of the program sponsor types was found to be significantly associated with gains in Shared Future and Purpose. Holding individual characteristics and other program structure variables constant, extension programs and chamber of commerce programs are each associated with an additional 15% gain in Shared Future and Purpose. Participation in extension/chamber partnership programs is associated with an additional 10.6% gain in Shared Future and Purpose.

Program structure and community knowledge. Model 4 shows the results for relative change in Community Knowledge among trainees from pre to post program. Model 4 shows that the number of program hours spent on group project work is associated with increases in relative change in Community Knowledge. Each additional hour of group project activity, is associated

with a 0.7% incremental increase in relative change in Community Knowledge among trainees after the program, controlling for individual characteristics, other curricular hours, and type of sponsor. Residential tenure is found to have a very slight negative association with changes in Community Knowledge among program trainees.

Program structure and civic engagement. Model 5 shows the results for relative change in Civic Engagement cognitions among trainees from pre to post program. Controlling for individual characteristics and for sponsor type, trainees in programs with more hours spent on skill building are more likely to make gains in Civic Engagement cognitions from pre to post program. Specifically, each additional hour of skill building in the program is associated with a 1.0% incremental increase in gains for Civic Engagement cognitions among trainees. The model also shows that being female rather than male is associated with an additional 9.2% incremental increase to relative change in Civic Engagement cognitions among trainees, controlling for various curricular activity hours and for different sponsor types. Also, trainees who have lived longer in the community tend to have fewer cognitive gains in Civic Engagement from pre to post program. Holding all other variables constant, each additional year of living in the community is associated with a 0.3% decrease in relative change scores in Civic Engagement skills and attitudes.

Program structure and social cohesion. Model 6 shows results for relative change in Social Cohesion among trainees from pre to post program. Controlling for individual characteristics and for sponsor type, the number of hours spent in skill building activities and in group project work are both associated with higher gains in Social Cohesion among trainees from pre to post program. Specifically, each additional hour of skill building in the curriculum is associated with a 0.6% incremental increase to relative change in Social Cohesion among

trainees. Likewise, each additional hour of group project work in the program is associated with a 0.3% incremental increase to relative change in Social Cohesion among trainees.

While the first part of Study 3 examines the effects of program structure on trainees' cognitive outcomes of community leadership, the results that both researchers and program stakeholders are keenly interested in are the action-oriented outcomes – the behaviors of program participants. The second part of Study 3 examines the effects of program structure variables on behavioral leadership development outcomes, each measured in terms of different types of organizational behaviors in the community.

Program structure and membership. Model 1 in Table 12 shows results from binary logistic regression analysis predicting trainees' membership in more community organizations from pre to post program. The number of hours spent on group project activities is associated with joining more organizations over time, taking into account individual characteristics and other program structure variables. That is, for every additional hour of group project activity in the program, the odds are 1.02 times higher that trainees will join more community organizations from pre to post program. In terms of individual characteristics, age, income and education level are each found to be negatively associated with joining more community organizations from pre to post program. Put differently, trainees who are on average older, wealthier, and more highly educated are not as likely to join more community organizations after the program. Further, none of the sponsorship variables are found to have statistically significant relationships to joining more community organizations.

Program structure and involvement. Model 2 in Table 12 shows results from binary logistic regression analysis for trainees' higher level of involvement in community organizations from pre to post program. Involvement is based on a summative index across all organizations

reported (1 for inactive member, 2 for active member, 3 for leadership role), and was coded a 1 if the total involvement level increased from the pre to the post condition. Model 2 shows that each hour of additional time spent on field activities is associated with slightly lower odds of trainees increasing their level of involvement in community organizations from pre to post program, controlling for individual characteristics and for program sponsor type. In terms of individual characteristics, age is again negatively associated with gains in trainees' level of organizational involvement from pre to post program.

Program structure and capitals. Model 3 shows results from binary logistic regression analysis for trainees' involvement in more community capital asset areas from pre to post program. In terms of program structure elements, the odds of trainees increasing their community capitals are lower as the number of hours of skill development in the curriculum increases. Conversely, as the number of hours of community development learning increases in the curriculum, the odds are greater that trainees will get involved in more capital asset areas. Controlling for individual characteristics and for other program variables, for each additional hour of community development learning in the program, the odds are 1.02 times higher that trainees will get involved in more capital asset areas. None of the individual characteristics nor program sponsor types were significantly related to gains in the number of capital asset areas of involvement by trainees after program participation.

Results Summary

In all, the results from each of these analyses suggest that participation in community leadership programs is uniquely associated with gains in both cognitive and behavioral leadership development. Though it remains challenging to systematically link specific program structure elements to those outcomes, my results suggest that time spent on skill building is

important for cognitive increases, while time spent on project work and community development learning are important for community leadership behavior change.

The degree of variation in community leadership outcomes explained by these models is captured in the R^2 values. R^2 values are reported in ranges due to the nature of the multiple imputation process. The range of R^2 values for the models on cognitive outcomes showed that the percent of variance explained by the independent variables ranged from a low of 3.5% (model for Social Cohesion) to a high of 8.4% (model for Community Knowledge). Further, the range of R^2 values for the models on behavioral outcomes showed that the percent of variance explained by the independent variables ranged from a low of 1.5% (model for capitals) to a high of 12.5% (model for involvement). The models in Study 3 for program structure variables are similar in terms of the amount of variance explained. R^2 values show that the Study 3 independent variables are explaining about 4.0% to 9.4% of the variance in cognitive outcomes and are explaining between 2.4% to 9.9% of the behavioral outcomes.

Outcomes specifically related to opportunities for developing bridging social capital are discussed in the following chapter. Study limitations and considerations for practice will also be presented.

CHAPTER 5: DISCUSSION & CONCLUSION

This study sought to determine whether community leadership development programs affect participants' community leadership development. Specifically, this study examined both cognitive and behavioral changes over time in order to determine whether leadership program interventions increase opportunities for developing bridging social capital in communities. From a field theory perspective, community development occurs when people work together to solve problems, purposively expanding their networks outward toward a general community interest (Wilkinson, 1991). This expansion of networks is akin to bridging social capital (Putnam, 2000; Flora & Flora, 2008). Thus, program interventions that claim to promote 'community leadership' may do well to focus on the potential for this network expansion. The goal of this study was to examine cognitive and behavioral changes at the individual level that help set the stage for social bridging. In this chapter, I will present an interpretation of the main findings and propose areas for future research. I will conclude with suggestions for practitioners in the field of community leadership development followed by the limitations of the study.

Community Leadership Programs & Cognitive Change

Using the six factors of community leadership advanced by Pigg (Pigg, 2001; Pigg et al., 2007), results from this quasi-experimental study strengthen previous findings by other scholars that suggest community leadership development programs affect change in participants' knowledge, skills, and attitudes about community leadership (Black & Earnest, 2007; Brundgardt & Seibel, 1995; Duehr et al., 2004; Earnest, 1996; Pigg, 2001; Rohs & Langone, 1993; Scheffert, 2007; Walker & Gray, 2009). However the study of cognitive change in community leadership presented here goes beyond previous research in several ways. First, it uses a comparison group design in order to isolate unique program effects. Though this technique has been used (Rohs &

Langone, 1993; Walker & Gray, 2009), no other comparison group study has employed regression analysis, used a retrospective pretest, nor has it controlled for individual characteristics and for group-level effects (i.e., nested data). The current study also uses one of the largest sample sizes among all studies of community leadership programs ($n = 768$) and also manages missing data using multiple imputation which is the preferred method when data are not missing at random (Royston, 2004; Rubin, 1987). As such, the study presented here is methodologically and analytically more rigorous, thereby increasing the validity of results.

Results from this study show that, of all six cognitive factors of community leadership, participation in leadership programs is associated with the greatest gains in Community Knowledge. This supports findings from previous evaluation studies of leadership programs (Duehr, 2004; Pigg, 2001; Scheffert, 2007). Compared to peers in other rural counties who did not participate in community leadership training, people who participated in community leadership programs made significant gains in the following factors: Community Knowledge, Shared Future and Purpose, Civic Engagement, Community Commitment, Personal Growth and Efficacy, and Social Cohesion. Moreover, findings of a unique program effect were maintained even after controls for age, sex, income, education, and number of years living in the community.

The cognitive factors examined here are individual-level factors, and they largely represent knowledge, skills, and attitudes about social processes at the group and community level. The findings of a unique program effect suggest that leadership program interventions are making a difference in individuals' reported growth in social skills and improvements in social knowledge. Such increases in social knowledge, improved teamwork skills, and greater appreciation of others in the community combine to set the stage for the development of bridging social capital. To explain, social bridging is viewed as making sturdy connections between

dissimilar groups – be they social, cultural, professional, or political. Among others, the skills and attitudes measured in this study include motivations that have to do with making such connections: to move out of one's comfort zone, to forge connections among members of community, to seek out different perspectives, to get to know people in different roles, and to improve consensus building skills. These cognitive notions point in the direction of building more bridging social capital in the community, a necessary mechanism for accessing and developing the community field.

Cognitive outcomes and individual characteristics. Though program effects were found across all cognitive factors despite differences in individual characteristics, a few relationships between individual characteristics and cognitive leadership outcomes are worth noting. The findings for income and cognitive change in community leadership suggest that wealthier individuals make fewer gains in community leadership cognitions over time, despite leadership program participation. This relationship was specifically found for Personal Growth and Efficacy and Community Commitment. These findings are consistent with findings from Dhanakumar et al. who also found income negatively related to feelings of value from a community leadership program (1996). The link between income and change in leadership cognitions over time is not clear. Perhaps these findings are a reflection of the notion that economically successful people may feel as though they have less value to gain from program interventions. Further research is needed to better understand the relationship between income and cognitive change in community leadership.

Though the strength of the relationship was low, this study also found that, despite program participation, the more years community leaders live in the community, the less likely they are to make gains in Community Commitment, Shared Future and Purpose, and Community

Knowledge. It could be that community “oldtimers” (Salamon, 2003) have been around long enough to experience more community activity and feel, in general, that they have less to learn or to gain. It may also reflect the fact that community leadership programs are often designed as primers on the community and its inter-workings. Program participants who have lived in the community a long time may feel as though they know the community better than their newcomer peers and may feel resentful toward program instructors who are suggesting ways to do things better. A more qualitative investigation with community newcomers and oldtimers may be warranted in order to better understand these findings.

Results from this study also suggest that women, versus men, report higher gains over time in their attitudes about civic engagement even when controlling for participation in community leadership programs. The factor for Civic Engagement was made up of survey items having to do with feeling qualified and confident about holding public office and participating in public issues. Results suggest that females may have more potential to make gains in this area. Again, qualitative follow up studies of civic engagement attitudes among women in rural communities may be helpful in understand this finding.

Overall, the findings from the study of cognitive changes support the notion that leadership can be learned (Day, 2001; Rost, 1993). Cognitive leadership development – growth in knowledge, skills, and attitudes – may be considered at least a foundation, or at best a prerequisite, to the development of actual leadership behaviors in the community. Community leadership behaviors are discussed next.

Community Leadership Programs & Behavioral Change

This study supports the notion that participation in community leadership programs is associated with increases in community leadership behaviors at the organizational level (Black &

Earnest, 2007, 2009; Bono et al., 2010; Fredricks, 2003; Rohs & Langone, 1993; Scheffert, 2007). Though other research has drawn the same connection between program participation and increased organizational engagement in the community, the study presented here makes a more definitive case in that it uses a comparison group design and controls for individual characteristics and for group level variation. Specifically, data from this study show that participation in community leadership programs is uniquely associated with joining more community organizations, increasing overall organizational involvement, and getting involved in more capital asset areas in the community. Each of these behaviors is briefly discussed next.

The results from this study show that people who participate in community leadership programs are far more likely to add to their total number of community organization memberships than comparable peers who did not participate in such programs. That is, program participants are more likely to join more community organizations after the program. These findings might be reflective of the gains made across all cognitive areas. Perhaps attitudes and intentions about getting involved in the community that develop during program participation are actually coming to fruition through organizational behavior. To wit, there is a significant positive relationship between gains in Civic Engagement (cognitions) and gains in organizational membership (behavior) among leadership program participants. There is also a significant positive relationship between gains in Community Commitment (cognitions) and gains in organizational membership (behavior) (See Table 4).

Though organizational membership itself is important, practicing leadership in the community often requires a deeper level of engagement within community organizations – being an active member or a member in a leadership role. This study shows that participants in community leadership development programs are much more likely to make gains in their level

of involvement across all the organizations they are involved in compared to their peers in other rural communities who have not participated in a community leadership program. That is, participation in leadership development programs is associated with a behavioral trajectory that goes from relatively low activity in community organizations to high activity and taking on leadership roles within organizations. This trajectory is important in terms of opportunities for bridging social capital, as the more centralized a person becomes in their organization or social network, the more chances he or she may have to link to other organizations or social networks (Burt, 2002). Here again, there may be a connection between community leadership cognitions and community leadership behaviors; there are significant positive relationships between increased organizational involvement and increases in the cognitive factors of Civic Engagement, Community Commitment, and Community Knowledge.

One of the most important contributions this study makes to the literature on community leadership programs comes from the analysis of program effects on organizational involvement across multiple capital asset areas in a community. The results show that people who participate in community leadership development programs have higher odds of getting involved in more capital asset areas across the community over time versus comparable peers in other communities who did not participate in similar leadership programs. The community capitals framework with its seven inter-related community asset areas was used to categorize community organizations into natural, cultural, human, social, political, financial, and built capitals (Flora & Flora, 2008). The community capitals framework recognizes that investment in one capital asset area can be transformed to benefit other capital asset areas. Thus when all capital asset areas are well supported, they can together create sustainable communities with healthy ecosystems, vital economies, and social empowerment. No other study of community leadership program

outcomes of this scope has specifically examined the behaviors of participants with regard to the expansion of their community capital areas of involvement. Moreover, the effects for program participation may likely be underestimated since respondents were limited in the number of organizations they could report.

The importance of community leaders being involved in multiple capital asset areas may be appreciated from the perspective of the ‘strength of weak ties’ phenomenon (Granovetter, 1973). According to the strength of weak ties idea, open social networks among people who interact relatively infrequently are more likely to introduce new ideas and opportunities to their members compared to closed networks. Further, individuals with many weak ties can exercise influence or act as brokers within their social networks by bridging two networks that are not directly linked – an activity referred to as filling structural holes (Burt, 1992).

Moreover, data from this study show that gains in the number of capitals does not seem to be directly tied to the gains in organizational membership overall since there is not a high degree of correlation between the two outcomes. It is not that leadership program participants are joining more organizations and therefore becoming more involved in more capitals. It seems that leadership program participants are expanding their capitals reach irrespective of the total number of organizations. For example, a participant might be involved in three human capital organizations before participating in the program and then after the program become involved in one human capital organization, one financial capital organization and one cultural capital organization. In this example, there would be zero change in total memberships but an overall increase in the number of capitals. This is the type of behavior that is uniquely associated with community leadership program participants (versus non-participants) and in itself sets a potential for building greater bridging social capital in a community. In support of this notion, data from

both the cognitive and the behavioral studies show significant positive relationship between gains in the number of capitals (behavior) and gains in Community Commitment and Shared Future and Purpose. One interpretation could be that the main value of community leadership development programs is the exposure to a wider array of community needs and a more diverse set of community social networks than a person might otherwise experience on their own without a program intervention.

Taken together, these organizational behaviors represent opportunities for developing bridging social capital in communities. In the community field, people act with mutual purpose through organizations. Increasing the number of organizational memberships and the depth of involvement in those organizations enhances one's social network and adds to the potential for social bridging. Importantly, when those organizational areas of involvement are across multiple capital asset areas in the community, then those bridging opportunities become even more powerful as the potential for linking asset areas is established and social bridges between, say, cultural and financial areas or political and natural areas emerge. Residents who have participated in a community leadership program enter into these potentials with greater bridging attitudes as evidenced by the cognitive effects of programs. So by training people, we set them on a course to not only have improved attitudes about building bridges in the community, we see them actualizing this through their boundary-crossing organizational behaviors.

Behavioral outcomes and individual characteristics. Program effects for all three behavioral outcomes – more organizational membership, greater organizational involvement, and involvement across more capital asset areas – were maintained even after controls for age, sex, education, income, and number of years in the community. Results also showed that similar to changes in attitudes, older community leaders experienced less gain in organizational leadership

behaviors over time. Perhaps older community residents do not perceive as much value in growing their organizational involvement versus younger residents who may be more likely to be motivated by the economic and social benefits of organizational involvement. Further study is necessary to better understand the relationship between age and the development of organizational behaviors in the community.

In addition, higher levels of education were found to be negatively related to growth in community organization membership despite leadership program participation. This finding is counter-intuitive and may be partially explained by how membership growth was measured. Descriptive data showed that a high percentage of people at the top levels of education (college degree and graduate school) were already involved in three organizations in the pre condition – the maximum number of organizations possible to report on the survey. So since the more highly educated respondents were involved in many organizations, they may not have experienced as much change or growth in organizational membership. Clearly, more investigation is warranted to better understand the relationship between level of education and organizational behaviors at the community level. Indeed, future evaluation tools should be constructed so as to capture a fuller range of organizational participation in order to avoid a ceiling effect.

Since this study provides supporting evidence that participation in community leadership development programs is associated with growth in community leadership knowledge, skills, attitudes, and behaviors, the natural next step is to unpack community leadership program structures in order to discover which specific program elements may be contributing to these changes. Toward that end, community leadership program structure is discussed next.

Community Leadership Program Structure & Trainee Outcomes

A third goal of this study was to understand possible links between the way community leadership programs are structured and the eventual cognitive and behavioral outcomes of trainees. The study looked at specifically at program hours devoted to different types of learning activities. Findings show that more time spent in the program on building leadership skills is positively related to gains in four areas of community leadership cognitions. Specifically, more hours of skill building during the leadership program is related to higher gains in Personal Growth and Efficacy, a stronger sense of Shared Future and Purpose, more positive attitudes toward Civic Engagement, and higher gains in Social Cohesion. These findings are intuitive and most likely resonate with program planners who expect that teaching cognitive skills will result in people reporting more gains in leadership cognitions. However, researchers need to take a deeper look at what kinds of skills are being taught in these types of programs. Typically community leadership programs that use skill building lessons feature a heavy emphasis on self-awareness and personal leadership style. Other learning modules might include conflict management, leading effective meetings, public speaking, and dealing with diversity. Although this study does not delve into the specific skills taught across each program, further research is warranted here to determine if specific skills training is related to key outcomes.

But teaching leadership skills is not important for all outcomes. The study on program structure elements revealed that more time spent on group project activities is significantly related to higher gains in Community Knowledge and Social Cohesion among trainees. The Community Knowledge outcome may stem from the idea that actually practicing in the community field by way of a live project (versus learning about personal skills in a classroom) may give trainees opportunities for seeing their communities in a new light – getting access to

places and people that they otherwise would not encounter in a traditional classroom setting. The growth from such experiential learning could be a reflection of the idea of groups “learning their way through challenges” that Day describes (2001). Further, the relationship between hours spent on group projects and growth in Social Cohesion is easy to understand. The experiential learning through group project work may prime people for building social capital as they work in relationship with one another toward a mutual purpose.

Although links between program structure elements and cognitive outcomes are important, one of the most promising aspects of this study is the examination of the relationship between community leadership program structure and the development of community leadership behaviors that provide opportunities for building bridging social capital. While the number of hours spent in skill building was related to growth in community leadership cognitions, skill building hours was found to be negatively associated with growth in community leadership behaviors. Instead, time spent learning about community development processes and time spent working on group projects each has a significant association with growth in organizational leadership behaviors. In this sense, the skills that are being taught to enhance cognitive development are not necessarily being transferred to behaviors – at least the organizational behaviors measured here.

Specifically, time spent in the program on community development learning in particular is associated with trainees who go on to get involved in more capital asset areas in the community. This expansion of capitals is what sets the stage for the development of social bridging. If community development learning is part of the key to expanding a person’s reach in the community, then next steps for research should include a deeper look into what content and strategies are being taught in these leadership programs in terms of ‘community development.’

For example, community development learning could come in the form of evaluating community assets, examining the community's existing power structure, learning how local development groups operate, and interacting with top employers and government officials. Further research should examine specific modules in community development learning.

This study also took into consideration the different leadership program sponsor types. To recap, each community leadership program in this study was different; though the goals for all programs were similar, each program had a different design and various local or regional organizations served as program sponsors. As such, some of the variation in the leadership outcomes may have been attributable to the different sponsor types. Results from this study show that, for the most part, no one type of sponsor is better than others in terms of producing community leadership outcomes. Results showed that for all of the cognitive leadership outcomes and all of the behavioral leadership outcomes, sponsor type was found only to be a factor in the cognitive outcome of Shared Future and Purpose. Extension sponsors, chamber of commerce sponsors, and extension/chamber partnership sponsors (versus other types of nonprofit organizations) were each found to be significantly associated with increased scores among trainees' sense of Shared Future and Purpose in their community. This result may be due to the relatively longer history that these respective organizations have in the community leadership 'business' and their explicit focus on improving the immediate local community, versus another type of nonprofit sponsor such as a regional foundation or a community college. More research is needed in order to untangle how different types of sponsors approach their community leadership programs – how they set goals for their programs and measure their own success. Indeed, many program structure variables remain unexplored including quality of

instructors, clarity of program goals, perceived relevance of program content, and post-program support. These elements may vary by type of sponsor.

The results also show that some individual characteristics are significantly related to community leadership behavior change despite variations in program structure. Older, more educated people tend to experience less behavioral change in community leadership over time. Furthermore, wealthier people and those who live in the community longer tend to report less cognitive and behavioral change. In general, people who are younger, less formally educated, less wealthy and who have lived in the community for less time have more potential for gains in community leadership. Sex differences were only significant with regard to changes in civic engagement cognitions, with females reporting more gain in civic engagement attitudes over time regardless of leadership training.

In sum, community leadership programs are associated with significant change in leadership cognitions and behaviors. It is less clear what elements of these programs effect specific change, though it appears that learning leadership skills is important for cognitive growth and learning about the community and practicing group projects are important for behavior change. While cognitive growth in community leadership knowledge, skills, and attitudes is important (and relatively easy to measure), the ultimate and practical outcome that educators and stakeholders are looking for is actual community change. This requires action – specific behaviors – on the part of people acting in leadership roles. Such action is usually carried out through work in organizations. In an effort to understand if and how program interventions are affecting community leader behavior, an increasing number of community leadership studies are now more sharply examining post-program social behaviors versus changes in cognitions (Black & Earnest, 2009; Bono et al., 2010; Emery et al., 2007; Fredricks,

2003; Rasmussen et al., 2011). These studies of behavioral outcomes have included both quantitative and qualitative approaches. More qualitative inquiry into the long-term community-wide outcomes of community leadership programming may be necessary to better evaluate the investments made into such programs. Indeed, researchers should consider widening the sample of informants to include leaders and stakeholders in the community who have not been program participants or have not otherwise been connected with the program in order to gain a broader view of the value of community leadership programming.

Inasmuch as we continue to understand community leadership program outcomes, we can then, in hindsight, look back at the designs of leadership programs and critically examine how these programs are structured and delivered.

Limitations

While this study gives supporting evidence for the effectiveness of community leadership development programs, limitations should be acknowledged. Limitations in three areas are briefly discussed next: study design, sampling bias, and survey instrument.

Study design. Quasi-experimental designs using nonequivalent control groups are susceptible to threats to internal validity. As with most studies of program interventions, random assignment of participants to treatment and control groups was neither feasible nor desirable in the current study. This complicates any causal interpretations of the data. In terms of the study presented here, people who chose to participate in a community leadership program are likely to have similarities and may be assumed to be planning a civic career no matter the training program. It is possible that these program participants would have made some degree of gain in community leadership cognitions and behaviors without the program. Since random assignment was not possible, we can never be certain about causality. However, this does not diminish the

need for effective programs nor the value of program interventions. If there is a set of people in a community who are bound to become active in the community field – training or not – program sponsors and planners still have an obligation to design and to offer the most effective programming possible in order to replace well-worn traditional leadership tools with community leadership ‘power tools’ that increase opportunities for bridging social capital, thereby increasing community capacity.

Self-report bias and retrospective pretest. Data from this study come from self-reported survey responses. Again, self-reported data may threaten validity, may suffer from respondents’ insufficient recall, and may set a potential for biased responses. Self-reported data may show a learning effect (Lamb, 2005), wherein respondents who have participated in a program may be motivated to show researchers their current self is somehow better than their past self and thus may inflate their actual degree of change to reflect learning. Other reasons for biasing survey responses include effort justification and implicit theories of change (Hill & Betz, 2005). These biases have the potential of overestimating program effects. Moreover, limitations of the retrospective survey approach must be noted. Other researchers have demonstrated participants’ memory-related problems and have suggested that participants may have a subjective motivation to make the program look good (Pratt et al., 2000). As such, Taylor, Russ-Eft, and Taylor (2009) have suggested that there may be inflationary bias with retrospective pretests and have presented evidence of respondents’ application of an implicit theory of change (i.e., assumption that post-training scores should generally be higher than pre-training scores) when responding to retrospective pretests.

Limitations with survey instrument. Data used in this study were gathered using a survey instrument called EXCEL Community Leadership Survey (Pigg, 2001) (See Appendix A). The

survey uses Likert-type scales of agreement, but the range of the scale in this particular survey is low (i.e., one to four). This condensed range of choices then limits the range of factor scores that would allow for maximum variation. Moreover, using change scores in parametric tests must be done with caution (Bonate, 2000). An alternative survey design may be to ask respondents to report their perceived level of change within a single survey item (Lam & Bengo, 2003). This type of item has been used successfully with community leadership development programs by Black (2006), and is currently being developed for use with Illinois Extension (Keating & Silvis, 2011). Further, the data gathered here on organizational behaviors was limited because the survey tool only allowed for respondents to report a maximum of three community organizations in both the pre and post conditions. Again, this limits the variation in the data, and in this case may have led to an underestimation of program effects on organizational behaviors.

Suggestions for Practitioners

This study provides some valuable information for community leadership program practitioners. As this study was essentially an evaluative one, the first point of recommendation for community leadership program practitioners is to structure programs with the desired outcomes and impacts in mind. This often requires the input of multiple stakeholders and investors. Research in this area has shown that community leadership programs are sometimes structured without clear logic models or missions (Keating & Gasteyer, 2011). If this is the case, evaluations of program success are problematic and can cause confusion for participants, investors, and the community at large. Though this study did not look at the clarity of leadership program goals, for evaluative approaches to be most effective, programs should adopt a set of targeted outcomes. These targeted outcomes could be at the individual, organizational, or community level. The study presented here examined individual cognitive outcomes and

individual behaviors at the organizational level. Leadership program practitioners should take an honest look at their capacity for affecting change on different levels and at their resources for evaluating impact at these various levels.

Next, the results from this study show that, in general, community leadership trainees who are younger, less wealthy, less educated and with less tenure in the community tend to have more room for growth. This has implications for recruiting participants into programs. It should not, however, be taken as a full prescription. Indeed, Denero (1992) has suggested that community leadership programs perform best when established leaders are included as participants alongside newcomer or atypical leaders. With this in mind, a wide net should be cast when recruiting participants into community leadership development programs.

In terms of program content, community leadership program practitioners should be able to articulate whether their goals are to change minds about community leadership, to change community leadership actions, or both. If changing the knowledge, skills, and attitudes of community leaders is the main goal, then data from this study suggest that practitioners would do well to focus their efforts on top-notch skills training. Partnerships with area colleges and universities could be forged for the delivery of skill building modules and for helping to set community leadership in a theoretical framework (e.g., distinguishing it from business management).

If practitioners have community action – behavior change – as the primary goal, then data from this study suggest that the program curriculum should include a heavy dose of community development learning and group project work. In terms of community development learning, the key here would be exposure to in-depth knowledge about the community and its various social networks. Examples from some programs include community history, information

from and access to top employers, panel discussions with local service providers, and conversations with government officials. While these activities certainly have merit, they should be presented in a critical context of addressing community needs and pathways for practicing mutual action versus showcasing or boosterism (Keating & Gasteyer, 2011). Similarly, with regard to group projects, care should be taken to structure opportunities for bridging across organizations. If developing bridging social capital is a primary goal, then a group project may not be optimal if it is designed as a discrete project for a single organization. Instead, projects could be structured such that trainees must practice social bridging by involving multiple organizations in problem-solving. Further, practitioners should be ready to support the ongoing community action that gets initiated by community leadership trainees. Put differently, program planners should deliberately find ways to forge and to maintain new social connections and should allow and support action to be practiced on the community field.

If community leadership program practitioners aim to affect both leadership cognitions and leadership behaviors in the community, a mix of skill building activities, community development learning activities, and group project activities can be blended. Since there are a variety of instructional approaches to take, practitioners could adopt a flexible model, offering a program design that meets the current needs of the community. To this end, some community leadership programs are allowing the current cohort of participants to design their own program according to what the group collectively feels are the most pressing needs in the community at the time. Since adult learners learn best when the material is relevant to their life experience (Merriam, Caffarella, & Baumgartner, 2006), practitioners could explore the idea of soliciting the incoming cohort of trainees for their input on what kinds of community knowledge, networks, and projects would be important for them to work on during their program time. This

type of dynamic approach is akin to cooperative learning, – a collaborative process that purposefully includes the social construction of meaning. Cooperative learning benefits trainees who value collaboration and also promotes interdependence among learners, develops shared leadership skills, and provides tools to help groups process their progress (Slavin, 1990).

In terms of program sponsors, data from this study suggest that there is no one sponsor better than another for consistently being associated with community leadership development. Though more study is necessary in this area, it is clear is that all types of organizations have some capacity to deliver results. With this in mind, communities should look broadly at the potential providers in the local community and in the region – extension units, chambers of commerce, colleges and universities, foundations, and development authorities – and consider creative partnerships for organizing, designing and delivering community leadership programming. The blending of organizations for community leadership programming from the outset may set an important potential for the development of bridging social capital among program participants and stakeholders alike. Finally, program sponsors should be responsible for evaluating their progress regularly and for communicating their results and their program's value to the community at large.

Contributions

Documenting the outcomes of community leadership development programming is important not only as a scholarly contribution to an emerging literature, but also for economic and community development policy-making. This research has contributed on both counts. The study presented here suggests a new theoretical lens through which to evaluate programs: as opportunities to develop bridging social capital – a social asset seen as a prerequisite for collaborative community endeavors. In terms of methodological contributions, this research

represents a novel way of using the community capitals framework for analysis of data on community organizations and organizational behavior change. Finally, results of this research provide direction to community leadership program administrators and funders, particularly with regard to the design and development of leadership programs. The research sheds new light on programmatic mechanisms that can enhance the development of bridging social capital in communities. In rural places where social diversity is rising and collaborative, do-it-yourself solutions are often the only answer to community problems, the more abundant and well-supported the social bridges, the greater the likelihood of success.

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TABLES AND FIGURES

Table 1. *Descriptions, Metrics, and Descriptive Data for All Variables Used in the Analyses*

OUTCOME VARIABLE	DESCRIPTION	METRIC	DESCRIPTIVE DATA		
				<u>Treatment</u>	<u>Comparison</u>
<u>Cognitive</u>					
Personal Growth & Efficacy	Sum of ratings of survey items related to skills in analysis, problem-solving, and self-efficacy.	Relative change in factor score: (Post – Pre)/Pre	N	490	132
			Range	-.38 – 1.67	-.167 – 1.50
			Mean	.22	.13
			SD	.28	.24
Community Commitment	Sum of ratings of survey items related to attitudes of dedication to improving the community and taking responsibility.	Relative change in factor score: (Post – Pre)/Pre	N	492	134
			Range	-.40 – 2.50	-.18 – 1.00
			Mean	.23	.12
			SD	.28	.20
Shared Future & Purpose	Sum of ratings of survey items related to attitudes and skills about envisioning new and positive possibilities along with others in the community.	Relative change in factor score: (Post – Pre)/Pre	N	496	135
			Range	-.50 – 2.75	-.42 – 1.67
			Mean	.28	.15
			SD	.37	.28
Community Knowledge	Sum of ratings of survey items related to knowledge about local community structure, community issues, and one's self-efficacy to affect them.	Relative change in factor score: (Post – Pre)/Pre	N	494	134
			Range	-.33 – 2.80	-.20 – 1.33
			Mean	.38	.18
			SD	.44	.27
Civic Engagement	Sum of ratings of survey items related to one's skills and attitudes about civic involvement.	Relative change in factor score: (Post – Pre)/Pre	N	495	133
			Range	-.39 – 2.20	-.17 – 1.20
			Mean	.31	.17
			SD	.36	.25
Social Cohesion	Sum of ratings of survey items related to deepening and expanding social relationships and working with others.	Relative change in factor score: (Post – Pre)/Pre	N	495	132
			Range	-.38 – 1.50	-.17 – 1.25
			Mean	.17	.11
			SD	.21	.18

Descriptive statistics calculated before imputation of missing data.

Table 1 (cont.) *Descriptions, Metrics, and Descriptive Data for All Variables Used in the Analyses*

OUTCOME VARIABLE	DESCRIPTION	METRIC	DESCRIPTIVE DATA		
				<u>Treatment</u>	<u>Comparison</u>
<u>Behavioral</u>					
Membership	Number of community organizations reported by respondent on open-ended survey question. Maximum of 3 organizations to report for both pre and post conditions. Difference was calculated.	Dichotomous variable:			
		1=added to total number of organizations from pre to post	Yes	59.59%	26.71%
		0=else	No	40.41%	73.29%
Involvement	Degree of involvement in a community organization where 0=no response 1=inactive member 2=active member 3=leadership position. Involvement scores were summed across all organizations to create an index, and a difference was calculated between pre and post conditions.	Dichotomous variable:			
		1=increased total involvement from pre to post	Yes	80.55%	51.37%
		0=else	No	19.45%	48.63%
Capitals	The number of unique community capital asset areas participant is involved in. Each organization reported by participant was assigned a capitals code, and the unique number of capitals were summed. Applies to pre and post conditions.	Dichotomous variable:			
		1=added to total number of capital areas from pre to post	Yes	47.48%	36.30%
		0=else	No	52.52%	63.70%

Table 1 (cont.) *Descriptions, Metrics, and Descriptive Data for All Variables Used in the Analyses*

INDEPENDENT VARIABLE	DESCRIPTION	METRIC	DESCRIPTIVE DATA		
				Treatment	Comparison
Training	Indicates whether respondent participated in community leadership development program.	Dichotomous variable where 1= yes (treatment) 0=no (comparison)	N = 768	80.99%	19.01%
<u>Individual Characteristics</u>					
Age	Age on last birthday	Continuous positive integer	N 484 Range 19 – 72 Mean 45.56 SD 10.38	129 27 – 85 51.05 10.94	
Female	Female or male	1=female 0=male	Yes 66.40% No 33.60%	33.33% 66.67%	
Residential Tenure	Number of years lived in the community	Continuous positive integer	N 501 Range 0 – 71 Mean 24.11 SD 16.22	135 2 – 71 29.77 18.24	
Education	Level of education ranging from less than high school to graduate degree	Ordinal variable where 1=8 th grade or less 2=some high school 3=high school graduate 4=vo/tech school 5=some college 6=college graduate 7=post college/graduate deg.	N 503 Range 1 - 7 Mean 5.70 SD 1.22	134 3 - 7 5.95 1.12	
Income	Level of 2006 household income ranging from less than \$10,000 to more than \$100,000	Ordinal variable where 1=less than \$10,000 2=\$10,000 –\$19,999 3=\$20,000-\$29,999 4=\$30,000-\$49,999 5=\$50,000-\$74,999 6=\$75,000-\$100,000 7=more than \$100,000	N 454 Range 1 – 7 Mean 5.47 SD 1.20	118 1 – 7 5.61 1.37	

Table 1 (cont.) *Descriptions, Metrics, and Descriptive Data for All Variables Used in the Analyses*

INDEPENDENT VARIABLE <u>Program Structure</u>	DESCRIPTION	METRIC	DESCRIPTIVE DATA		
				<u>Treatment</u>	<u>Comparison</u>
Skill Hours	Total number of hours offered by program in individual skills training activities	Continuous positive integer	N Range Mean SD	573 0 - 30 10.00 8.09	N/A
Field Hours	Total number of hours offered by program in field-based activities	Continuous positive integer	N Range Mean SD	573 0 – 62 14.93 19.71	N/A
Community Development Hours	Total number of hours offered by program in community development knowledge building activities	Continuous positive integer	N Range Mean SD	573 0 – 40 15.19 13.64	N/A
Project Hours	Total number of hours offered by program in group project work	Continuous positive integer	N Range Mean SD	573 0 – 40 8.25 9.51	N/A
Sponsor Type	Primary type of sponsor that administers leadership program	Dichotomous variables (1/0) for: <ul style="list-style-type: none"> Extension Chamber of Commerce Extension & Chamber Other Nonprofit 	N Extension Chamber Ext/Cham Other NP	573 21.99% 30.37% 22.51% 25.13%	N/A

Table 2. *Percentage of Missing Values by Treatment and Comparison Group for Individual Characteristics and Outcome Variables*

Variable	Percentage of Missing Values	
	Treatment	Comparison
Age	22.0%	6.3%
Sex	19.0%	8.5%
Education	19.0%	9.1%
Income	19.8%	10.9%
Residential Tenure	19.3%	8.5%
Personal Growth & Efficacy	21.2%	9.6%
Community Commitment	20.0%	8.2%
Shared Future & Purpose	20.3%	7.5%
Community Knowledge	20.6%	8.2%
Civic Engagement	20.4%	8.9%
Social Cohesion	20.4%	9.6%
Membership	22.7%	7.5%
Involvement	24.1%	8.9%
Capitals ¹	22.7%	7.5%

¹ Data for capitals were derived from data on membership, thus percentage of missing values is the same.

Table 3. *Reliability of Cognitive Community Leadership Factors*

Cognitive Leadership Factors and Survey Items					
Personal Growth & Efficacy	Community Commitment	Shared Future & Purpose	Community Knowledge	Civic Engagement	Social Cohesion
know how to assess and tackle problems (6)	strive to improve quality of life (2)	talk optimistically about community (3)	understand community structure/dynamics (8)	could do a good job in public office (4)	seek out different perspectives/ideas (5)
know difference between mgmt/leadership (11)	involved in community (7)	articulate a convincing vision (29)	know local, county, state resources (1)	qualified to participate in public issues (19)	deepen personal relationships (12)
strive to increase analysis & reasoning (32)	sense of community ownership (28)	envision exciting possibilities (9)	aware of all needs in community (17)	understand important public issues (27)	get to know people in different roles (14)
move out of my comfort zone & grow (30)	value contributions of others (15)	confidence community will achieve goals (18)	understand implications of local issues (22)	forge connections among members of community (23)	learn more about people's backgrounds (20)
aim to improve consensus building skills (24)	strive to make community better for all (25)		know how to change things (31)	confident in ability to work with others in community (13)	know steps needed for broad-based support (21)
am leadership role model for others in community (26)	appreciate local business (16)				understanding and patience working w/ others (10)
Chronbach's α	0.792	0.817	0.773	0.791	0.810

Survey item numbers are in parentheses.

Factors based on EXCEL Community Leadership Survey by Pigg (2001).

Table 4. *Pearson Correlations Among Individual Characteristics, Cognitive Outcomes, and Behavioral Outcomes*

	Training	Age	Female	Res Tenure	Education	Income	Pers Growth	Comm Com	Shared Fut	Comm Know	Civic Engage	Social Cohes	Member- ship	Involvement	Capi- tals
Training	1.000														
Age	-0.209***	1.000													
Female	0.275***	-0.067	1.000												
Res Tenure	-0.138***	0.283***	-0.030	1.000											
Education	-0.083*	-0.071	-0.096*	-0.312***	1.000										
Income	-0.045	0.048	-0.195***	-0.122**	0.193***	1.000									
Pers Growth	0.130**	-0.067	0.113**	0.012	-0.094*	-0.141**	1.000								
Comm Com	0.172***	-0.097*	0.106*	-0.153***	-0.053	-0.092*	0.657***	1.000							
Shared Fut	0.155***	-0.066	0.114**	-0.130**	-0.033	-0.029	0.660***	0.735***	1.000						
Comm Know	0.191***	-0.048	0.127**	-0.206***	0.006	-0.029	0.508***	0.677***	0.735***	1.000					
Civic Engage	0.172***	-0.093*	0.174***	-0.172***	-0.003	-0.058	0.712***	0.741***	0.766***	0.764***	1.000				
Social Cohes	0.129**	-0.104*	0.049	-0.060	-0.072	-0.118**	0.747***	0.647***	0.640***	0.508***	0.654***	1.000			
Membership	0.235***	-0.280***	0.089*	-0.095*	-0.089*	-0.090*	0.098*	0.190***	0.152***	0.150***	0.179***	0.106**	1.000		
Involvement	0.264***	-0.302***	0.119**	-0.170***	-0.010	-0.046	0.160***	0.188***	0.163***	0.189***	0.178***	0.145***	0.570***	1.000	
Capitals	0.036	-0.117**	0.008	-0.058	-0.028	-0.028	0.023	0.138***	0.091*	0.053	0.062	0.040	0.289***	0.153***	1.000

* p < .05 ** p < .01 *** p < .001

Table 5. *Pearson Correlations Among Program Structure Elements and Individual Characteristics for Program Participants*

	Age	Female	Income	Education	Res Tenure	Skill Hours	Field Hours	Com Dev Hours	Proj Hours	Extension	Chamber	Exten& Chamber	Other Nonprofit
Age	1.000												
Female	0.068	1.000											
Income	-0.002	-0.185***	1.000										
Education	-0.085	-0.079	0.145**	1.000									
Res Tenure	0.264***	0.040	-0.167***	-0.312***	1.000								
Skill Hours	0.026	-0.001	-0.017	0.027	-0.091*	1.000							
Field Hours	0.068	0.007	-0.109*	0.017	0.086	0.135**	1.000						
Com Dev Hours	-0.094*	0.005	0.068	0.002	-0.176***	0.538***	0.042	1.000					
Proj Hours	-0.105*	-0.099*	0.021	0.024	0.081	-0.062	0.022	-0.343***	1.000				
Extention	0.130**	0.004	0.048	-0.012	0.161***	-0.320***	-0.339***	-0.382***	0.221***	1.000			
Chamber	-0.140**	0.057	0.091	-0.034	-0.159***	-0.151***	-0.026	0.445***	-0.573***	-0.351***	1.000		
Exten&Chamber	-0.083	-0.068	-0.006	0.036	-0.057	-0.165***	0.248***	-0.175***	0.335***	-0.286***	-0.356***	1.000	
Other Nonprofit	0.100*	0.018	-0.126*	-0.015	0.051	0.672***	0.146***	0.100*	-0.289***	-0.289***	-0.360***	-0.293***	1.000

* p < .05 ** p < .01 *** p < .001

Table 6. *Pearson Correlations Among Program Structure Elements and Cognitive Outcomes for Program Participants*

	Pers Growth	Comm Commit	Shared Future	Comm Know	Civic Engage	Social Cohesion	Skill Hours	Field Hours	Com Dev Hours	Proj Hours	Extension	Chamber	Exten& Chamber	Other Non Profit
Pers Growth	1.000													
Comm Commit	0.669***	1.000												
Shared Future	0.653***	0.733***	1.000											
Comm Know	0.493***	0.672***	0.735***	1.000										
Civic Engage	0.711***	0.732***	0.775***	0.761***	1.000									
Social Cohesion	0.732***	0.654***	0.634***	0.502***	0.646***	1.000								
Skill Hours	0.118*	0.089	0.118*	0.122**	0.160***	0.189***	1.000							
Field Hours	0.029	-0.029	0.006	0.066	0.032	0.019	0.135**	1.000						
Com Dev Hours	0.036	0.126**	0.106*	0.102*	0.095*	0.105*	0.538***	0.042	1.000					
Proj Hours	0.036	-0.019	-0.003	0.080	0.022	0.068	-0.062	0.022	-0.343***	1.000				
Extension	-0.023	-0.001	-0.003	-0.072	-0.030	-0.040	-0.320***	-0.339***	-0.382***	0.221***	1.000			
Chamber	-0.030	0.034	0.031	-0.008	-0.013	-0.030	-0.151***	-0.026	0.445***	-0.573***	-0.351***	1.000		
Exten&Chamber	-0.004	0.007	-0.014	0.046	0.001	-0.043	-0.165***	0.248***	-0.175***	0.335***	-0.286***	-0.356***	1.000	
Other Nonprofit	0.093*	0.008	0.020	0.071	0.076	0.150**	0.672***	0.146***	0.100*	-0.289***	-0.289***	-0.360***	-0.293***	1.000

* p < .05 ** p < .01 *** p < .001

Table 7. *Pearson Correlations Among Program Structure Elements and Behavioral Outcomes for Program Participants*

	Membership	Involvement	Capitals	Skill Hours	Field Hours	Com Dev Hours	Proj Hours	Extension	Chamber	Exten& Chamber	Other Non Profit
Membership	1.000										
Involvement	0.553***	1.000									
Capitals	0.277***	0.107**	1.000								
Skill Hours	-0.006	0.001	-0.125**	1.000							
Field Hours	0.011	-0.051	-0.021	0.135**	1.000						
Com Dev Hours	0.032	0.040	-0.021	0.538***	0.042	1.000					
Proj Hours	0.058	0.039	0.026	-0.062	0.022	-0.343***	1.000				
Extension	-0.047	-0.060	0.088*	-0.320***	-0.339***	-0.382***	0.221***	1.000			
Chamber	0.033	0.016	0.036	-0.151***	-0.026	0.445***	-0.573***	-0.351***	1.000		
Exten&Chamber	0.041	0.053	-0.043	-0.165***	0.248***	-0.175***	0.335***	-0.286***	-0.356***	1.000	
Other Nonprofit	-0.028	0.004	-0.083*	0.672***	0.146***	0.100*	-0.289***	-0.289***	-0.360***	-0.293***	1.000

* $p < .05$ ** $p < .01$ *** $p < .001$

Table 8. *Examples of Community Organizations Coded Using Community Capitals Framework*

Built Capital	Cultural Capital	Financial Capital	Human Capital	Natural Capital	Political Capital	Social Capital
Housing authority	Arts council	Chamber of commerce	School-related organization	Parks committee	Elected official	Church member or church-related organization
Electric utility co-op	Local festival committee	Economic/ industrial development council	Health-related organization	Clean up/ beautification committee	Appointed public official	Service club (Rotary, Lions, Jr. League, Sertoma)
Highway commission	Community visioning organization	Local foundation	Safety-related organization (includes police and fire)	Land conservation organization	Political party member	Adult athletic league
Water & sewer board	Historical society	United Way	Youth development organization	Water quality organization	Lobbying organization	Senior citizen organization
Habitat for Humanity	Ethnic organization	“Friends of” or “Boosters” organization	Food security initiative	Wildlife organization	Tax/levy committee	Local informal club (e.g., mom’s club)

Table 9. *Results from Regression Analyses Predicting Relative Change in Cognitive Leadership Development*

	Relative Change in Cognitive Leadership Development					
	<i>Personal Growth & Efficacy</i>	<i>Community Commitment</i>	<i>Shared Future & Purpose</i>	<i>Community Knowledge</i>	<i>Civic Engagement</i>	<i>Social Cohesion</i>
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
<i>Community Leadership Training</i>						
Program Participation	.062* (.025)	.080** (.023)	.096** (.030)	.151*** (.037)	.091** (.029)	.049* (.021)
<i>Individual Characteristics</i>						
Age	-.001 (.001)	-.001 (.001)	.000 (.002)	.002 (.002)	.000 (.002)	-.001 (.001)
Female	.040 (.026)	.026 (.025)	.056 (.037)	.067 (.042)	.089* (.034)	.002 (.020)
Income Level	-.022* (.010)	-.018* (.010)	-.005 (.014)	-.011 (.014)	-.012 (.016)	-.017 (.008)
Education Level	-.016 (.009)	-.016 (.009)	-.019 (.010)	-.010 (.012)	-.010 (.010)	-.011 (.006)
Residential Tenure	.000 (.001)	-.002* (.001)	-.002* (.001)	-.005*** (.001)	-.003 (.001)	.000 (.001)
Constant	.393** (.113)	.404*** (.086)	.357* (.145)	.337** (.121)	.374** (.140)	.351*** (.082)
R ² (range)	.038 - .063	.060 - .074	.040 - .052	.068 - .083	.061 - .084	.035 - .057

* p < .05 ** p < .01 *** p < .001 (two-tailed tests)

Coefficients presented are unstandardized Beta values.

Robust standard errors (adjusted for clustering in 36 counties) are in parentheses.

STATA commands using micombine for multiply imputed data sets do not return a single R² value.

Reported here is the range of R² values obtained when each of the five imputed datasets is run as a separate model.

Table 10. *Results from Binary Logistic Regression Analyses Predicting Behavioral Leadership Outcomes in Community Organizations*

Independent Variables	Change in Behavioral Leadership Development		
	<i>Membership</i>	<i>Involvement</i>	<i>Capitals</i>
	Model 1 Exp(B)	Model 2 Exp(B)	Model 3 Exp(B)
<i>Community Leadership Training</i>			
Program Participation	2.795*** (.398)	2.823*** (.731)	1.478* (.268)
<i>Individual Characteristics</i>			
Age	.958*** (.008)	.950*** (.009)	.979* (.010)
Female	1.001 (.198)	1.169 (.213)	.877 (.153)
Income Level	.871* (.059)	.904 (.081)	.948 (.082)
Education Level	.836** (.051)	.923 (.067)	.909 (.074)
Residential Tenure	.993 (.006)	.987* (.006)	.994 (.006)
Pseudo R ² Range	.081 - .099	.107 - .125	.015 - .034

* p < .05 ** p < .01 *** p < .001 (two-tailed tests)

Coefficients presented are odds ratios.

Robust standard errors (adjusted for clustering in 36 counties) are in parentheses.

STATA commands using micombine for multiply imputed data sets do not return a single R² value.

Reported here is the range of R² values obtained when each of the five imputed datasets is run as a separate model.

Table 11. *Results from Regression Analyses Predicting Relative Change in Cognitive Leadership Development Among Leadership Program Participants*

	Relative Change in Cognitive Leadership Development					
	<i>Personal Growth & Efficacy</i>	<i>Community Commitment</i>	<i>Shared Future & Purpose</i>	<i>Community Knowledge</i>	<i>Civic Engagement</i>	<i>Social Cohesion</i>
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Independent Variables						
<i>Program Structure Elements</i>						
Skill Hours	.007** (.002)	.004 (.002)	.010** (.003)	.006 (.004)	.010** (.003)	.006* (.002)
Field Hours	.000 (.000)	.000 (.000)	.000 (.001)	.001 (.001)	.000 (.001)	.000 (.001)
Community Dev. Hours	-.002 (.001)	.002 (.001)	.000 (.002)	.001 (.002)	-.001 (.002)	.000 (.001)
Project Hours	.002 (.001)	.001 (.001)	.002 (.002)	.007** (.002)	.002 (.003)	.003* (.001)
<i>Individual Characteristics</i>						
Age	-.001 (.001)	.000 (.002)	.001 (.003)	.003 (.002)	.000 (.003)	-.001 (.001)
Female	.051 (.032)	.023 (.031)	.055 (.045)	.063 (.053)	.092* (.043)	.001 (.023)
Income Level	-.023 (.013)	-.025* (.011)	-.012 (.020)	-.020 (.019)	-.018 (.021)	-.015 (.007)
Education Level	-.020 (.011)	-.017 (.010)	-.017 (.012)	-.016 (.014)	-.017 (.011)	-.013 (.007)
Residential Tenure	.001 (.001)	-.002* (.001)	-.002 (.001)	-.006** (.002)	-.003* (.001)	.000 (.001)

Table 11 (cont.). *Results from Regression Analyses Predicting Relative Change in Cognitive Leadership Development Among Leadership Program Participants*

	Relative Change in Cognitive Leadership Development					
	<i>Personal Growth & Efficacy</i>	<i>Community Commitment</i>	<i>Shared Future & Purpose</i>	<i>Community Knowledge</i>	<i>Civic Engagement</i>	<i>Social Cohesion</i>
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
<i>Sponsor Type</i>						
Extension Sponsorship	.049 (.057)	.106 (.063)	.153* (.064)	.042 (.097)	.107 (.079)	.022 (.049)
Chamber Sponsorship	.079 (.044)	.067 (.044)	.154** (.053)	.091 (.076)	.093 (.062)	.043 (.040)
Ext/Chamber Sponsorship	.046 (.044)	.085 (.050)	.106* (.047)	.066 (.079)	.078 (.063)	.002 (.045)
Constant	.333* (.141)	.380** (.110)	.216 (.199)	.305 (.177)	.346 (.200)	.259* (.097)
R ² (range)	.046 - .078	.054 - .074	.040 - .061	.062 - .087	.061 - .094	.055 - .085

* p < .05 ** p < .01 *** p < .001 (two-tailed tests)

Coefficients presented are unstandardized Beta values.

Robust standard errors (adjusted for clustering in 36 counties) are in parentheses.

STATA commands using micombine for multiply imputed data sets do not return a single R² value.

Reported here is the range of R² values obtained when each of the five imputed datasets is run as a separate model.

The out-category for Sponsor Type is Other Nonprofit.

Table12. *Results from Binary Logistic Regression Analyses Predicting Community Leadership Behaviors Among Leadership Program Participants*

Independent Variables	Change in Behavioral Leadership Development		
	<i>Membership</i>	<i>Involvement</i>	<i>Capitals</i>
	Model 1 Exp(B)	Model 2 Exp(B)	Model 3 Exp(B)
<i>Program Structure Elements</i>			
Skill Hours	.999 (.013)	.988 (.017)	.955** (.014)
Field Hours	1.002 (.002)	.993* (.003)	1.004 (.003)
Community Dev. Hours	1.004 (.007)	1.009 (.010)	1.020** (.007)
Project Hours	1.019* (.007)	1.007 (.012)	1.015 (.013)
<i>Individual Characteristics</i>			
Age	.963*** (.009)	.942*** (.010)	.984 (.012)
Female	1.016 (.199)	1.126 (.209)	.955 (.186)
Income Level	.859* (.066)	.876 (.105)	.990 (.101)
Education Level	.810** (.052)	.942 (.083)	.913 (.075)
Residential Tenure	.994 (.006)	.990 (.007)	.996 (.008)
<i>Sponsor Type</i>			
Extension Sponsorship	.959 (.300)	.675 (.314)	1.062 (.230)
Chamber Sponsorship	1.290 (.315)	.771 (.229)	.775 (.214)
Ext/Chamber Sponsorship	1.112 (.159)	1.087 (.320)	.683 (.219)
Pseudo R ² Range	.045 - .063	.071 - .099	.024 - .033

* p < .05 ** p < .01 *** p < .001 (two-tailed tests)

Coefficients presented are odds ratios.

Robust standard errors (adjusted for clustering in 36 counties) are in parentheses.

STATA commands using micombine for multiply imputed data sets do not return a single R² value.

Reported here is the range of R² values obtained when each of the five imputed datasets is run as a separate model.

The out-category for Sponsor Type is Other Nonprofit.

Figure 1. *Community Capitals Framework (Flora & Flora, 2008)*

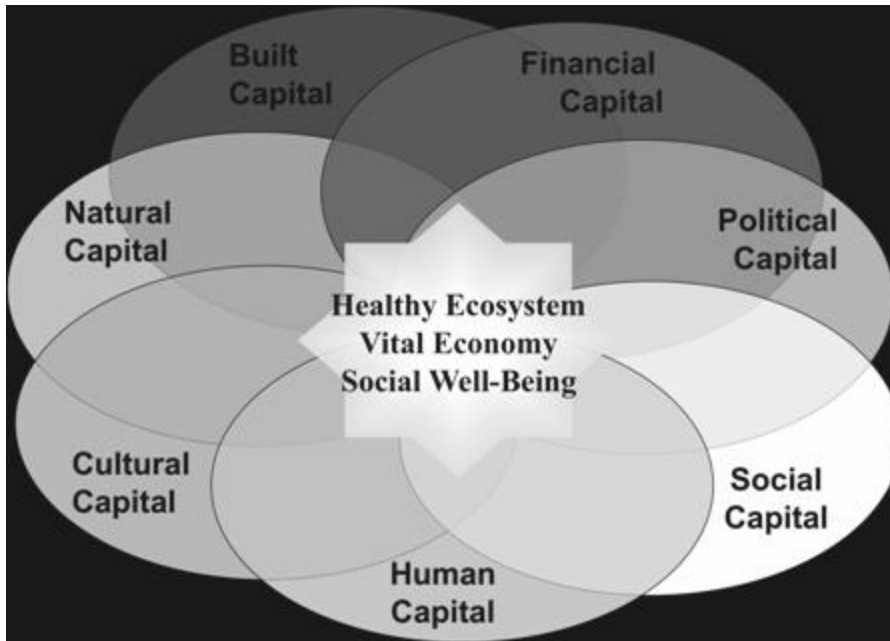
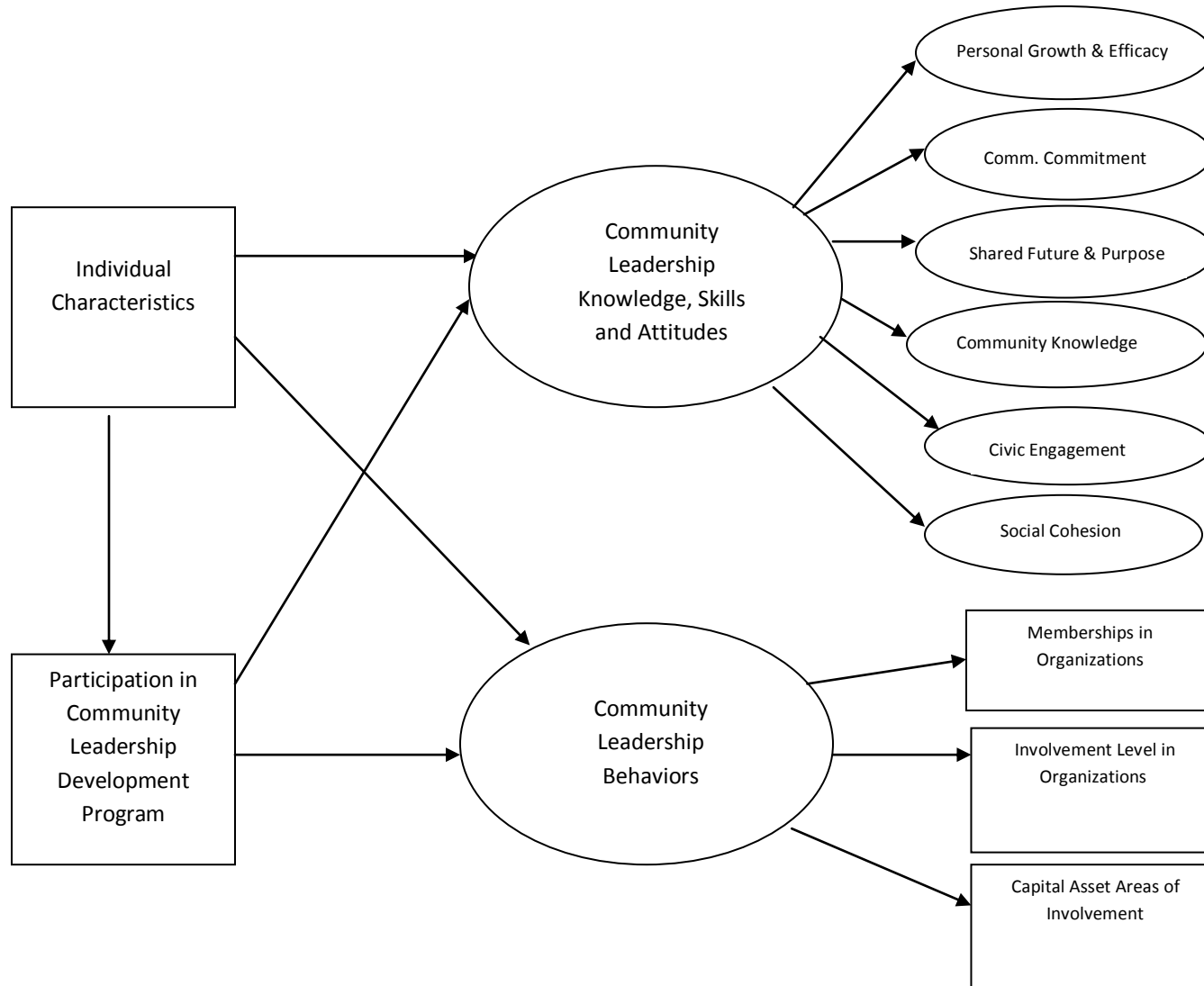


Figure 2. *Conceptual Model of CLDP Effect*



APPENDIX A

EXCEL Community Leadership Survey Instrument (Pigg, 2001)

Section 1: Your Knowledge, Skills and Experience NOW

Consider each of the following items carefully as they describe you as you are **or as you feel today**. Based on how each item applies to you, please indicate your level of agreement or disagreement by **checking the appropriate box** following each statement.

	Strongly Agree			Strongly Disagree
	1	2	3	4
1. I have knowledge of local, county and state resources.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. I strive to improve the quality of life in my community.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. I talk optimistically about the future of my community.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. I feel that I could do as good a job in public office as most other people.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. I seek out different perspectives to generate new ideas.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. I know how to assess and tackle problems in systematic ways.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. I am involved in my community.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. I understand my community's structure and dynamics.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. I envision exciting new possibilities for my community.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. I have understanding and patience when working with others.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>


11. I know the difference between management and leadership.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. I try to deepen personal relationships with others.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. I am confident of my ability to work together with others to solve my community's problems.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. I get to know people in their different roles.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. I value the contributions that others make in my community.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. I appreciate local business.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. I am aware of all the needs in my community.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. I have confidence that my community will achieve its goals.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19. I consider myself to be well qualified to participate in public issues.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20. I try to learn more about people's backgrounds.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21. I know the steps needed to obtain broad-based support for activities in my community.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22. I understand the implications of local issues.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23. I seek to forge connections and strengthen personal and professional bonds among members of my community.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24. I am to improve my consensus building skills.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25. I strive to make this community a better place for everyone.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
26. I am a leadership role model for others in my	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

community.

- | | | | | |
|---|--------------------------|--------------------------|--------------------------|--------------------------|
| 27. I feel I have a good understanding of the important public issues facing our community. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 28. I have a sense of community ownership. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 29. I articulate a convincing vision for the future of my community. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 30. I move out of my comfort zone and learn to grow. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 31. I know how to change things in my community. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 32. I strive to increase my analysis and reasoning skills. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Section 2: Your Knowledge, Skills and Experience THEN

Consider each of the following items carefully as they describe you as you were **BEFORE** your participation in the leadership program [*five years ago* for comparison group]. Based on how each item applies to you, please indicate your level of agreement or disagreement by **checking the appropriate box** following each statement.

- | | Strongly Agree |  | | Strongly Disagree |
|--|--------------------------|---|--------------------------|--------------------------|
| | 1 | 2 | 3 | 4 |
| 1. I have knowledge of local, county and state resources. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. I strive to improve the quality of life in my community. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. I talk optimistically about the future of my community. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. I feel that I could do as good a job in public office as most other people. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

5.	I seek out different perspectives to generate new ideas.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.	I know how to assess and tackle problems in systematic ways.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.	I am involved in my community.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.	I understand my community's structure and dynamics.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.	I envision exciting new possibilities for my community.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10.	I have understanding and patience when working with others.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11.	I know the difference between management and leadership.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.	I try to deepen personal relationships with others.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13.	I am confident of my ability to work together with others to solve my community's problems.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14.	I get to know people in their different roles.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15.	I value the contributions that others make in my community.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16.	I appreciate local business.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17.	I am aware of all the needs in my community.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18.	I have confidence that my community will achieve its goals.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19.	I consider myself to be well qualified to participate in public issues.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20.	I try to learn more about people's backgrounds.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

21. I know the steps needed to obtain broad-based support for activities in my community.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22. I understand the implications of local issues.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23. I seek to forge connections and strengthen personal and professional bonds among members of my community.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24. I aim to improve my consensus building skills.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25. I strive to make this community a better place for everyone.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
26. I am a leadership role model for others in my community.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
27. I feel I have a good understanding of the important public issues facing our community.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
28. I have a sense of community ownership.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29. I articulate a convincing vision for the future of my community.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
30. I move out of my comfort zone and learn to grow.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
31. I know how to change things in my community.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
32. I strive to increase my analysis and reasoning skills.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Section 3: Qualities of Leaders and Communities

Please indicate your level of agreement or disagreement with each of the following items by checking the appropriate box. Please base your responses on your own personal observations.

	Strongly Agree			Strongly Disagree
	1	2	3	4
1. Good community leaders consider the moral and ethical consequences of their decisions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Non-profit, civic organizations provide the most important means for expressing and actively addressing the complex needs of the community.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Good community leaders usually accomplish more by exercising their authority to direct action by others.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Effective community leaders help everyone believe their efforts can make a difference.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. In good communities, only people who know each other well can work together effectively and successfully.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. In good communities, leadership does not rest with one individual but with community members interchanging roles as the need arises.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Effective community leaders allow others to both define and perform leadership roles.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Leadership is automatically vested in those with formal authority.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Good followers don't make good leaders.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. It is just as much the task of every citizen to help the community reach its goals as it is the task of government officials.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Good community leaders assist organizations and their members to think and act in new ways.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Good community leaders encourage and work with followers to reflect on current activities and the	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

issue(s) before them.

- | | | | | |
|--|--------------------------|--------------------------|--------------------------|--------------------------|
| 13. Good community leaders know followers expect them to solve problems for them. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 14. Good community leaders help everyone learn how to develop relationships that allow for collaborative action on issues in common. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 15. Good communities are places where things are done right. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 16. The best decisions in the community are those where everyone contributes his or her best ideas and we arrive at a shared conclusion. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 17. Good leaders understand that what is best for every individual in the community is best for the community as a whole. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 18. Good community leadership results from a citizen-centered, problem-oriented, deliberative public decision making. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 19. Good community leadership is not about individual contributions but what citizens accomplish together. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Section 4: Involvement in Community Organizations

Below are listed examples of organizations (by type) that might be in your community. Please use these examples as a guide and enter the names of specific organizations in which you are involved in response to the questions below. Also listed are descriptions of the possible extent of your involvement in these organizations. Use these categories to help us understand how you have been contributing to the betterment of your community through these organizations.

Examples of Organizations in the Community

- Committees, commissions, task forces, etc. created to deal with a local community issue, e.g. health care, attract industry, etc.
- Elected or appointed governmental offices, e.g., city council, county supervisor.
- Local/national community service organizations concerned with health, education or welfare, e.g., PTA, United Way, American Cancer Society, Scouts, 4-H.
- Business organizations, e.g., Chamber of Commerce
- Professional Organizations, e.g., American Medical Association, Pork Producers Association
- Clubs and Social Organizations, e.g., Elks, Shriners
- Cultural Associations, e.g., Choral society, Art Institute
- Churches and religious organizations, e.g., Baptist Church, Knights of Columbus
- Political parties, organizations and clubs, e.g., Young Democrats, Sierra Club, National Farmers Union
- Veterans and patriotic organizations, e.g., American Legion, VFW
- Other organizations

Extent of Your Involvement

- ✓ Inactive member: Circle “1” if you rarely attend meetings but still remain on the membership listing.
- ✓ Active member: Circle “2” if you attend most meetings.
- ✓ Leadership Role: Circle “3” if you hold a leadership position or office or if you chair a committee

NOW: List three organizations or committees in which you are *currently involved* where you feel you are making the greatest contribution (see above for examples of organizations). You may be involved in other organizations which are not listed. Indicate the extent of your involvement (choose 1, 2, or 3 to indicate your involvement).

Name of committee or organization:	Extent of your involvement (circle one):		
	Inactive member	Active member	Leadership role
1-1.	1	2	3
1-2.	1	2	3
1.3.	1	2	3

THEN: List three organizations or committees in which you were involved *prior to* your leadership development learning experience [*five years ago* for comparison group] where you feel you made the greatest contribution.

Name of committee or organization:	Extent of your involvement (circle one):		
	Inactive member	Active member	Leadership role
2.1.	1	2	3
2.2.	1	2	3
2.3.	1	2	3

3. In what way do you think your role(s) as a leader in these organizations (above) has benefited from your participation

in the leadership development activity in which you have participated? (Check all that apply below)

- ___ a. Changed my attitudes about working with others
- ___ b. Improved the skills I now practice that are required of leaders
- ___ c. Made it easier to get things done in these organizations
- ___ d. Helped me improve the community by addressing recognizable needs
- ___ e. Encouraged me to seek more leadership responsibility in these and/or other organizations
- ___ f. Changed my expectations about what can be/might be accomplished to improve my community

4. How do you know the committee or organization you provide leadership to has benefited? Please describe:

5. How has the community benefited from the work of your committee or organization? Please describe:

Section 5: Background Information

1. Your age on your last birthday: _____ Gender: ☐₁ Male ☐₂ Female

2. Please check the box that most closely describes your race/ethnicity. Of the following choices, 1 through 5 are non-Hispanic. Choice 6 is Hispanic.

☐₁ White

☐₅ Asian

☐₂ Black or African American

☐₆ Hispanic

☐₃ American Indian and Alaskan Native

☐₇ Other

☐₄ Hawaiian or Pacific Islander

3. How many years have you lived in your community? _____ years

4. Do you have immediate family members living in your community? ☐₁ Yes ☐₂ No

5. Please select the option which best describes your employment status:

☐₁ Employed full time outside the home

☐₂ Employed part time outside the home

☐₄ Self employed or at home

☐₄ Unemployed or out of work

6. Please select the option which best describes your marital status.

☐₁ Single/Never married

☐₂ Married/Significant other

☐₃ Separated

☐₄ Divorced

☐₅ Widowed

7. Did you vote in the last local election? ☐₁ Yes ☐₂ No ☐₃ Don't know/not sure

8. Check the highest level of education which you have completed:

☐₁ 8th grade or less

☐₂ Some high school/did not graduate

☐₃ High school graduate/GED

☐₄ Vocational/technical school

☐₅ Some college

☐₆ College graduate

☐₇ Post college/graduate work

9. What was your total household income last year?

☐₁ less than \$10,000

☐₆ from \$75,000 to \$100,000

☐₂ from \$10,000 to \$19,999

☐₇ More than \$100,000

☐₃ from \$20,000 to \$29,999

☐₈ don't know/not sure

☐₄ from \$30,000 to \$49,999

☐₉ refused

☐₅ from \$50,000 to \$74,999

Section 6: Your Thoughts and Opinions about Improving Leadership (administered to program participants only)

1. Looking back on this community leadership development program, what aspect was the most beneficial to you?

2. What aspect was the most beneficial to your community?

3. Do you feel that participation in this program was worth your time and effort? ☐₁ Yes ☐₂ No
Why or why not?

4. Why did you participate in this program?

5. Do you have any other comments to share?

THANK YOU!

APPENDIX B

Inter-rater Reliability Process for Assigning Community Capital Codes to Organizations

Data contain a total of 2,948 valid responses to open-ended survey questions that asked respondents to list community organizations and committees they were involved in. Two coders were used to code the open-ended responses to the question using the community capitals framework developed by Flora and Flora (2008): myself and the director for Illinois Extension's Lab for Community and Economic Development. Both of us have extensive experience with community organizations and significant experience using the community capitals framework. Each organization was assigned a numeric code (1 – 7) corresponding to one of the seven community capitals in the framework – built, cultural, financial, human, natural, political, or social.

I coded the first 15% of the valid responses (i.e., 442 responses). I used this experience to generate a coding rubric. I then trained the second coder on the use of the coding rubric and asked the second coder, who was blind to my initial codes, to code the same 442 responses. Upon comparing our respective codes for reliability, we got an initial Cohen's kappa of .74. Cohen's kappa was designed to estimate the degree of consensus between two judges after correcting the percent-agreement figure for the amount of agreement that could be expected by chance alone based upon the values of the marginal distributions.

We reviewed our discrepant cases until we reached consensus. We used these discussions to improve the rubric. Each of us then coded 10% of the remaining valid responses and arrived at a Cohen's kappa of .83. Again, we discussed discrepant cases until we reached consensus. We improved the rubric a second time. Then we each coded the next 10% of the remaining valid responses, and our consensus agreement was a Cohen's kappa of .90. At this point, the second coder stopped coding, and I coded the remaining cases myself.

APPENDIX C

Questionnaire for Gathering Community Leadership Program Structure Data by Phone or Email

1. Name of Leadership Program _____
2. Sponsoring Organization(s) _____
3. Number of Sessions _____
4. Total Number of Contact Hours _____
5. Project Status – is there an overall team project or small group projects? _____
6. If a project, number of hours spent on project(s)? _____
7. Please describe the types of people targeted for participation in the program _____
8. Amount of participation fee(s)? _____
9. Are local leaders on an advisory group to help steer the program? _____
 - a. If so, how many hours are spent in advisory group activities? _____
10. Is individual skills training included as part of the curriculum? _____
 - a. If yes, how many hours? _____
11. Are field interactions included? _____
 - a. If yes, how many hours? _____
12. Are group retreats included? _____
 - a. If yes, how many (active) hours? _____
13. Are group/alumni recognitions included (graduations, media attention). _____
 - a. If yes, how many hours? _____
14. Is community development learning included? _____
 - a. If yes how many hours? _____
15. Is there program support from other local orgs (i.e., financial, in-kind)? _____
 - a. If yes, what organizations support the program? _____

Please submit by email or postal mail the details of program content (e.g., topics of each session and delivery).

APPENDIX D

Results of t-test for Difference of Means of Relative Change Scores in Cognitive Leadership Factors Between Treatment and Comparison Groups

	Treatment Group Mean (SD)	Comparison Group Mean (SD)	Difference of Means	t	df	p-value
Personal Growth & Efficacy	.220 (.281)	.132 (.241)	.088	3.560	236	.000
Community Commitment	.230 (.279)	.119 (.198)	.111	5.266	293	.000
Shared Future & Purpose	.282 (.372)	.146 (.282)	.136	4.597	273	.000
Community Knowledge	.377 (.441)	.183 (.266)	.194	6.404	353	.000
Civic Engagement	.309 (.358)	.165 (.250)	.144	5.352	294	.000
Social Cohesion	.173 (.208)	.109 (.181)	.064	3.524	232	.001

Unequal variance assumed

$\alpha = .05$

CURRICULUM VITAE

KARI HALL KEATING

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EDUCATION

Doctor of Philosophy in Human and Community Development, University of Illinois, Urbana-Champaign, IL. Expected Graduation: May 2011.

Dissertation Title: *Training Civic Bridge Builders: Outcomes of Community Leadership Development Programs*

Dissertation Chair: Dr. Christy Lleras

Master of Arts in Educational Psychology, University of Iowa, Iowa City, IA, 1995

Bachelor of Science in Marketing, *summa cum laude*, Bradley University, Peoria, IL, 1993

TEACHING AND MENTORING EXPERIENCE

Instructor/Project Manager, *Learning in Community*, College of Engineering, University of Illinois, Spring 2010.

- Full responsibility for two sections of pilot course featuring multi-disciplinary undergraduate student teams working on projects for local nonprofit executives.
- Successfully led students in a service-learning model for inquiry-guided project management.
- Helped teams of students to design and to implement live projects for two area nonprofit organizations.
- Planned all lessons, team meetings, assignments, and guest speakers.
- Collaborated weekly with instructors in other sections to improve course delivery.
- Used online course management tools for grading and student feedback.
- Earned designation as University of Illinois “**Teachers Ranked as Excellent by Students**” for Spring 2010.

Leadership Facilitator, *Insight i-program*, Illinois Leadership Center, University of Illinois, Spring 2010

- Led small group of undergraduate students through a leadership curriculum about personal values.
- Mentored students and worked with co-facilitators for weekend retreat.

Leadership Facilitator and Curriculum Committee Member, *Integrity i-program*. Illinois Leadership Center, University of Illinois, Fall 2009

- Led group of undergraduate students during day-long workshop on integrity and ethics.
- Served on Illinois Leadership Center committee to redesign curriculum for Integrity program.

Facilitator, *Communications Skills for Leaders*, Sleeman Leadership Institute/Illinois Leadership Center, University of Illinois, Spring 2009

- Taught communications skills workshop for freshman honors students majoring in business.

Leadership Coach, Illinois Leadership Center. University of Illinois, Fall 2008-present

- Mentor undergraduate students in pursuit of both personal goals and the requirements of the Illinois Leadership Certificate.

Guest Lecturer, Various courses in Business Administration, Flagler College, St. Augustine, FL, 2002-2006

- Periodic presentations to undergraduate students about local business climate.

Instructor, *Developmental Psychology*, Troy State University, Florida Campus at St. Augustine, Fall 1998

- Full responsibility for planning and teaching course to adult professional undergraduate students employed by local Sheriff's office.

Teaching Assistant, *Introduction to Educational Psychology*, University of Iowa, Spring 1994

- Proctored exams for undergraduate students under direction of Dr. Thomas Rocklin.

ACADEMIC SERVICE

- University of Illinois Leadership Coordinating Committee, 2010-present
- University of Illinois Leadership Research Working Group, 2010-present
- University of Illinois College of Agricultural, Consumer, and Environmental Sciences Library Subcommittee, 2010-present

PROFESSIONAL EXPERIENCE

Leadership Greater Galesburg, Galesburg, Illinois (2010)

Consultant

- Designed community leadership program evaluation tools and methods at the request of board of directors using both quantitative and qualitative approaches.
- Created a research-based report on effective elements for community leadership program structure.
- Strengthened partnerships across the community for execution of the evaluation project.
- Coached board members on program evaluation purpose and procedures.

St. Johns County Chamber of Commerce, St. Augustine, Florida (1997-2007)

Vice President/Executive Director of St. Johns County Economic Development Council (2004-2007)

- In collaboration with chamber president, developed annual budget (\$1.3million), fundraising goals, and program of work to service 1,350 business members in five geographic area councils.
- Executed chamber's corporate identity strategies, including organization's name change to reflect new leadership philosophy and commitment to leading community in time of rapid growth.
- Directed the chamber's five-year strategic planning action team.
- Led seven chamber managers to achievement of organizational goals.
- Executed mission and achieved annual goals for the chamber's Economic Development Council for business recruitment, expansion and entrepreneurship; **efforts during tenure resulted in creation of 1,200 new jobs and \$96 million in capital investment.**
- Successfully established collaborative relationships with regional economic partners and with local government officials.
- Served as chief liaison to local, regional, state and federal government agencies.

Director, Economic Development & Tourism (2002-2004)

Director, Leadership St. Johns (1999-2002)

Project Administrator (1997-1999)

RESEARCH EXPERIENCE

Graduate Research Assistant, Department of Human & Community Development, University of Illinois, 2007-present

- Contribute to multi-university research team on USDA-funded study of community leadership development.
- Responsible for all quantitative and qualitative data collection in Illinois and Minnesota rural counties.
- Analyze survey results using SPSS and STATA.
- Analyze focus group and interview data in conjunction with quantitative data toward model building.
- Work with University of Illinois Extension Laboratory for Community and Economic Development on leadership program evaluation and practical applications of findings.

Graduate Research Assistant, Department of Psychological and Quantitative Foundations, University of Iowa, 1994-1995

- Worked under direction of Dr. Joyce Moore on research program about the role of situated cognition in math learning.

Undergraduate Research Assistant, Department of Marketing, Bradley University, 1992-1993

- Worked under direction of Dr. Donna Hill on research related to the portrayal of business services in print advertising.
- Honored to be selected as the only undergraduate researcher in the department at that time.

PUBLICATIONS

Keating, K. & Gasteyer, S. (2011, accepted). The role of cultural capital in the development of community leadership: Toward an integrated program model. *Community Development*.

CONFERENCE PRESENTATIONS

Keating, K. & Apaliyah, G. (2010). Impact of community leadership development education in rural counties. *Annual Conference of the National Association of Community Development Extension Professionals (NACDEP)*, Bloomington, MN. (Presentation of Findings)

Gasteyer, S., **Keating, K.**, Cho, S., Martin, K., Apaliyah, G., and Pigg, K. (2009). Does sponsorship matter?: Comparing the design and outcomes of chamber of commerce and extension community leadership education programs. *Rural Sociological Society Annual Conference, Madison, WI*. (Paper Presentation)

Apaliyah, G., Martin, K., Pigg, K., Gasteyer, S., Cho, S., **Keating, K.** (2009). Does number of contact hours in community leadership education programs make a difference? *Leadership for Tomorrow Conference, Columbus, OH*. (Poster Presentation)

Keating, K., & Gasteyer, S. (2008). Advancing community leadership development programs in Illinois: A qualitative inquiry. *Rural Sociological Society 2008 Annual Conference, Manchester, NH*. (Paper Presentation)

Keating, K., & Gasteyer, S. (2008). Strength in circles: A study circle approach to advancing community leadership development programs in Illinois. *Community Development Society 2008 Annual Conference, Saskatoon, SK*. (Poster Presentation)

GUEST SPEAKER

Leadership Crawford County Graduation. (2009). *The Impacts of Your Great Work: Leadership Development for Community*. Robinson, IL.

COURSEWORK IN PhD PROGRAM

- HCD 531 Community Studies Theory. Fall 2007. Dr. Ann Reisner
- HCD 591 Qualitative Methods: Ethnography. Fall 2007. Dr. Robin Jarrett
- HCD 533 Community in American Society. Spring 2008. Dr. Christy Lleras
- HCD 535 Community Development. Spring 2008. Dr. Stephen Gasteyer

- NRES 499 Modeling Communities. Spring 2008. Dr. Richard Brazee & Dr. Ann Reisner
- HCD 538 Community Mobilization. Fall 2008. Dr. Ann Reisner
- PS 530 Intro to Applied Political Research. Fall 2008. Dr. Brian Gaines
- BADM 510 Foundations of Organizational Behavior. Fall 2008. Dr. Brianna Caza
- SOC 586 Advanced Social Statistics I. Spring 2009. Dr. Ruby Mendenhall
- ENG 489 Applied Project Management. Spring 2010. Dr. Bruce Litchfield

ACADEMIC HONORS

- Jonathan Baldwin Turner Graduate Fellowship, College of Agricultural, Consumer, and Environmental Sciences, University of Illinois at Urbana Champaign, 2007-present
- Susan Kahl Funkhauser Leadership Development Award, 2010 and 2008
- Graduate College Conference Travel Award, 2008

PROFESSIONAL HONORS

- St. Johns County (Florida) Board of County Commissioners. Special Proclamation in Recognition of Service: June 20, 2007 as *Kari Hall Keating Day* in St. Johns County
- Organizational Award: United States Chamber of Commerce Five-Star Accreditation Awarded to St. Johns County Chamber of Commerce (Top 1% of Chambers in U.S.), 2007
- Named *Woman of Influence*, Jacksonville (Florida) Business Journal, 2006
- *Up & Comers Award*, Jacksonville (Florida) Business Journal, 2002

PROFESSIONAL AFFILIATIONS

- International Leadership Association
- Community Development Society
- United States Association for Small Business and Entrepreneurship

CURRENT COMMUNITY SERVICE

- Council Member, Piatt County Extension Unit, University of Illinois Extension
- Co-Chair, Monticello Asperger's Syndrome Parent Support Group
- Volunteer, Monticello Community Unit School District