

THE INFLUENCE OF LEADERSHIP DEVELOPMENT APPROACHES ON
SOCIAL CAPITAL: A MIXED METHODS STUDY

Bradley James Burbaugh

Dissertation submitted to the faculty of the Virginia Polytechnic Institute and State University in
partial fulfillment of the requirements for the degree of

Doctor of Philosophy

In

Agricultural and Extension Education

Eric K. Kaufman, Chair
Robin H. Lemaire
Megan M. Seibel
Kusum Singh

May 8, 2015
Blacksburg, Virginia

Keywords: Leadership Development, Social Capital, Networking Ability,
Leadership and Learning, Social Networks.

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ABSTRACT

Leadership programs serve as a mechanism to develop the leadership capacity of individuals, groups, and organizations. Although considerable time and resources have been devoted to understanding the outcomes of leadership development, little time and effort has been dedicated to understanding the developmental approaches that influence the emergence of these outcomes. The purpose of this study was to explore and untangle the relationships between common leadership development approaches, networking ability, and social capital outcomes.

A sample of graduates from 15 agricultural-based leadership development programs, and a two-phase, convergent parallel mixed methods (QUAN + QUAL) design, were used to assess the relationships between the aforementioned constructs. Specifically, this research explored the influence of common leadership development approaches — conceptual understanding, feedback, personal growth, and skill building — on networking ability and the following dimensions of social capital: (a) groups and networks, (b) trust and solidarity, and (c) cooperation and political action. Quantitative data were collected using a cross-sectional, web-based survey ($n = 231$), and qualitative data were collected using semi-structured interviews ($n = 11$). Equal priority was given to the quantitative and qualitative data, which was collected concurrently, analyzed independently, and mixed at the conclusions and meta-inference stage.

The findings indicate that participation in an agricultural leadership program influences the social capital capacity of graduates by providing opportunities that facilitate the emergence of new, appropriable social networks. Through a variety of learning activities and shared

experiences, participants diversify their social network and develop strong network connections. These connections, and the embedded social capital (i.e., relational) resources, are being accessed frequently for advice, information, and support. As reported by program graduates, personal growth and skill building were identified as the most influential approaches for developing leadership capacity. These approaches, which are characterized by collaborative, group learning, also had the strongest relationships with networking ability. Networking ability should be specifically targeted and included in leadership development curricula because it can influence cooperation and political action, which have been described as the highest levels of social capital. Informal learning also plays an important role in the development of trust, strong bonds, and solidarity among program participants.

ACKNOWLEDGEMENTS

There are so many people who have supported me throughout this journey. So it is only appropriate that I take the time to thank those who helped me achieve this goal. I first want to thank my family, especially my parents Jerry and Marie Burbaugh who have always supported me. Also, I want to acknowledge and thank my sister Jodi, and her family: Kevin, Maddie, and Parker for always cheering me up when I needed it. From the missed birthdays and holidays to the times when I isolated myself to work during visits, I realize this journey has been a sacrifice for you too, and I want to thank you for your love, patience, and understanding.

Graduate school and the completion of this dissertation was a rewarding intellectual experience, and I want to thank the scholars who helped guide my work. To my advisor and committee chair, Eric Kaufman, I could not have done this without your guidance. Your patience, steady hand, and meaningful advice and counsel always reassured me that I could complete this dissertation. Your intellect and thoroughness have both challenged me and helped me to become a better student, researcher, and teacher of leadership. I sincerely appreciate all of the opportunities you have given me, and I look forward to our work together in the future.

To my statistics expert, Kusum Singh, I want to thank you for your service on my committee by acknowledging all of the extra time you spent helping me complete this study. I must admit, I was nervous about taking statistics courses when I returned to graduate school, but the context and examples you provided as part of your explanations helped me better understand and enjoy statistical methods. I am a better quantitative researcher because of you and many of your colleagues in the Educational Research and Evaluation program.

To my social networks expert, Robin Lemaire, I want to thank you for always pushing me to make this study better. I also want to acknowledge your willingness to have the initial

meeting with me to discuss your scholarship and my interests. Your advice and counsel during the preliminary design phase helped guide my thinking and has shaped the design of this study. Your knowledge and the resources you shared with me have influenced my research interests, and for that I am grateful.

To my qualitative expert, Megan Seibel, I want to thank you for the opportunity to work with you and VALOR over the last two years. It has been a fulfilling professional experience that has taught me much about the agriculture industry and leadership development. I also want to acknowledge you as my “ideas” person who was always willing to talk things through with me, which includes developing my conceptual framework during one of our extended car rides. I look forward to our continued collaboration and friendship.

I would be remiss if I did not acknowledge those individuals who have been my social support system throughout this journey. I want to thank Brad for always listening to my issues of the day, consoling me when I needed it, and celebrating the milestones with me. I also want to acknowledge and thank my ALCE colleagues Sarah, Adam, and Courtney. This journey would not have been the same without each of you in my life. Whether it was our late night and weekend work sessions, meals at el Mariachi, gym sessions, conference travel, or semester-end celebrations, I knew I could always count on you guys through the ups and downs of this roller coaster ride. I should also thank you for putting up with my singing and allowing me to “let my crazy out” when I needed it. I am extremely grateful for your friendship, advice, and presence in my life.

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CHAPTER 1 INTRODUCTION TO THE STUDY

The practice of leadership development is at an all time high (Avolio, Walumbwa, & Weber, 2009), with more than more than \$15 billion expended to train and develop leaders through formal programs in 2013 (O'Leonard & Krider, 2014). Leadership development programs serve as a mechanism to identify, train, and develop the leadership capacity of individuals, teams, and organizations (Apaliyah, Martin, Gasteyer, Keating, & Pigg, 2012; Van Velsor, McCauley, & Ruderman, 2010). Russon and Reinelt (2004) reviewed evaluations from 55 leadership development programs and concluded, "some of the most powerful and enduring outcomes of leadership programs are the relationships that are formed between participants in the programs" (p. 8). These relationships are developed and maintained through networking, which is a useful developmental behavior for the reason that it can expand an individual's social network (Kilpatrick, Field, & Falk, 2003; Uhl-Bien, 2006; Wolff & Moser, 2010) and increase social capital capacity (de Janasz & Forret, 2008; Friar & Eddleston, 2007). In this vein, relationships developed through networking constitute a potential source of social capital (Forret & Dougherty, 2001), which has been identified as a primary aim of leadership development (Bilhuber Galli & Müller-Stewens, 2012; Day, 2000; McCallum & O'Connell, 2009).

Despite the fact that annual spending on leadership development has doubled over the last 15 years (Kaiser & Curphy, 2013), there is limited research that examines how leadership development approaches influence social capital and how this relationship is influenced by human capital variables, like networking ability (Balkundi & Kilduff, 2006; Van De Valk & Constas, 2011). This study explores the nexus between leadership development approaches, social capital dimensions, and networking ability. In doing so, it provides a significant contribution to the study and practice of leadership because it answers calls to untangle the

relationships between these constructs (Van De Valk & Constas, 2011), contextualizes social capital research (Day, 2000), and provides a better understanding of the approaches that affect the emergence of leadership program outcomes (Dinh, Lord, Gardner, Meuser, Liden, & Hu, 2014).

Background of the Study

Leadership

Approaches to studying leadership have evolved from an individualistic perspective with a focus on specific traits and behaviors of an individual leader to more contemporary perspectives that situate leadership, not in the attributes of individuals, but in the relationships connecting individuals (Balkundi & Kilduff, 2005; Bilhuber Galli & Müller-Stewens, 2012). Within this contemporary discourse, leadership can be both described and measured in terms of how much social capital it creates for others (Mehra, Kilduff, & Brass, 2001).

Although there is much debate about the definition and theoretical understandings of leadership (Bass, 1990; Northouse, 2013), there is widespread agreement that leadership is a contextual, socially embedded process (DeRue & Ashford, 2010; Uhl-Bien, 2006) that can be learned (Brown & Posner, 2001). Thus, leadership programs aim to enhance the capacity of individuals, groups, and organizations for leadership through learning experiences or interventions, which serve as the catalyst for development. Common learning activities associated with the development of leadership capacity can be grouped into the following four approaches: skill building, conceptual understanding, personal growth, or feedback (Allen & Hartman, 2008a, 2008b; Conger, 1992).

Leader Development

Leadership is increasingly viewed as a complex, multi-level construct; and as such, there are a wide variety of theoretical and conceptual approaches to explain the leadership process

(Gardner, Lowe, Moss, Mahoney, & Cogliser, 2010; Northouse, 2013). For instance, there has been conceptual confusion regarding the differences between leader and leadership development (Dalakoura, 2010; Day, 2000).

The primary focus in leader development is enhancing human capital, which is “any knowledge or characteristics an individual has, either innate or acquired that contributes to his or her productivity” (Acemoglu & Autor, 2009, p. 3). Accordingly, this approach focuses on “knowledge, skills and abilities associated with formal leadership roles” (Day, 2000, p. 584), which are often referred to as leader competencies (Van Velsor, McCauley, & Ruderman, 2010). The competencies targeted for development in leader-focused programs vary according to the needs of the organization or community in which the program is embedded (Apaliyah et al., 2012). The underlying assumption is the development of these competencies will enhance an individual’s capacity to be effective in leadership roles and processes (Van Velsor, McCauley, & Ruderman, 2010). Networking behavior is an example of a human capital attribute (de Janasz & Forret, 2008) that can be developed through training and practice (Collins & Clark, 2003). This human capital perspective focuses on the development of individual-based knowledge and skills, and may lead to the expansion of social networks and trusting relationships that form the basis of social capital (Day, 2000).

Leadership Development

The primary focus in leadership development is enhancing social capital, which Putnam (2000) describes as the intangible resources of social connections and social networks that can be accessed and utilized to create action. This relational approach to development focuses on the interpersonal competencies needed to foster coordination, cooperation, and unity; all of which have been described as foundational to social capital formation and collective action (McCallum

& O'Connell, 2009). The underlying assumption is that the development of these relational skills will help individuals “understand how to relate to others, coordinate their efforts, build commitments, and develop extended social networks by applying self-understanding to social and organizational imperatives” (Day, 2000, p. 586). Therefore, the social capital perspective places more emphasis on the relational and collective nature of leadership in the context of organizations, industries, or groups (Day, 2000). In contrast to human capital approaches, social capital oriented approaches focus “on building networked relationships among individuals that enhance cooperation and resource exchange in creating organizational value” (Day, 2000, p. 585).

The relationship between the human and social capital development approaches has been described as symbiotic (Day, 2000), whereby gains to one will allow for gains to the other. For example, human capital skills like communication and networking can enhance relationships, resulting in increased social capital (Nahapiet & Ghoshal, 1998). Likewise, social capital, such as trust generated through sustained interaction, may in turn enhance one's human capital (Nahapiet & Ghoshal, 1998). It is likely that most leadership programs in existence today target the development of both human and social capital and simply refer to themselves as leadership development programs (Conger, 1992; Day, 2000).

Networking

Networking is characterized as an individual level construct to describe interrelated behaviors that can be frequently and consistently exhibited by individuals (Wolff, Moser, & Grau, 2008). By means of these behaviors, “networkers build and maintain personal relations that are characterized as cooperative, informal, voluntary (Michael & Yukl, 1993), and based upon a certain level of trust” (Wolff & Moser, 2010, p. 239). Thus, networking is not a periodic

event but rather an iterative process that follows the “sequential logic of relationship development” (Kim, 2013, p. 123).

Networking is a key human capital skill that has been found to be sensitive to interventions like training and development (Collins & Clark, 2003). In the leadership context, networking is a particularly useful competency, as it provides the means for an individual to increase the number and diversity of relationships in their social network (Kilpatrick, Field, & Falk, 2003; Uhl-Bien, 2006; Wolff & Moser, 2010) and influence social capital capacity (de Janasz & Forret, 2008; Friar & Eddleston, 2007). Networking can enhance social capital capacity by influencing the size, strength, and pattern of relationships as well as resources embedded in an individual’s social network (de Janasz, & Forret, 2008). Consequently, networking ability has been implicated as an antecedent to social capital formation (Kostova & Roth, 2003; Lin, 2008; Wolff, Moser, & Grau, 2008).

Social Capital

Given that networking has been described as an investment in social relationships (Wolff, Moser, Grau, 2008); clearly then, the question about return on investment (i.e., social capital) is important. Social capital represents the relational resources attainable by individuals through their networks of social relationships (Coleman, 1988; Putnam, 1995). Putnam (1993) describes social capital as the “features of social organization such as networks, norms, and social trust that facilitate coordination and cooperation for mutual benefit” (p. 35). Social relationships and the characteristics of trust, shared meaning, and reciprocity that constitute these relationships can be seen as social capital's generic components (McClenaghan, 2000). Drawing on a comprehensive review of social capital literature, Nahapiet and Ghoshal (1998) concluded that social capital is a multi-dimensional construct.

Leadership development programs serve as a medium for the development of social capital because they provide a context for relationship establishment, which can lead to the development of trust, goodwill, and reciprocity (McCallum & O’Connell, 2009). Moreover, Balkundi and Kilduff (2005) write, “Leadership can be understood as social capital that collects around certain individuals” (p. 943). Due to their alignment with the aims of leadership development, the following dimensions of social capital have been explored in the leadership literature: groups and networks, trust and solidarity, collective action and cooperation, and empowerment and political action (See Gutiérrez, Hilborn, & Defeo, 2011; Mehra, Dixon, Brass, & Robertson, 2006; Nistler, 2014; Purdue, 2001)

The formation of social capital is significantly affected by time, interaction, interdependence, and network closure (Nahapiet & Ghoshal, 1998). Therefore, social capital is representative of an accumulated history with a contact or community and can differ with regard to intensity (Bilhuber Galli & Müller-Stewens, 2012). In this view, leadership development programs also facilitate the formation of social capital through an integrative approach and differ in their potential contribution to social capital development. For instance, Bilhuber Galli and Müller-Stewens (2012) found that, in leadership development programs, social capital develops through stages characterized by contact, assimilation, and mutual identification experiences, with the latter providing the most opportunity for social capital formation. Thus conceived, social capital is not necessarily developed through one leadership approach, but rather the product of collectively organized and aligned approaches that provide learning experiences and an opportunity for repeated social interactions (Day, 2000).

Networking and social capital both consider benefits derived from social relationships; however, networking focuses on individual behavior to build and maintain relationships, while

social capital focuses on the characteristics and outcomes of these relationships (i.e., shared norms, trust, and collective action). Nevertheless, both networking and social capital are reported as primary aims and outcomes of leadership development programs (see Day, 2000; McCallum & O’Connell, 2009; Meehan & Reinelt, 2012). For that reason, exploring the relationship(s) between these constructs has implications for leadership development scholarship and practice.

Context for the Study

Leadership is a “highly contextualized construct” (Day & Zaccaro, 2004, p. 395). As such, leadership programs, situated in an agricultural context, have served as a vehicle to develop the leadership capacity of adults and fill a need for effective rural leadership since the first agricultural-based leadership program was established 50 years ago at Michigan State University (MSU) (Helstowski, 2001; Miller, 1976). Currently, there are 45 agricultural leadership development programs operating throughout the United States and abroad that associate themselves with the model advanced by the first program at MSU (J. Waldrum, personal communication, October 22, 2014). These agricultural-based programs align closely with grassroots leadership development, which seeks to achieve shared leadership and social capital as opposed to the traditional, more individual-based perspective and approach (WKKF, 1999). The last comprehensive study of agricultural leadership programs was conducted over 14 years ago. In that retrospective study, Helstowski (2001) reported over \$111 million in public and private funds had been invested in these programs, and there were over 7,200 program alumni who each completed approximately 18–24 months of leadership training.

The objectives of each agricultural leadership program differ according to local needs; however, an early review of programs by Howell, Weir, and Cook (1982) found common goals

were to increase “the participant’s understanding of political, social and economic systems, to develop social skills, to be effective spokespeople for their industry or community, to expand individual networks, and to develop future political, civic and organizational leaders” (p. 2). Directors of these programs seek to accomplish these goals by providing experiences and engaging participants in study that leads to “a better understanding of the economic, political and social framework of American Society” and the application of “this understanding to the complex problems and unique concerns of agriculture and rural communities” (Miller, 1976, p. 6). Generally, these learning opportunities are designed and delivered through a structured curriculum with developmental experiences that consist of “workshops and travel seminars intended to provide participants with an understanding of the social, economic, cultural, and political dimensions of public problems” at the community, state, national, and international levels (Howell, Weir, & Cook, 1982, p. 2).

Problem Statement

Spending on leadership development is at an all-time high. Although considerable time and resources have been devoted to understanding the outcomes of leadership development, little time and effort has been dedicated to understanding the processes and interventions that affect the emergence of these outcomes (Collins & Holton, 2004; Dinh et al., 2014; Gardner et al., 2010; Wituk et al., 2003). The problem is that leadership development programs are often viewed as “black-boxes” that receive inputs (i.e., learning interventions) and produce outcomes (i.e., social capital) (Stufflebeam & Shinkfield, 2007), and as a result there is little consideration given to the mechanisms that facilitate the development of individuals and/or groups. Such is the case for the relationships between common approaches to leadership development and their influence on social capital; even less is known about the relationship between networking ability

and these two constructs (Collins & Holton, 2004; Day, 2000; Van De Valk & Constas, 2011).

The lack of a systematic understanding of these dynamic relationships illuminates the conceptual need to untangle the relationship between leadership approaches, social capital, and networking ability.

The current economic environment portends the decline for current and future leadership development programs that cannot provide evidence of how their programs develop the capacity of individuals, groups, and organizations. This study sought to explore the relationships between inputs and outcomes to address the “black box” by identifying the links between learning interventions and outcomes. Workman and Scheer (2012) posit that, as funding becomes more limited and much more competitive, programs that have documented evidence of their merit will be the ones that receive funding and continue to exist. Thus, a better understanding of the nexus between these constructs can advance leadership theory and practice.

Purpose and Research Objectives

The purpose of this study was to explore the relationship between leadership development approaches, networking ability, and social capital. The research objectives of this mixed-methods study were:

- Describe the leadership development approaches, networking ability, and social capital associated with graduates of agricultural leadership development programs.
- Assess the relationships between leadership development approaches, networking ability, and social capital.
- Investigate the influence among leadership development approaches, networking ability, and social capital.

- Explore and describe the influence of leadership development approaches on social capital.

Conceptual Framework

An examination and analysis of the literature related to the aforementioned constructs led to the development of a theoretically intuitive conceptual framework used to guide the study (Figure 1-1). In this model, leadership interventions will be categorized into one of the four leadership development approaches advanced by Conger (1992); networking ability will be measured with a scale developed by Ferris, Davidson, and Perrewe (2005); and the dimensions of social capital will be measured using a modified instrument from Nistler (2014).

Significance of Study

A dearth of research exists with regard to the correlates and impacts of networking in the leadership development literature (Keating, 2011), and even less is known about how leadership development influences social capital capacity (Van De Valk & Constanas, 2011). This study contributes to the body of knowledge in several ways. First, by providing a comprehensive picture of the leadership-networking-social capital relationship it furthers the theoretical and conceptual understanding of leadership theory and practice. This notion is corroborated by the authors of a recent review on theoretical trends in leadership theory and research: “Linking processes to outcomes can advance theory, and it will also provide a firmer basis for leadership interventions” (Dinh et al., 2014, p. 55).

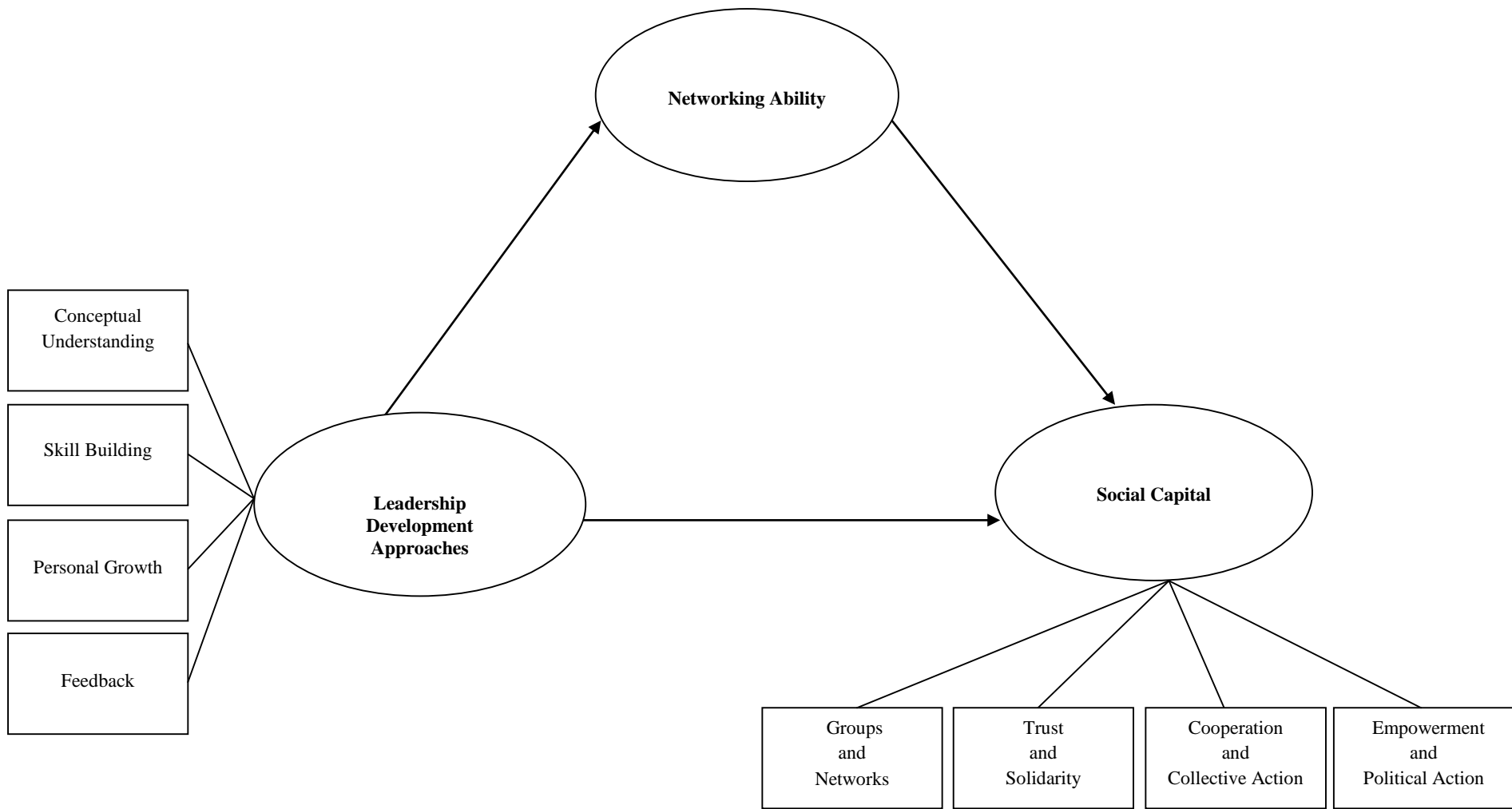


Figure 1-1. Conceptual framework to examine leadership development approaches, networking ability, and social capital.

Second, this study is significant because it follows recent calls by several authors in the field to focus on the social capital impact of leadership development practices (Avolio, 2007; Day, 2000). This call is further substantiated by Brass and Krackhardt (1999) who write, “The social capital of leaders is perhaps the most ignored, under-researched aspect of leadership” (p. 180). In practical terms, understanding how social capital is influenced can inform programmatic activities and allow for the design of targeted interventions or approaches that accelerate or enhance the formation of social capital necessary for cooperation and collective action.

Furthermore, less than half of agricultural leadership development programs in existence have conducted evaluations to determine program impacts (Kaufman, Rateau, Carter, & Strickland, 2012), and the majority of these program evaluations lacked rigor (Strickland, 2011). A more comprehensive understanding of social capital outcomes may help improve the effectiveness of leadership development programs, provide empirical evidence for continued investment, and assist practitioners in accomplishing the primary goal of these programs: social capital development (Collins & Holton, 2004; Day, 2000).

Overview of Methodology

Stentz, Plano Clark, and Matkin (2012) assert that the application of multiple research approaches is needed to understand the complex processes involved in leader and leadership development. In light of this assertion, and based on the aforementioned research objectives, this study was conducted using a mixed methods convergent parallel research design (Creswell & Plano Clark, 2011). The quantitative phase of the study was conducted using a non-experimental, correlational approach. Data on all constructs were collected using a cross-sectional, web-based survey, and the analysis will provide a general understanding of the relationship(s) between

leadership development approaches, networking behavior, and social capital dimensions. Concurrent to this phase, a separate qualitative phase was conducted using semi-structured telephone interviews. Transcripts from these interviews were analyzed using the constant comparative method (Corbin & Strauss, 2008). The results of the two phases were merged to identify convergence or divergence and draw metainferences (Greene, 2008).

Limitations

A mixed methods approach allows for a combination of the strengths of both quantitative and qualitative methodologies (Ary, Jacobs, & Sorensen, 2010); however, this approach also had limitations. For example, the quantitative phase of the study employed a non-probability, purposive sampling procedure where participants were recruited via email to participate. As a result, voluntary response bias could have occurred by oversampling individuals who have strong opinions about their experience or agricultural leadership programs in general (Dillman et al., 2009). This sampling approach is also limiting in that will not allow for generalization to the target population (Ary et al., 2010). Another limitation associated with the quantitative phase is social desirability, which is related to the validity and reliability associated with the self-report instruments (Friedrich, Byrne, & Mumford, 2009). However, the online administration and the careful wording of questionnaire items were used to make the survey less susceptible to social desirability bias (Joinson 1999; Tourangeau & Yan, 2007).

A third limitation of this study is related to the interpretive nature of qualitative research (Rossman & Rallis, 2012). The researcher may introduce bias into the analysis of the findings by becoming attached to one viewpoint or by asking the respondents leading questions. In an effort to remain reflexive about the researcher's active role in knowledge construction, the researcher provided a personal narrative to address how he is positioned in relation to the

research objectives. Reflexivity will not remove bias, but instead highlight the researcher's contribution to the understanding of the phenomenon that emerges from the research (Rossman & Rallis, 2012). Also, the study may be subject to different interpretations by different readers. To address this limitation low inference descriptors, verbatim descriptors (i.e., direct quotations), and respondent feedback were used to improve the credibility of interpretations in this study (Johnson, 1997)

Definitions of Terms

For the purpose of this study, the following terms have been defined.

Agricultural leadership development program: An “adult leadership development program designed to further develop leadership capacity from the agriculture and natural resources sectors” (Strickland, 2011, p. 21).

Human capital: “Any stock of knowledge or characteristics an individual has, either innate or acquired that contributes to his or her productivity” (Acemoglu & Autor, 2009, p. 3).

Leader development: A developmental approach with an emphasis on “individual based knowledge, skills, and abilities associated with formal leadership roles” (Day, 2000, p. 584).

Leadership: An intentional, collaborative process that accomplishes a common goal through trust building, the development of self-awareness, and inspiring a shared vision.

Leadership development: A developmental approach with an emphasis on “building networked relationships among individuals that enhance cooperation and resource exchange in creating organizational value” (Day, 2000, p. 585).

Leadership intervention: “A developmental experience using some form of training, introspection, receiving feedback and exercises to increase the effectiveness of how one leads an individual or group” (Avolio, Avey, & Quisenberry, 2010, p. 635).

Networking: “An individual’s attempt to build and nurture personal and professional relationships to create a system or chain of information, contacts, and support” (de Janasz, Dowd, & Schneider, 2002, p. 192).

Social capital: The intangible resources of social connections and social networks that can be accessed and mobilized in purposive action (Lin, 2001b). This study focused on the following social capital dimensions: groups and networks, trust and solidarity, cooperation and collective action, as well empowerment and political action (Grootaert et al., 2004; Nistler, 2014).

Chapter Summary

Participants in leadership development programs take part in multiple developmental experiences that provide opportunities to influence the composition of their social network and enhance social capital. However, a problem exists because little is known about the relationship between leadership development approaches, networking ability, and social capital. As a result, this study sought to further explore these relationships and make the nexus between these constructs less ambiguous.

This chapter presented an overview of the background and purpose, as well as the significance of the study, by describing leader and leadership development, networking ability, social capital, and the context for the study. In addition, it outlined the rationale and justification for the study, which focuses on untangling the relationship(s) between these constructs.

CHAPTER 2 THEORETICAL FRAMEWORK

This chapter provides a thorough examination of the theoretical literature as it relates to leadership, networking ability, social capital theory, and offers a summary of the studies and associated with these topics.

Leadership

Leadership is one of the most widely studied, yet least understood subjects (Jackson & Parry, 2011). Thoughts about leadership and the approach to studying leadership have evolved greatly during the last 100 years, and as a result there are a wide variety of theoretical approaches to explain the leadership process (Northouse, 2013). Along with the many approaches to leadership, there are also many definitions of leadership. Bass (1990) writes, “There are almost as many different definitions of leadership as there are persons who have attempted to define the concept” (p. 11). For this study, leadership is defined as an intentional, collaborative process that accomplishes a common goal through trust building, the development of self-awareness, and inspiring a shared vision.

Despite these challenges, the study and practice of leadership development is at an all-time high (Avolio, Walumbwa, & Weber, 2009). In 2013, more than \$15 billion was expended to train and develop leaders through formal programs (O’Leonard & Krider, 2014). In the organizational context, this interest, and the large investments in leadership development are warranted because “leadership is increasingly recognized by organizations as a source of competitive advantage” (Bilhuber Galli & Müller-Stewens, 2012, p. 176). In the community context “leadership programs have arisen as one venue to reduce the gap between a community’s needs and the supply of leaders committed to supporting future community involvement”

(Ringler, 2011, p. 172). Such is the case for agricultural leadership development programs, which were developed to fill a need for effective rural leadership (Miller, 1976).

Leader and Leadership Development

At the turn of the century, Day (2000) initiated an evolution of thought with his seminal literature review that distinguished leader development from leadership development. As a result of this review, there has been a move within the field of leadership to distinguish between the development of an individual's capacity to lead, and the development of a group's shared capacity to lead (Day, 2000). Prior to this paradigm shift, leader and leadership development were largely indistinguishable because the majority of empirical studies examined leadership as an individual phenomenon, focusing on the behaviors and skills of the leader (Dalakoura, 2009). Based on his synthesis of the literature, Day (2000) wrote that the field of leadership development "appears to be at its zenith" (p. 581).

The emphasis in leader development "is on individual based knowledge, skills, and abilities associated with formal leadership roles" (Day, 2000, p. 584). From this perspective, skills and abilities are often referred to as leader competencies (Van Velsor, McCauley, & Ruderman, 2010). The competencies taught in leader development programs vary according to the needs of the organization or community in which the program is embedded. However, Day (2000) presents self-awareness, self-regulation, and self-motivation as intrapersonal competencies commonly associated with this individualistic approach. Other individual-based competencies that can be developed are networking behaviors (Collins & Clark, 2003). An underlying assumption of this perspective is the development of competencies will expand an individual's capacity to be effective in leadership roles and processes (Van Velsor, McCauley, & Ruderman, 2010). When competencies are the focus of leader development, theories of adult

learning and behavior change inform the understanding of the development process (Allen, 2007). Thus, Day (2000) contends that an outcome of developing an individual's knowledge, skills, and abilities is human capital. Human capital is defined as "any stock of knowledge or characteristics an individual has, either innate or acquired that contributes to his or her productivity" (Acemoglu & Autor, 2009, p. 3). For example, an individual's cognitive ability, including emotional awareness and self-control, represent attributes of human capital. The development of human capital supports and enables the development of the individual, as well as the expansion of social networks and trusting relationships (i.e., social capital) (Day, 2000).

In contrast to this intrapersonal approach, the primary emphasis in leadership development is on "building and using interpersonal competence" (Day, 2000, p. 585). Interpersonal competencies commonly associated with leadership development are social awareness and other relational skills (Day, 2000). The underlying assumption is that the development of these competencies will help individuals "understand how to relate to others, coordinate their efforts, build commitments, and develop extended social networks by applying self-understanding to social and organizational imperatives" (Day, 2000, p. 586). Therefore, leadership development places more emphasis on the relational and collective nature of leadership in the context of organizations, industries, or groups (Day, 2000). An outcome of this relational approach to fostering coordination, cooperation, and unity is social capital (Bilhuber Galli & Müller-Stewens, 2012; Day, 2000; McCallum & O'Connell, 2009). In contrast to human capital approaches, social capital oriented approaches focus "on building networked relationships among individuals that enhance cooperation and resource exchange in creating organizational value" (Day, 2000, p. 585). Social capital has been defined as the intangible resources of social connections and social networks that can be accessed and mobilized in purposive action (Lin,

2001b). For example, the relationships that constitute an individual’s social network, as well as the trust, norms or reciprocity, and shared goals associated with those relationships are conceptions of social capital (Putnam, 2000; Tsai & Ghoshal, 1998). A summary of the differences between leader and leadership development are outlined in Table 2-1.

Table 2-1

Differences between leader and leadership development.

Comparison Dimension	Developmental Target	
	Leader	Leadership
Capital Type	Human	Social
Leadership Model	Individual Personal power Knowledge Trustworthiness	Relational Commitments Mutual respect Trust
Competence Base	Intrapersonal	Interpersonal
Skills	Self-Awareness Emotional awareness Self confidence Accurate self-image Self-Regulation Self-control Personal responsibility Trustworthiness Adaptability Self-Motivation Initiative Commitment Optimism	Social Awareness Empathy Service orientation Political awareness Social Skills Building bonds Team orientation Change catalyst Conflict management

The majority of research studies related to the outcomes of agricultural leadership development programs have reported human capital outcomes (see Abington-Cooper, 2005; Black, 2006; Black, Metzler, & Waldrum, 2006; Carter & Rudd, 2000; Dhanakumar, Rossing, &

Campbell, 1996; Diem & Nikola, 2005; Kelsey & Wall, 2003, Strickland, 2011). However, these programs align closely with grassroots leadership development, which seeks to achieve shared, collective leadership as opposed to the traditional, more individual-based approach (W.K. Kellogg Foundation, 1999). Nevertheless, the relationship between each developmental approach and its role in leadership process is foundational.

The relationship between these two developmental approaches has been characterized as symbiotic, whereby gains to one will allow for gains to the other (Day, 2000). For example, human capital skills, such as personal communication, may enhance working relationships, resulting in increased social capital (Nahapiet & Ghoshal, 1998). At the same time, social capital, such as the trust generated through relationships, may in turn enhance one's human capital (Nahapiet & Ghoshal, 1998). Moreover, social capital is not necessarily developed through one leadership practice, but is the product of a meaningful configuration of several practices that enable social interaction and shared experiences (Bilhuber Galli & Müller-Stewens, 2012). It is likely that most leadership programs focus on a combination of both human and social capital approaches, and simply refer to themselves as leadership development programs (Conger, 1992; Day, 2000). Such is the case for the agricultural leadership programs that are the subject of this study. These programs provide the context for the development of individual skills in a cohort model, which in turn, should facilitate the development of social capital needed to effect positive social change and collective action in the agricultural industry and rural communities.

Agricultural Leadership Development Programs

There has been notable growth in the number of agricultural leadership development programs since the earliest known program was funded by the W.K. Kellogg Foundation (WKKF) and established at Michigan State University (MSU) in 1965 (Miller, 1976; WKKF,

2001). This inaugural program was named the Kellogg Farmer's Study Program and was developed to fill a need for effective rural leadership (Miller, 1976). The developmental goal of this program was to provide "agricultural and rural leaders with a broader view of society, as well as a greater sense of the world and how they fit into the bigger picture" (WKKF, 2001, p. 1). As of 2014, there were more than 45 agricultural leadership programs that associate themselves with the model advanced by the Kellogg Farmer's Study Program (J. Waldrum, personal communication, October 22, 2014).

The mission and objectives of each agricultural leadership program differ according to local needs, but an early review of several programs by Howell, Weir, and Cook (1982) found the commonalities among programmatic objectives. The collective goals were to increase the participants' understanding of political, social and economic systems; to develop social skills; to be effective spokespeople for their industry or community; to expand individual networks; and to develop future political, civic, and organizational leaders. As such, primary outcomes associated with the inaugural program, and many programs since, include "personal and professional growth, ranging from expansion of personal perspectives and self-esteem to greater decision-making and involvement in leadership positions" (Kaufman, Rateau, Carter, & Strickland, 2012, p. 124). In one of the more recent discussions of program benefits, Kaufman and Carter (2005) write, "these programs encourage the development of effective and responsible agricultural leaders that are capable of addressing industry issues and becoming active participants in public affairs" (p. 68).

The directors of the inaugural program at MSU sought to accomplish the aforementioned objectives by designing experiences and engaging participants in study that led to "a better understanding of the economic, political and social framework of American Society" and the

application of “this understanding to the complex problems and unique concerns of agriculture and rural communities” (Miller, 1976, p. 6). Generally, these objectives are accomplished through a structured curriculum and developmental experiences that consist of “workshops and travel seminars intended to provide participants with an understanding of the social, economic, cultural, and political dimensions of public problems” at the community, state, national, and international levels (Howell, Weir, & Cook, 1982, p. 2). A 2007 survey of agricultural leadership program directors found the average cohort (i.e., class) lasted 21 months and consisted of 12 educational seminars delivered in-state, regionally, and internationally (Kaufman, Rateau, Carter, & Strickland, 2012).

Leadership and Learning

According to Day, Harrison, and Halpin (2008), leadership development is linked to adult development, and an implicit proposition guiding this study is that leadership is a complex learning process (Brown & Posner, 2001). As such, development is facilitated by sources of learning, which are the activities commonly associated with leadership programs (Allen & Hartman, 2008a). There is no clear consensus on a specific learning theory that informs leadership development (Allen, 2007). However, adult learning and leadership development are both closely connected with the concepts of change and transformation (Day, Harrison, & Halpin, 2008; Mezirow, 2000). Several scholars maintain that leadership development programs, and the associated sources of learning, provide individuals with the opportunity to fundamentally change their perspective and worldview (Brown & Posner, 2001; Lord & Hall, 2005). What is more, Day and Halpin (2004) submit that such changes in worldview and perspective have become an important focus in leader development. Such fundamental changes are underpinned by transformative learning theory (Mezirow, 1994), which characterizes the

process of fundamental change, and provides a framework for understanding the learning process of adults. Transformative learning theory also “aligns nicely with the objectives of many leadership development programs” (Allen, 2007, p. 33) and frequently underpins the evaluation and assessment approaches of these programs (Brown & Posner, 2001).

Transformational learning theory has been widely studied; and in contrast to other adult learning theories (e.g., andragogy) that focus on characteristics of learners, this approach focuses on the cognitive processes of learners (Taylor, 1997). Mezirow (1994) defines transformative learning as “the process of construing and appropriating a new or revised interpretation of meaning of one’s experience as a guide to action” (p. 222). Transformative learning emerges from three key components, which Mezirow (2000) describes as disorienting dilemmas, critical reflection, and rational discourse. In leadership programs, the sources of learning and shared experiences serve as the mechanism that can facilitate the transformation of an individual’s perspective or worldview. In this vein, leadership development aligns with transformative learning to the extent that both address the need to create developmental opportunities and foster critical reflection in an effort to bring about a “fundamental change in the way we see ourselves and the world in which we live” (Brown & Posner, 2001, p. 274).

Disorienting Dilemmas. According to Mezirow (2000), disorienting dilemmas are significant events or stimulus that hastens the examination of individual assumptions, experience, or perspective. Disorienting dilemmas cause a significant level of cognitive dissonance in an individual and can manifest in several ways. Mezirow (1990) explains that disorienting dilemmas could be as extreme as a life-threatening illness, divorce, and job loss or as modest as engaging in a professional development program, attending a university, or reading a particularly disturbing book. A disorienting dilemma initiates the transformation process by

disrupting an individual's meaning making process and is a precursor to critical reflection and rational discourse (Mezirow, 1994).

Critical Reflection. Critical reflection is a cognitive process that can contribute to new ways of seeing and understanding experiences, as well as constructing new meaning schemes (Mezirow, 1990). Stafford (2012) explains, "Critical reflection enables learners to use intentional, deliberate and assimilative inquiry to navigate changes in worldview that are more transformative than learning facts and figures" (p. 1). Critical reflection can manifest in several forms, but Mezirow (1990) advances content, process, and premise reflection as the three primary forms.

Content reflection involves thinking back to previous actions and reflecting on what happened and how it happened (Kitchenham, 2008). In contrast, process reflection causes a person to consider the cause or reason of actions and whether there are other factors yet to be unveiled (Kitchenham, 2008). Content and process reflection may alter an individual's meaning scheme, but the form of reflection that is most crucial to bringing about transformation is premise reflection (Mezirow, 2000). This form is characterized as reflection on underlying premises, beliefs, and assumptions (Kitchenham, 2008). The hypothesis of transformative learning hinges on learners being able to reflect on their experience and then being able to discuss their experience and meaning making process through dialogue.

Rational Discourse. The final element of transformative learning theory is rational discourse, which is a way of discussing with other people, in a logical and objective manner, personally and socially held beliefs and assumptions (Mezirow, 1990). Mezirow (1998) argues, "Learning to think for oneself involves becoming critically reflective of assumptions and participating in discourse to validate beliefs, intentions, values and feelings" (p. 197).

Participating in rational discourse can support perspective transformation and help individuals integrate a modified meaning perspective (Mezirow, 2000).

Leadership practitioners can accelerate individual development by providing opportunities for program participants to engage in activities that disrupt assumptions and beliefs, asking questions related to meaning-making processes, and providing a forum to openly discuss experiences. The outcome of transformative learning “reflects individuals who are more inclusive in their perceptions of their world, able to differentiate increasingly its various aspects, open to other points of view, and able to integrate differing dimensions of their experiences into meaningful and holistic relationships” (Dirkx, 1998, p. 4). When the components and outcome of transformative learning are viewed with a leadership lens, a theoretically intuitive assumption can be made that this theory is uniquely suited to the aims of adult leadership development.

Leadership Development Approaches

The sources of learning in leadership development programs vary according to the context in which the program is embedded, but they are considered the “primary vehicles for delivering leadership development learning activities before, during, and after the leadership development intervention” (Allen & Hartman, 2008a, p. 10). At this point, it may be useful to distinguish between sources of learning and a leadership intervention, which is a more ubiquitous term used to describe a “developmental experience using some form of training, introspection, receiving feedback and exercises to increase the effectiveness of how one leads an individual or group” (Avolio, Avey, & Quisenberry, 2010, p. 635). The type of intervention delivered is influenced by the objectives of the leadership program, but Conger (1992) categorizes these interventions into four broad approaches to leadership capacity development.

In his book, *Learning to Lead*, Conger (1992) categorizes leadership development programs into four primary domains based on the following approaches: conceptual understanding, personal growth, skill building, and feedback. These approaches were developed as a result of a two-year study that included over 150 interviews, as well as Conger's participation in several leadership development programs in the United States. This study was considered groundbreaking because only a few scholars had attempted to categorize approaches to leadership development (Northouse, 2009). Building on Conger's work, Allen and Hartman (2008a, 2009) identified the sources of learning that best align with each of the four leadership development approaches.

Conceptual Understanding. According to Conger (1992), conceptual understanding is the second most popular leadership development approach, and the primary focus is improving an individual's knowledge of leadership through the presentation of leadership concepts and models. This approach is often theory-based and is typically delivered through self-paced, classroom, or e-learning environments (Allen & Hartman, 2008a; Conger, 1992). The underlying assumption of this approach is that providing a cognitive understanding of leadership will help facilitate a better perspective of what leadership is and is not (Conger, 1992). Sources of learning like case studies, video clips, lectures, expert panels, tours, storytelling, observation, articles or books, and leadership research are commonly associated with this approach (Allen & Hartman, 2008a, 2009).

Personal Growth. A focus on personal growth is the most common leadership development approach and is rooted in humanistic psychologies (Conger, 1992). The purpose of this approach is to facilitate self-actualization by inducing "participants to reflect on their behaviors and on their personal values and desires" (Conger, 1992, p. 46). The underlying

assumption that informs this approach is: Leaders who are deeply in touch with their aspirations and abilities will be more interpersonally competent and emotionally open, and as a result will act to fulfill their desires (Conger, 1993). Common sources of learning associated with this approach to leadership development include personal vision statements, service learning, networking, as well individual and group reflection (Allen & Hartman, 2008a, 2009).

Feedback. The primary focus of a feedback approach is providing participants with insight into their behavior. Conger (1992) suggests, “through effective feedback processes, we can learn about our strengths and weaknesses in a number of leadership skills” (p. 50). Feedback can be used to change behavior, improve performance, supply information that will help solve a problem, or enable an individual to become more productive (Center for Creative Leadership, 1998). The assumption that underpins this approach is: Most individuals have the capacity for leadership and feedback processes can improve awareness of this capacity. Feedback can take many forms; nevertheless sources of learning commonly associated with this approach are feedback instruments and assessments (Allen & Hartman, 2008a; Conger, 1992), like the Myers-Briggs Typology Indicator (MBTI), Clifton StrengthsFinder, and 360-degree feedback reports.

Skill Building. The final approach advanced by Conger (1992) is a competency-based approach with the aim of building an individual’s leadership skills. The skills taught in these programs (e.g., communication and/or networking) are dictated by the needs of the community or organization in which the program is embedded (Uhl-Bien, 2006). Skill building approaches attempt to simplify development by breaking down leadership abilities into mechanical processes that can be performed (Conger, 1992). A criticism of this approach is that it does not recognize the complex, socially embedded process of leadership (Conger, 1993). Common sources of learning associated with this approach are ropes courses, team building activities, developmental

relationships, icebreakers, simulations, games, role playing activities, and coaching (Allen & Hartman, 2008a, 2009).

Approaches and Sources of Learning

It is likely that most leadership development programs in existence today use multiple sources of learning and approaches to accomplish their objectives and mission “because no single approach is appropriate at all times” (Allan & Hartman, 2008a, p. 85). Conger (1992) suggests that a symbiotic relationship exists between the approaches. The following example, adapted from Conger (1992) and Allan and Hartman (2008a), illustrates how each approach could work in concert. First, a conceptual understanding of leadership provides the foundational knowledge necessary to recognize and practice leadership. Once an individual understands leadership, they can build on this understanding by learning leadership habits and competencies by practicing these new skills. As such, individuals can be provided with feedback on their strengths and weaknesses related to their behavior or skills, which can in-turn provide an opportunity for personal growth and success.

The approaches advanced by Conger (1992) and the associated sources of learning advanced by Allen and Hartman (2008a, 2008b, 2009) can be used to provide a framework for understanding the learning activities associated with developing leadership capacity (Table 2-2). Research using these approaches and the associated sources of learning is limited to a few authors; however, the studies that address these topics will be discussed here.

Table 2-2

Leadership development approaches and corresponding learning activities.

Leadership Approach	Common Sources of Learning
Conceptual Understanding	<ul style="list-style-type: none"> Case studies Video clips Lectures Expert panels Tours Storytelling Observation of leaders Articles or books Research leadership E-learning Classroom-based training Self-study Small group discussion
Feedback	<ul style="list-style-type: none"> 360 Feedback Coaching Assessments and instruments Audio or video feedback
Personal Growth	<ul style="list-style-type: none"> Written reflections Group reflection Personal vision statements Service learning Networking Team building activities
Skill Building	<ul style="list-style-type: none"> Ropes or team courses Icebreakers Simulations Games Role playing activities Personal development plans Action learning Group or individual presentations Group projects

Note: Adapted from Conger (1992) and Allen & Hartman (2008a, 2008b, 2009).

In an effort to better understand perspectives related to sources of learning, Allen and Hartman (2008b) surveyed International Leadership Association members who were responsible

for creating or conducting leadership development programs in their organizations. Using survey methods, the researchers collected information with regard to sources of learning that would most likely be used in organizations, are the most cost-effective, provide the greatest amount of learning, and yield high satisfaction among participants. These practitioners ($n = 43$) indicated that developmental relationships, individual/group reflection, networking with senior executives, and individual development plans were the most useful, cost effective, and enjoyable sources of learning for program participants (Allen & Hartman, 2008b). The authors concluded that a combination of learning activities likely yields the best results in terms of development; “all sources of learning have benefits and drawbacks depending on the context, and each has its time and place in a leadership development program” (Allen & Hartman, 2008b, p. 85).

In a second research project, Allen and Hartman (2009) conducted two studies that combined the four leadership development approaches (Conger, 1992), and 20 common sources of learning, to investigate college student preferences for leadership development. For the first study, undergraduates ($n = 1,171$) from two universities were surveyed as to how they would prefer to learn about leadership. In the second study, undergraduates ($n = 522$) who recently completed a leadership development program were surveyed as to their preferred sources of learning in their recently completed program. In study one, participants reported a preference for discussing leadership concepts in small groups, opportunities to observe effective leadership, creating individual goal or vision statements, networking, and reflecting on past experiences with others (Allen & Hartman, 2009). In the second study, participants who experienced the learning activities preferred discussing leadership concepts in small groups, reflecting on past experiences with others, networking, listening to stories about leadership, and observing effective leadership (Allen & Hartman, 2009). In concluding remarks, the researchers suggest that student the

preferences for “personal growth and skill building approaches may make it difficult to create engaged participants in those leader development programs with a strong initial conceptual understanding, or broad development directed toward a general group of students” (Allen & Hartman, 2009, p. 15). Taken together, students preferred shared interactions and experiences, which reinforces the relational nature of leadership development and the process of leadership.

Networking

The theoretical foundation of networking behavior can be established through the use of scientific literature from multiple fields like organizational and career development, social networks, human resource practices, as well as training and development. Within these fields, research on networking ability has been conducted in three streams of literature. In their investigation of the relationship between networking and personality, Wolff and Kim (2012) identified power and politics as one stream and organizational and career development as the second stream. The final stream is leadership networking; and even though networking is a widely reported outcome of leadership development programs (see Abington-Cooper, 2005; Black, 2006; Carter & Rudd, 2000; Dhanakumar, Rossing, & Campbell, 1996; Diem & Nikola, 2005; Kelsey & Wall, 2003; Strickland, 2011), it has received relatively little attention in the literature (Bartol & Zhang, 2007; Pearce, 2007). Despite the varying contexts in which networking is studied, many scholars agree that networking is a fundamental human capital skill because it can provide competitive advantage and is essential for effective leadership and social capital formation (Bartol & Zhang, 2007; Friar & Eddleston, 2007; Grayson & Baldwin, 2007; Wolff, Moser, & Grau, 2008). Furthermore, de Janasz and Forret (2008) make a bold assertion that individuals who do not have the ability to network will fall behind in today’s competitive and global environment.

The aforementioned streams of literature have informed the development of multiple definitions of networking. Despite the myriad of definitions, a synthesis by Wolff, Moser, and Grau (2008) found that almost all of the definitions of networking converge on two primary characteristics. First, all of the definitions “refer to the individual level of analysis and characterize networking as a set of particular behaviors” (Wolff, Moser, & Grau, 2008, p. 103). As a result, networking is not considered a personality trait, but an individual-level construct that focuses on a set of interrelated behaviors that can be frequently and consistently exhibited by individuals (Wolff, Schneider-Rahm, & Forret, 2011). As such, an individual’s networking ability can differ based upon the extent to which they engage in networking behaviors. Common examples of networking behavior, from the literature, are introducing oneself to important others and socializing in an effort to better understand a contact’s knowledge, skills, and background; engaging in professional activities and increasing one’s visibility in an effort to share information and engage in collective problem solving; and maintaining relationships to ensure access to the contact and associated resources when needed (Forret, 2014; Forret & Dougherty, 2001; Wolff, Moser, & Grau, 2008).

In this vein, networking behavior involves relationship establishment, development, and maintenance behaviors that can be developed through education, practice, and feedback (Collins & Clark, 2003; de Janasz & Forret, 2008; Wolff & Moser, 2010). For example, training that addresses how to approach others, introduce oneself, and engage in ‘small talk’ to help find areas of common interest can enhance an individual’s networking abilities (de Janasz & Forret, 2008). However, relationships developed through networking “not only need to be built, but also need to be maintained to be effective” (de Janasz & Forret, 2008, p. 644). This notion leads to the final characteristic of networking definitions.

The second characteristic of nearly all networking definitions is their focus on the goal of networking, which is building relationships to create a network of information, contacts, and support (Wolff, Moser, & Grau, 2008). The keyword of this conceptualization is *building*, and an explicit assumption guiding the inclusion of this word is “it takes time to develop contacts, and using contacts to obtain valuable resources at present is only possible if contacts had been built and maintained in the past” (Wolff & Moser, 2010, p. 240). In this vein, networking is often considered a “medium-term strategy and time plays an important role in the reaping of its benefits” (Wolff & Moser, 2010, p. 244). In order for the goal of networking to be obtained (e.g., social capital), relationship maintenance strategies need to be employed. Some strategies identified in the literature are giving contacts a phone call to stay in touch, sending thank you notes to others who have helped you, as well as inquiring with colleagues about their current work, and sharing information that will help others with their work (Ferris et al., 2005; Forret & Dougherty, 2001; Wolff & Kim, 2011). These relationship maintenance behaviors are “considered an investment in social relationships that one anticipates will eventually pay off” (Wolff, Moser, & Grau, 2008, p. 104). Taken together, networking facilitates relationship development, which can expand an individual’s social network and social capital capacity (Day, 2001; Kilpatrick, Field, & Falk, 2003).

In the leadership context, this expansion and diversification of a leader’s network can contribute to leader effectiveness, capacity acquisition, and the social capital necessary for cooperation and collective action (Bartol & Zhang, 2007; Grayson & Baldwin, 2007). A leadership network has value because it can be embedded with resources and support as well as increase the scope and scale of impact leaders can have individually and collectively (Ahsan, 2007; Cadima, Ojeda, & Monguet, 2012; Ibarra & Hunter, 2007; Mullen & Kochan, 2000). In

addition to providing an individual with resources, networks have been found to assist in problem solving (Senge, 2003), professional skill development (Wenger, 2000), and increase civic engagement (Dhanakumar et al., 1996).

Pearce (2007) noted that networking ability is a particularly useful developmental area on which to concentrate in future leadership development efforts. This may be due to the relational nature of leadership, which makes a leader dependent upon access to the knowledge, information, and resources of others to accomplish tasks and goals (Bartol & Zhang, 2007; Grayson & Baldwin, 2007). Furthermore, Grayson and Baldwin (2007) write, “Leaders who are skilled networkers have access to people, information, and resources to help solve problems and create opportunities” (p. 6). Examples of networking strategies in the leadership development context are asking for feedback, becoming an information hub, making allies, working with others, volunteering for positions and assignments, and learning from others (Grayson & Baldwin, 2007). In addition, the development of networking abilities improves human capital and enables the expansion of social networks and trusting relationships (i.e., social capital) (Day, 2000).

Agricultural Leadership Program Networking Outcomes

A retrospective study of agricultural leadership programs, commissioned by the W.K. Kellogg Foundation (2001), provides evidence that the participants of agricultural leadership development programs have acquired valuable skills and are utilizing those skills at the personal, professional and public service levels. In the context of this study, synthesizing the reported network outcomes of these programs is the first step in understanding their contribution to the development of social capital, which, according to Day (2000), is the aim of leadership

development. Hence, a summary of published evaluations of agricultural leadership development programs follows, with a special emphasis on network and networking outcomes.

In 1996, Dhanakumar, Rossing, and Campbell conducted an evaluation of the Wisconsin Rural Leaders Perspective program using a quantitative survey augmented by interviews. Using statistical analyses, the researchers were able to conclude that participants gained significant knowledge and skills in the areas of communication and networking. The researchers further noted that program alumni who gained the most knowledge and skills in communication and networking showed more interest in running for public office.

In 2000, Carter and Rudd evaluated a Florida leadership development program using interviews with program alumni, their spouses, and business associates. The researchers reported themes that emerged from the qualitative interviews. The most common themes were related to people skills, policy development, analytical skills, and personal skills. Networks and networking emerged as a primary outcome in each of the aforementioned themes. For example, networking was considered “an asset that allowed the participants to interact more effectively with people” and “allows participants to be more aware of influences that affect Florida agriculture and natural resources” (pp. 202-203). The researchers noted that all respondents mentioned networking as a positive outcome of program participation.

In 2001, the W.K. Kellogg Foundation commissioned its own evaluation by surveying more than 7,500 alumni of agricultural leadership development programs. Nearly all, 93% of respondents, reported participation in the leadership program was beneficial. The most frequently mentioned program benefits were: networking, interaction with others, and building relationships. When asked if they had applied any of the skills they had learned to their professional and personal lives, 98% indicated they had, and a common example of this

application was networking. The report concluded “program alumni have established a strong network of resources, become more informed about policy, and are motivated to act and become involved” (WKKF, 2001, p. 4).

In 2003, Kelsey and Wall conducted an evaluation of an Oklahoma leadership development program using surveys and interviews to collect data from program alumni. The objectives of this study were to determine if the program contributed to leadership development and determine if participants had taken an active role in their community following the program. The results indicate “the agricultural leadership program provided adequate networking opportunities and time for participants to access information for their communities” (p. 43). Through individual interviews, the researchers were able to assert that “networking opportunities were the most important aspects of the program” to participants and these networks were valuable because they provided support and direction (Kelsey & Wall, 2003, p. 43).

Diem and Nikola (2005) assessed the impacts of a statewide leadership development program using a survey completed by program participants. The objectives of the study were to understand the most useful knowledge gained as a result of program participation. Networking was reported as one of eight primary outcomes. Additionally, 72% of respondents reported that, as a result of participation, they regularly access their network of contacts acquired through the program. One graduate reported, “My participation enhanced my credibility within the agricultural community, built relationships that improve my effectiveness at work but also enrich my life outside of work” (Diem & Nikola, 2005, para. 14).

In an evaluation primarily focused on competencies gained as a result of participation in a agricultural leadership development program in Louisiana, Abington-Cooper (2005) reported alumni felt the most positive impacts of the program were communicating effectively,

networking with others, and leading groups and organizations. Additionally, program alumni suggested formal networking training and additional networking opportunities among classmates in order to improve the program for future participants.

In 2006, Black conducted an evaluation of the Ohio agricultural leadership program by utilizing individual, organizational, and community domains to frame program outcomes. In the quantitative portion of the study, networks and networking were implicated as primary outcomes in the individual and organizational domains. A theme that emerged during the qualitative interviews with alumni was the ability to network better as result of the program participation.

Black, Metzler, and Waldrum (2006) conducted focus groups with program alumni to determine the outcomes of agricultural leadership programs in Arkansas and Ohio. They used individual, organizational, and community domains to frame program outcomes. In both states, networks and networking were widely reported as an outcome at the organizational level. The researchers reported that “the tremendous opportunity to network with other businesses, receive career coaching, and maintain contacts with one another” was beneficial (p. 59). The researchers posit that the quality and quantity of networking opportunities aided the participants both professionally and personally.

In 2011, Strickland utilized a mixed-methods approach to assess the outcomes and impacts of agricultural leadership development programs. A focus group and interviews with leadership program directors revealed “the development of networks” as a primary intended outcome of these programs (p. 103). At the conclusion of the study, the researcher writes:

Based on the importance of the networks and utilization of the networks developed through agricultural leadership development programs, more research should be conducted on the effects of these networks. As this continues to be identified by the

directors as an important outcome, it is important to further understand how alumni are utilizing their networks and why they are important. (pp. 158-159)

This concluding quote and the previously reported outcomes speak to the fact that agricultural leadership programs provide the context for the development of networking behavior and the expansion of social networks. However, the current body of research associated with leadership development and the formation of networks as an outcome is insufficient (Collins & Holton, 2004; Day, 2000; Strickland, 2011). As such, many scholars make the case that more research is needed to determine if and how leadership interventions may lead to enhanced networking and networks (Day, 2000; Hoppe & Reinelt, 2010; Strickland, 2011).

Antecedents of Networking

Research indicates networking ability is influenced by individual differences, such as personality traits (Forret & Dougherty, 2001), and also by situational variables such as job function or position in an organization (Michael & Yukl, 1993). Additionally, networking has been found to be a highly social activity; therefore, networking ability is facilitated by certain traits (Wanberg, Kanfer, & Banas, 2000). In relation to personality, several studies have concluded that networking ability is positively related to extraversion and conscientiousness (Wanberg, Kanfer, & Banas, 2000), self-esteem (Forret & Dougherty, 2001), and proactivity toward social relations (Thompson, 2005). A type of proactive networking behavior is increasing one's visibility in the group or organization by volunteering for roles on committees or projects (Wolff & Kim, 2012).

Networking ability can also be contingent upon situational antecedents, such as job function and position (Michael & Yukl, 1993). For example, two studies found that supervisors and managers report more networking behaviors than individuals at lower levels in the organization (Forret & Dougherty, 2001; Michael & Yukl, 1993). There is also some evidence

that networking is associated with salary for managers, but not for non-managers (Wolff & Moser, 2009).

In their effort to establish construct validity of networking, Wolff, Moser, and Grau (2008) write, “The overall impression concerning the antecedents of networking is that individual as well as structural differences have an impact on networking, whereas evidence for the relationship between sociodemographics and networking remains inconclusive” (p. 113). Furthermore, in their comprehensive review of networking behavior correlates, Forret and Dougherty (2001) conclude, “Human capital variables were significant predictors of networking behaviors and should be included in future research on networking” (p. 302). Human capital variables included in this study are education and extraversion. Despite an inconclusive relationship between demographic characteristics and networking behavior, as matter of good practice the following demographic variables were included in the study: age, gender, race, marital status, and education level.

Outcomes of Networking Behavior

Engaging in networking behavior is one way individuals can establish and develop relationships in an effort to increase their social capital capacity, which is the intangible resources of social connections and social networks that can be accessed and mobilized in purposive action (Lin, 2001b). In this vein, social network theories help explain how networking behaviors influence the number, strength, patterns, and resources associated with the relationships in an individual’s social network (de Janasz & Forret, 2008; Forret, 2014).

Network Expansion. A network is a structure that consists of a set of actors and the set of connections representing the existence of a relation, or lack of relation, between actors (Brass, Butterfield, & Skaggs, 1998). Actors may be individuals or collectives, such as groups,

organizations, or societies. A relation is defined as a specific type of contact, connection, or tie between a pair of actors (Knoke & Yang, 2008). Furthermore, the “relations within a social network can be classified as either directed, where one actor initiates and the other receives, or non-directed which is characterized by mutuality” (Knoke & Yang, 2008, p. 7). In this study, the terms relationship, connections, and ties are used interchangeably; this is due entirely to the preferences of scholars who write about these concepts, but despite the diversity of verbiage these bonds are characterized by mutuality. Thus, Borgatti and Foster (2003) write, “A set of ties of a given type, such as friendship ties constitutes a binary social relation, and each relation defines a different network” (p. 992). For example, a friendship network can be distinct from an advice, career, or common interest network.

Networking can expand the number of relationships in an individual’s social network, which can result in a larger, more diverse network of connections (Burt, 1992). These networked relationships provide access to people who can themselves provide support, and to the resources that can be mobilized through their network (Nahapiet & Ghoshal, 1998). Individuals in a social network can be “connected to each other by one or more relations such as friendship, kinship, common interest, like or dislike” (Romsaiyud & Premchaiswadi, 2012, p. 134). Adler and Kwon (2002) write in their synthesis of social capital literature, “Social ties of one kind (e.g., friendship) often can be used for different purposes” (pp. 17-18). This transferability of ties across networks (e.g., career and advice networks) has been termed appropriability (Coleman, 1988) and is clearly a reality of social life (Adler & Kwon, 2002). Increasing the number of connections, within and across networks, improves the potential sources of support, information, and advice in which individuals can draw upon (de Janasz & Forret, 2008).

Relationship Strength. Networking behaviors can influence the strength of relationships in an individual's social network. According to de Janasz and Forret (2008), "The strength of a relationship can be assessed on a continuum based on the frequency of contact, degree of intimacy, and emotional investment with weak ties on one end of the continuum and strong ties on the other" (p. 632). Granovetter (1973) advances the strength of weak tie theory and characterizes friendships as strong ties and acquaintances as weak ties. The first premise of the strength of weak ties theory is the stronger the tie between two people, the more likely their social worlds will overlap, and as a result will share ties with the same third parties (Granovetter, 1973). This is the case because individuals tend to be homophilous, meaning that they have stronger ties to people that are similar to them (Borgatti & Lopez-Kidwell, 2011). The second premise of this theory is that bridging (i.e., weak) ties are a potential source of novel ideas and information (Granovetter, 1973). A bridging tie links a person to people who are not connected to other actors in their network, and such a tie affords an individual access to unique information or resources that are not already circulating among their other friends (Borgatti & Lopez-Kidwell, 2011).

Putting these two premises together, Granovetter (1973) reasons that strong ties are more likely to know one another and as a result possess similar information benefits, but weak ties are a richer source of unique information. Thus, the "strength of weak ties" lies in the fact that "weak relationships often are key sources of novel, divergent, non-redundant information or resources" (Brass & Krackhardt, 1999, p. 185). With this in mind, ties can also vary in their instrumental use; strong ties are particularly valuable when an individual seeks emotional support and often entail a high level of trust. Weak ties are more valuable when individuals are seeking diverse or unique information from someone outside their regular frequent contacts

(Granovetter, 1973). It should be noted that “networking relationships are typically considered to be weak ties..., [but] these relationships may evolve into stronger ties if contact becomes more frequent and the relationship becomes characterized by greater familiarity and comfort” (de Janasz & Forret, 2008, p. 632)

Relationship Patterns. The third instance in which networking improves an individual’s social capital capacity is related to the patterns of relationships in their social network. Burt’s (1992) structural hole theory addresses the patterns of relationships embedded in a social network. This theoretical perspective “is rooted in a long sociological tradition of viewing an actor’s position in a social network as determinant of its opportunities and constraints” (Borgatti, Jones & Everett, 1998, p. 28). Burt argues that the strength of the tie is less important than the presence or absence of a structural hole (Brass & Krackhardt, 1999). A structural hole is said to exist when an individual is connected to two people (or groups) who are not themselves connected (Brass & Krackhardt, 1999).

Burt (2000) posits that certain configurations of relationships confer significant information and control benefits. The first premise of structural hole theory is brokerage, which involves the building of connections between reciprocally disconnected actors or groups (Burt, 1992). There is an advantage for those that are able to operate as intermediaries between disconnected parts of the social network, namely the areas surrounding structural holes (Borgatti, Jones, & Everett, 1998). The advantage lies in the ability to mediate the resource flow between disconnected others (Burt, 2000). A fundamental principle of this theory is that individuals can benefit from serving as intermediaries between others who are not directly connected (Kleinberg, Suri, Tardos, & Wexler, 2008). Burt (2000) concludes by writing, “Individuals with networks rich in structural holes are the individuals who know about, have a hand in, and exercise control

over, more rewarding opportunities” (p. 211). Although Burt uses the term “structural hole,” it can be seen that this view is very similar to the bridging perspective initially offered by Granovetter (1973). Combining the principles of these two theories leads to the conclusion that strong ties are characterized by high levels of trust, reciprocity, and sense of community; whereas weak ties cross boundaries and are sources of new ideas, information, and resources (Meehan & Reinelt, 2012).

Burt’s theory favors sparse networks with many structural holes; however, there is a second premise associated with structural hole theory. This premise is closure, which consists of the construction of a dense network that consists of strong exclusive relationships within groups of individuals (Burt, 1992). Burt (2001) writes, “Network closure facilitates sanctions that make it less risky for people in the network to trust one another” (p. 35). Network closure is associated with strong social norms and beliefs, which in turn encourage compliance with local rules and customs and reduce the need for formal controls (Borgatti & Lopez-Kidwell, 2011). Thus, the advantage of closure comes from closed communication, which lowers the risk of cooperation. Burt (2001) explains that closure creates advantage by lowering the risk of cooperation whereas brokerage creates advantage by increasing the value of cooperation.

Resource Expansion. The fourth way in which networking influences an individual’s social capital capacity is by expanding the resources or benefits that can be derived from the relationships in a social network (de Janasz & Forret, 2008). The relationships in an individual’s network represent a valuable and distinctive resource, but a relation alone does not guarantee access to the embedded resource. Furthermore, the relationships that constitute a social network are not identical with embedded resources. Research has shown that the availability of these embedded resources is contingent upon particular structural characteristics of the network (Adler

& Kwon, 2002). Thus, variations in network structure and strength of the ties may increase or decrease the quantity and quality of resources embedded in the network (Forret & Sullivan, 2002). According to social capital theory, norms, trust, and shared vision also play an important role in the availability and accessibility of embedded resources (Coleman, 1988; Putnam, 2000). Taken together, an individual's ability to access embedded resources depends on the network structure and relationship strength, as well as the trust, norms, and shared goals associated with others who can provide these resources (Nahapiet & Ghoshal, 1998). This assertion speaks to the relationship between social networks and social capital. Despite this close relationship — or perhaps because of it — conceptual clarity with regard to the social network perspective and the operationalization of social capital has been elusive.

A principal explanation as to why network theories are accepted as valuable is that social networks are considered to be the foundation on which social capital can be built (Adler & Kwon, 2002; Brass & Krackhardt, 1999; Burt, 2001; Coleman, 1988; Lin, 1999, Nahapiet & Ghoshal, 1998). Even though there are several network measures of social capital (see Borgatti, Jones, & Everett, 1998), the accessibility of resources embedded in the network as well as shared norms, trust, and language are the primary relational units described in the social capital literature (Coleman, 1988; Nahapiet & Ghoshal, 1998; Putnam, 1995; Tsai & Ghoshal, 1998).

Social Capital

Social capital is a concept that has been described as “increasingly popular” (Adler & Kwon, 2002, p. 17) and as “one of the most salient concepts in social sciences” (Lin, 2001, p. 3). According to Tsai and Ghoshal (1998), social capital can be conceptualized and operationally defined at many different levels, including individuals (Belliveau, O'Reilly, & Wade, 1996), organizations (Burt, 2000), and societies (Putnam, 1995). Several scholars have conceptualized

social capital as a set of social resources embedded in relationships (Burt, 1992; Lin, 1999).

Other scholars, however, have espoused a broader definition of social capital, including not only social relationships, but also the norms and values associated with these relationships (Coleman, 1988; Putnam, 2000). Despite the incongruence in the literature Maak (2007) provides an insightful summary:

What most researchers seem to agree on is that there is, depending on its configuration, potential value in the content of social network ties. Yet, due to the complexity of the fabric of social relations and the varying motivations to access the resources in question, we find multiple levels of analysis, content or structural approaches, and normative or instrumental takes on social capital. (p. 333)

Although each conceptualization shares commonalities, this discontinuity has contributed to confusion with regard to the measurement of social capital (Tronca, 2011). However, there is broad agreement that social capital is embedded in the relationships between individuals, and the tangible and intangible resources rooted in these relationships are a valuable resource and often the source of benefits individually or collectively (Adler & Kwon, 2002; Burt, 1992; Lin, 1999; Putnam, 1995; Nahapiet & Ghoshal, 1998). Some examples of these benefits include advice and sponsorship, as well as access to valuable information, resources, and opportunities (Brass & Krackhardt, 1999).

A central proposition of social capital theory is “networks of relationships constitute a valuable resource for the conduct of social affairs, providing their members with collectively-owned capital, a ‘credential,’ which entitles them to credit, in the various senses of the word” (Nardone, Sisto, & Lopolito, 2010, p. 243). Much of this capital is embedded within networks of mutual acquaintance and recognition, but “unlike other forms of capital, social capital is not

possessed by individuals but exists in the relationships between individuals and is characterized by mutual trust and an expectation of reciprocity” (McClenaghan, 2000, pp. 568-569). This point is further elaborated by Burt (2000), who postulates that social capital is jointly owned by the parties in a relationship, and no one individual has, or is capable of having, exclusive ownership rights. Thus, an intrinsic characteristic of social capital is that it is relational and it inheres in the connections between individuals (Day, 2000). To possess social capital, an individual must have relationships with others, and it is these others, not himself, who are the actual source of resources (Portes, 1998). Moreover, Prusak and Cohen (2001) maintain that these relationships, if characterized by trust, mutual understanding, and shared values, make cooperative action possible.

Leadership Development and Social Capital

Brass and Krackhardt (1999) write, “The most important step in developing leaders for the 21st century is an awareness of social networks and their importance in gathering information, creating change, acquiring resources, coordinating activities or missions, and providing help in personal career advancement” (p. 189). This type of interpersonal focus aligns with leadership development, which according to Day (2000) focuses “on building networked relationships among individuals that enhance cooperation and resource exchange in creating organizational value” (p. 585). In this vein, leadership development builds social capital through an integrative approach by “helping people understand how to relate to others, coordinate their efforts, build commitments, and develop extended social networks by applying self-understanding to social and organizational imperatives” (Day, 2000, p. 586). In an attempt to better understand the relationship between social capital formation and leadership development and practice, Bilhuber Galli and Müller-Stewens (2012) conducted an exploratory case study and concluded that social capital can differ with regard to intensity; it develops through stages

characterized by contact, assimilation, and identification experiences. These shared experiences can influence an individual's social capital by enhancing the size of their network, the strength of relationships within their network, as well as the resources embedded in their network (Day, 2000; de Janasz & Forret, 2008; Kilpatrick, Field, & Falk, 2003).

A majority of leadership literature characterizes the expansion of relationships in an individual's social network through bonding ties, which are developed internally to the network, and bridging ties, which are external to the network (Day, 2001; Hoppe & Reinelt, 2010; Kilpatrick & Falk, 2003; Maak, 2007). Bonding and bridging ties have been found to enable "the sharing of skills, knowledge, and resources within the group, while at the same time accessing outside resources," as well as increase the size of an individual's network (Kilpatrick & Falk, 2003, p. 510). While the number of ties in an individual's network can increase their social capital capacity, equally important are the interpersonal dynamics between individuals within the network (Nahapiet & Ghoshal, 1998).

Leadership development programs provide the context and opportunities for interaction and shared experiences among participants; it is through these interactions that trusting relationships and a sense of community can form (Bilhuber Galli & Müller-Stewens, 2012; Zacharakis & Flora, 2005). Shared experiences also afford participants an opportunity to develop stronger relationships and learn more about each other's values, attitudes, competencies, and aspirations (de Janasz & Forret, 2008), which can lead to the "development of a safe trustful environment facilitates the sharing of knowledge and information" (McCallum & O'Connell, 2009, p. 156). As the relationships in a leader's social network strengthen, so does the availability of resources embedded in the relationships (Bilhuber Galli & Müller-Stewens, 2012). The resources embedded in a leader's social network are valuable assets because they can

increase the scope and scale of impact that leaders can have individually and collectively (Mullen & Kochan, 2000; Ahsan, 2007).

The social capital approach to understanding leadership locates leadership not in the attributes of individuals, but in the relationships connecting individuals (Balkundi & Kilduff, 2005). Leadership, then, can be measured in terms of how much social capital it creates for others (Mehra, Kilduff, & Brass, 2001). Despite the fact that leadership as a social process continues to receive widespread attention in the literature (See Balkundi & Kilduff, 2005), “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” (Keating, 2011, p. 19).

The literature makes clear that social networks offer benefits, but the current body of research associated with leadership, social networks, and social capital is insufficient (Collins & Holton, 2004; Day, 2000). This notion is substantiated by Brass and Krackhardt (1999) who write, “The social capital of leaders is perhaps the most ignored under-researched aspect of leadership” (p. 180). Day (2000) posits that more research is needed to determine if and how leadership interventions may lead to enhanced networks. This approach has received renewed attention because scholars believe it can potentially open a new avenue of understanding variance in leadership efficacy (Avolio, Walumbwa, & Weber, 2009; Day, 2000). In addition, this study answered the call by Hoppe and Reinelt (2010) to better understand the nature of a leader’s networks and changes in their network that result from leadership development. One way to better understand these changes and social capital outcomes is through the measurement of social capital’s component parts. As such, social capital dimensions have been described as

powerful conceptions for understanding the emergence, growth, and functioning of social networks (Tsai & Ghoshal, 1998).

Social Capital Dimensions

Narayan and Cassidy (2001) provided a comparison of social capital across several studies to identify common dimensions used in quantitative measurement. This work was further refined by Grootaert, Narayan, Nyhan Jones, and Woolcock (2004) who developed a theoretical model that distinguishes between the following social capital dimensions: groups and networks, trust and solidarity, cooperation and collective action, and empowerment and political action. A construct map from Nistler (2014) provides a visual representation of these dimensions (Figure 2-1).

The groups and networks dimension reflects network structure and connectivity levels (Burt, 1992; Lee & Jones, 2008), whereas the trust and solidarity dimension addresses the normative conditions that characterize the relationships and guide social exchanges (Tsai & Ghoshal, 1998). The cooperation and collective action dimension reflects “the main ways in which social capital operates,” and the empowerment and political action dimension represents social capital outcomes (Grootaert et al., 2004, p. 5). Thus conceived, social capital can be understood as a multi-dimensional construct that encompasses elements that intersect structure and action (Lin, 1999). These elements include the structure, content and perception, as well as outcomes associated with relationships within a given network (Nahapiet & Ghoshal, 1998; Tsai & Ghoshal, 1998). As such, social capital is indicative of the relationships embedded in a social network, the norms that afford access to such social resources, and the mobilization of such resources in the pursuit of purposive action (Lin, 1999; Putnam, 2000).

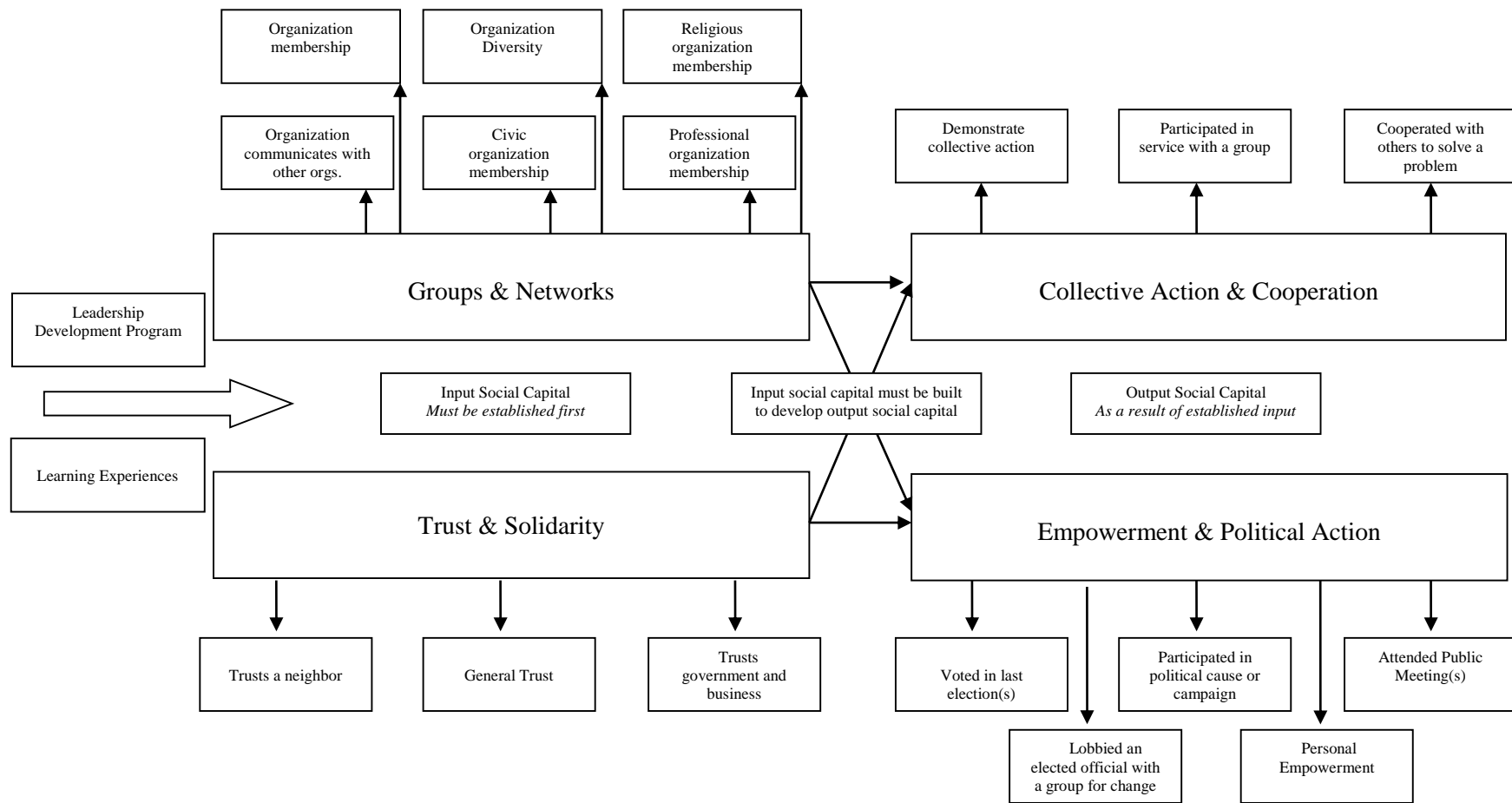


Figure 2-1. Social capital construct map. Note. Used with permission of Deborah L. Nistler.

Groups and Networks. This dimension refers to “the overall pattern of relationships between actors--that is, who you reach and how you reach them” (Nahapiet & Ghoshal, 1998, p. 244). Groups and networks are not only connected with social capital, they are foundational to the development and use of social capital (Moody & Paxton, 2009). A fundamental principle of the network approach to understanding social capital is the belief that network connections represent potential resources that can be mobilized and accessed to provide value-including economic returns (Burt, 2000), and support for leaders (Ahsan, 2007; Cadima, Ojeda, & Monguet, 2012; Ibarra & Hunter, 2007; Mullen & Kochan, 2000). For that reason, social capital is contingent upon the structural diversity and strength of ties within an individual’s network, because without relationships it would be impossible for individuals to access network-embedded resources.

Network connections are characterized as “the impersonal configuration of linkages between people or units” (Nahapiet & Ghoshal, 1998, p. 244), and the configuration of these connections can influence resource and information flow as well as facilitate cooperation (Burt, 1992; Putnam, 2000). Despite the attention given to this structural dimension, scholars disagree on what kind of network structure is most beneficial (Moran, 2005). However, there is agreement that a diverse network can provide access to more opportunities for resource and information exchange and is indicative of higher levels of social capital (Adler & Kwon, 2002; Nahapiet & Ghoshal, 1998; Roberts, 2013).

The aforementioned notion, with regard to diversity, is also applicable at the group level and is supported by Narayan and Cassidy (2001) who write the influence of social capital “is most profound when relationships are among heterogeneous groups” (p. 60). This diversity, which can be operationalized as a mix of strong and weak connections within and across group

boundaries, is a key determinant of group (McCallum & O'Connell, 2009) and organizational effectiveness (Uzzi, 1996). In this vein, connections to multiple groups (i.e., interdisciplinary networks) can create opportunities and facilitate cooperation and collective action (Putnam, 2000). For example, groups working across boundaries are afforded an opportunity to develop shared language and collective meanings that offer benefits related to access, efficiency, and cooperation (Nahapiet & Ghoshal, 1998). As such, a collective understanding provided by shared experiences, meanings, and language can influence an individual's or group's ability to access the relational resources (i.e., information, support, or advice) embedded in their networks. Shared interactions also provide "a common frame for evaluating the likely benefits of resource exchange, and enhances the efficiency of communication between people with similar background or practical experience" (Chiu, Hsu, & Wang, 2006, p. 1878). Taken together, these benefits induce individuals or groups to become more actively involved in knowledge exchange activities, which, in-turn, enhances the quality of shared information, collective knowledge, and social capital (Lesser & Prusak, 1999).

In a leadership development context, diverse networks and group associations provide leaders with access to multiple viewpoints, which can improve decision-making and leader effectiveness (Brass & Krackhardt, 1999). Understanding this dimension is important because participation in a leadership development program provides opportunities for network expansion and group diversification, which can result in new resources and collaboration to achieve shared goals (Dudwick, Kuehnast, Nyhan Jones, Woolcock, 2006).

Trust and Solidarity. In distinguishing the groups and networks dimension from the trust and solidarity dimension, Nahapiet and Ghoshal (1998) utilize Granovetter's (1992) original conceptualization of structural and relational embeddedness where the former is representative of

the configuration of an individual's network and the latter is representative of the quality of the relationships in an individual's network. Where the structural dimension determines the extent and range of resources that are within an individual's reach, the relational dimension establishes how much of this potential will be realized (Lesser & Prusak, 1999). Furthermore, several scholars argue that the quality of the social relationship is social capital's most important component (see Leana & Van Buren, 1999; Nahapiet & Ghoshal, 1998; Tsai, 2001; Tsai & Ghoshal, 1998).

The trust and solidarity dimension refers to the type of relationships individuals have developed with each other through a history of interactions (Nahapiet & Ghoshal, 1998). Moran (2005) writes, "Although an individual may have access to several people who are potentially critical sources of information, personal experience and the quality of past interactions will often influence whom he or she is likely to approach and engage" (p. 1135). Thus, the quality of an individual's relationships can influence which resources are within reach, can be accessed, and to what extent. Key facets of this dimension "address issues around trust, shared norms and values, obligations, expectations and identification that are critical in developing social capital among members of a group" (Lesser & Prusak, 1999, p. 3).

Trust has been described as the 'basic active ingredient' for social capital (Moran, 2005), because it serves as a governance mechanism for embedded relationships (Burt, 2000), as well as reduce transaction costs and permit a fast and effortless exchange of resources (Coleman, 1988). Additionally, Putnam (1995) identifies trust as an important aspect of social capital because it can induce cooperation and collective action. One way to establish trust is through close and frequent social interaction, which has been implicated as an antecedent to trust and perceived trustworthiness (Zornoza, Orengo, & Peñarroja, 2009). Through an integrative approach, these

interactions provide the context necessary to build trust by allowing individuals to assess the integrity of others in their network, the competence of others in ongoing exchanges, and the predictability of others through the alignment of goals and values (Moran, 2005).

Tsai and Ghoshal (1998) write, “Since trust can induce joint efforts, a trustworthy actor is likely to get other actors' support for achieving goals to an extent that would not be possible in a situation where trust did not exist” (p. 465). Similarly, Fukuyama (1995) and Putnam (1995) both argue that trust between individuals and groups can facilitate the formation of social capital and influence the strength of social capital between individuals.

Solidarity refers to an individual's sense of belonging and positive feelings toward a community (Terroin, 2006) and is said to result from membership in a group or network (Nahapiet & Ghoshal, 1998). Leadership development programs have been described as communities of practice because individuals are united by more than just membership; they are also involved with one another in action (Drath & Palus, 1994). This distinction is important because Lesser and Prusak (1999) argue that communities of practice can catalyze the development of solidarity that can be maintained by the relationships participants have with each other, and by their shared experiences, frames of reference, and areas of interest. In this vein, these shared experiences can help establish a group identity, which lubricates solidarity by fostering “loyalty and citizenship behaviors in a group setting, and is useful in explaining individuals' willingness to maintain committed relationships” (Chiu, Hsu, & Wang, 2006, p. 1877). Solidarity is critical for the development of collective social capital because “distinct and contradictory identities within groups constitute significant barriers to information sharing, learning, and knowledge creation” (Chiu, Hsu, & Wang, 2006, p. 1878).

Leadership development programs provide opportunities for repeat interaction with participants, agricultural industry stakeholders, and community members, and in doing so provide a foundation for current and future social capital. Thus, it is important to understand what specific trust building activities and interactions are taking place in agricultural leadership development programs and how they lead to trusting relationships, a salient group identity, and solidarity.

Cooperation and Collective Action. The previous two dimensions of social capital (i.e., groups and networks, trust and solidarity) have been identified as *input* social capital - and when present – they induce *output* social capital in the form of cooperation and collective action at the community level (Grootaert et al., 2004; Nistler, 2014). As such, cooperation and collective action have been characterized as proxy indicators of social capital. For example, Putnam (1993) emphasizes the importance of cooperation and collective action as indicators of social capital when he asserts that "social capital refers to features of social organization such as networks, norms, and social trust that *facilitate coordination and cooperation for mutual benefit*" [emphasis added] (pp. 35-36). Furthermore, Grootaert et al. (2004) write, "the usefulness of this indicator stems from the fact that in the vast majority of settings, collective action is possible only if a significant amount of social capital is available in the community" (p. 12).

Although closely related to trust and solidarity, the cooperation and collective action dimension explores in greater depth whether, and how, people work with others in their communities, and the consequences of violating the norms of cooperation associated with those communities (Dudwick et al., 2006). With regard to cooperation, Lesser and Prusak (1999) explain that social capital is improved "when individuals believe that their actions will be appropriately reciprocated, and that individuals will meet their expected obligations" (p. 3).

Cooperation, as with trust, is developed with use; for example, trust that is demonstrated today typically will be reciprocated and amplified tomorrow (Maak, 2007). Hence, long lasting relationships, characterized by frequent interaction, may be the source of greater relational capital (e.g., trust and solidarity) because these relationships have well-developed norms that foster cooperation. Nahapiet and Ghoshal (1998) provide an explanation of this relationship by writing:

There is a two-way interaction between trust and cooperation: trust lubricates cooperation, and cooperation itself breeds trust. This may lead to the development, over time, of generalized norms of cooperation, which increase yet further the willingness to engage in social exchange. (p. 255)

In this vein, cooperation represents a degree of trust and consensus in a social network (Nahapiet & Ghoshal, 1998).

Balkundi and Kilduff (2005) assert individuals cannot just “build and use” relationships and expend subsequent social capital without adequate investment in reciprocity. A benefit of reciprocity is cooperation in that it helps “create stable relationships with trusted partners, and over time these ties accumulate into a mutually beneficial network and ultimately generate stakeholder social capital” (Maak, 2007, p. 340). These norms can also serve as a relationship governance mechanism as they can predispose individuals to cooperate, restrain opportunistic behavior, and reinforce trust (Nardone, Sisto, & Lopolito, 2010), which can influence individuals to act more effectively in pursuit of shared objectives (Putnam, 2000).

Maak (2007) describes social capital as the term used to describe features that enable people to act collectively. One social mechanism that facilitates collective action is group identification. In support of this notion, Kramer (1999) asserts collective action is facilitated by

group identification, because when individuals identify with a group, their concern for collective processes and outcomes is enhanced, which increases the chances that collaboration will occur. Nahapiet and Ghoshal (1998) define identification as “the process whereby individuals see themselves as one with another person or group of people” (p. 256). Thus, the strengthening of a collective identity can augment an individual or group’s capacity for collective action (Maak, 2007); and collective action is an indicator of underlying social capital (Grootaert et al., 2004).

Participants in leadership development programs have opportunities to build groups and networks as well as trust and solidarity. When these forms of social capital are present, Grootaert et al. (2004) suggest that individuals will begin to work collectively and cooperatively within their community. Given the renewed focus on leadership as a collective process, understanding what activities and interactions facilitate the development of cooperation and lead to collective action can provide a better understanding of how program graduates increase the social well-being of their communities.

Empowerment and Political Action. This dimension explores the “sense of satisfaction, personal efficacy, and capacity of network and group members to influence both local events and broader political outcomes” (Dudwick et al., 2006, p. 25). Empowerment is characterized as an outcome of social capital; and political action provides an avenue to better understand the manifestation of empowerment and social capital (Grootaert et al., 2004). However, it should be noted that social capital has also been described as a determinant of empowerment. For example, Babaei, Ahmad, and Gill (2012) found that bonding and bridging social capital significantly influenced empowerment in a study of squatter settlements. This relationship between empowerment and social capital has been described as symbiotic, much like the relationship between trust and cooperation. As evidence of this relationship, Narayan and

Cassidy (2001) write “empowerment...is represented as *both* a determinant and an outcome [of social capital], while psychometrically vexing, certain variables can be defined as both determinants and outcomes” (p. 65-66). In this vein, leadership development can be described as “a learning process which serves to empower individuals and social groups by involving them as citizens in collective activities aimed at socio-economic regeneration, development and change” (McClenaghan, 2000, p. 566). As such, empowerment will be considered an outcome of social capital for this study.

Empowerment is defined as “enhancing an individual’s or group’s capacity to make choices and transform those choices into desired actions and outcomes” (Alsop & Heinsohn, 2005, p. 5). The underlying assumption is, if a person or group feels empowered, they have the agency to make choices that facilitate action (Alsop & Heinsohn, 2005). Political action, in this case, is viewed as one many activities that can be undertaken to increase empowerment. For example, Alsop and Heinsohn (2005) recommend determining if opportunities for political participation exist (i.e., existence of choice), whether an individual attempts to vote (i.e., use of choice), and whether the individual actually votes (i.e., achievement of choice) as direct measures of political empowerment. Exploring leadership development and this dimension is important; especially given that Roberts (2013) found participants in a leadership program “develop stronger relationships, are more in control of the information [flow], and are empowered to act in the future” (p. 56).

Outcomes of Social Capital

As described above, social capital is a shared resource because it inheres in the relations between and among individuals (Burt, 2000). Therefore, social interaction is a precondition for both the quality and emergence of social capital dimensions (Maak, 2007). The importance of

these dimensions, especially in the context of this study, is best explained by McCallum and O'Connell (2009) who write, "The successful twenty-first century organizations will be the ones with leaders that not only have the knowledge, skills and abilities to operate effectively but also possess the relational capabilities to partner with others to realize their vision and goals" (p. 164).

As has been established, the development of social capital involves not only the creation of new connections and the enhancement of relational dynamics, such as trust, shared norms, and identification, but also involves the cognitive recognition of a collective identity through shared experiences (Nahapiet & Ghoshal, 1998). In the leadership development context, using Nistler's (2014) conceptualization of social capital has value because it acknowledges that leaders do not lead in isolation. It also supports Balkundi and Kilduff's (2005) assertion that leadership efficacy depends to some extent on the quality of the relationships that constitute an individual's social network.

Social capital is seen as the most defining component for collective action and value creation (Adler & Kwon, 2002; Putnam, 2000). In this vein, several scholars have advanced the argument that a relationship exists between social capital and leader effectiveness (Balkundi & Kilduff, 2006; Fredricks, 2003; Kilpatrick & Falk; Terroin, 2006). Taken together, social capital can be identified as an antecedent to collective action and leadership effectiveness, which are both identified aims of leadership development (Day, 2000). Social capital contributes to these identified aims by increasing perceived opportunities for cooperation, influencing an individual's willingness to share knowledge, and enhancing concern for collective processes and outcomes (Nahapiet & Ghoshal, 1998). In addition, the possession of social capital can reduce transaction costs and permit a fast and effortless exchange of resources (Coleman, 1988), which results in

better resource sharing in terms of quantity and quality (Chiu, Hsu, & Wang, 2006; Lesser & Prusak, 1999). Last, social capital can serve as a relationship governance mechanism that predisposes individuals to cooperate, restrains opportunistic behavior, and reinforces trust (Burt, 2000; Nardone, Sisto, & Lopolito, 2010). It is important to understand how leadership development approaches and networking behavior influence the social capital because it has been found to provide resources and support for leaders, as well as increase the scope and scale of impact that leaders can have individually and collectively (Ahsan, 2007; Cadima, Ojeda, & Monguet, 2012; Ibarra & Hunter, 2007).

Chapter Summary

This chapter delineated between leader and leadership development and characterized each as a learning process. Next, an overview of the history, objectives, and outcomes of agricultural leadership programs were provided to properly situate the study in its context. The four most common approaches to leadership development and the sources of learning associated with each were discussed. Networking ability was described as the primary approach to developing relationships in an individual's social network. In the leadership development context, networking is a particularly useful development tool because it provides a means for the individual to develop social capital through interaction and shared experiences. The four dimensions of social capital and the associated benefits of each were discussed, as well as the importance of social capital to twenty-first century leaders. The following chapter will provide an in-depth description of the research design, sample, instrumentation, as well as the data collection and analysis procedures.

CHAPTER 3 METHODOLOGY AND PROCEDURES

Chapter one provided an introduction, statement of the problem, and conceptual framework for this study, chapter two described the theoretical underpinning, and this third chapter elucidates the methods and procedures used to address each of the research objectives. In order to investigate the constructs, this study was conducted using a convergent parallel, mixed methods design, which is characterized as having two concurrent phases within one study (Creswell & Plano Clark, 2011). One phase of this study involved the collection and analysis of quantitative data using survey and statistical methods, and the other phase involved the collection of qualitative data using semi-structured telephone interviews and constant comparative analysis. This quantitative + qualitative approach suited the exploratory nature of this study by allowing the researcher to collect different, but complimentary data (Creswell & Plano Clark, 2011; Greene, 2007; Teddlie & Tashakkori, 2009).

The purpose of this study was to explore the relationship between leadership development approaches, networking ability, and social capital. The following research objectives have been outlined for this mixed methods study:

- Describe the leadership development approaches, networking ability, and social capital associated with graduates of agricultural leadership development programs.
- Assess the relationships between leadership development approaches, networking ability, and social capital.
- Investigate the influence among leadership development approaches, networking ability, and social capital.
- Explore and describe the influence of leadership development approaches on social capital.

Based on these objectives, this chapter consists of an in-depth explanation of the research design, population and samples, instrumentation, as well as data collection and analysis procedures.

Research Design

To address these research objectives, this study was implemented using a convergent parallel mixed methods design (Creswell & Plano Clark, 2011). This design is the most popular mixed methods design (Creswell, Plano Clark, Guttman, & Hanson, 2003), because it is useful when the researcher “wants to triangulate the methods by directly comparing and contrasting quantitative statistical results with qualitative findings for corroboration and validation purposes” (Creswell & Plano Clark, 2011, p. 77). The data from each phase of this study was analyzed separately and then merged to develop a more complete understanding of the nexus between leadership development, social capital, and networking ability.

By definition, a mixed methods approach “is research where the researcher mixes or combines quantitative and qualitative research techniques, methods, approaches, concepts or language into a single study” (Johnson & Onwuegbuzie, 2004, p. 17). The rationale for mixing, in this study, was that neither the quantitative nor the qualitative methods would be sufficient by themselves to provide a holistic understanding of the nexus between the socially-embedded process of leadership development. The fundamental argument for mixing methods is that the use of both quantitative and qualitative research methodologies can provide a better understanding of the research problem than using either approach independently (Creswell & Plano-Clark, 2011; Greene, 2007; Johnson, Onwuegbuzie, Turner, 2007). In the leadership context, this argument is supported by Stentz, Plano Clark, and Matkin (2012) who assert that the application of multiple research approaches is needed to understand the complex processes involved in leader and leadership development. Thus, an advantage of combining methods is

that neither quantitative nor qualitative methods are adequate by themselves to capture the complex, multi-level, and socially constructed process of leadership (Gardner, Lowe, Moss, Mahoney, & Cogliser, 2010). Furthermore, Greene (2007) suggests mixed methods designs can yield richer, more valid, and more reliable findings than projects based on either the qualitative or quantitative methodologies alone. A mixed methods approach can also “take advantage of the combined strengths of one method to overcome the weaknesses of another” (Ary et al., 2010, p. 567). As such, this study combined the strength of quantitative methods to provide a measure of the relationship(s) between constructs, and the strength of qualitative methods to gain an in-depth understanding of *how* leadership development approaches influence the social capital dimensions described in chapter two.

Essential Elements of a Mixed Methods Design

There are a number of fundamental decisions that need to be made when designing a mixed methods study. The most essential and critical decisions are determining the level of interaction, priority, timing, and mixing (Creswell & Plano Clark, 2011; Greene, 2007; Teddlie & Tashakkori, 2009).

Interaction refers to the extent to which the two phases are independent or interact with each other (Teddlie & Tashakkori, 2009). Data are interactive “when a direct interaction between the quantitative and qualitative strands occurs” before the final conclusions, discussion, and recommendations of a study (Creswell & Plano Clark, 2011, p. 65). For this study, data collection and analysis was concurrent; therefore, the collection and subsequent analysis of the quantitative and qualitative data were kept independent until after the data analyses were finished. Upon completion of the analyses, the findings of the two phases were integrated by comparing and contrasting the conclusions and trying to construct a more comprehensive

understanding of the nexus between leadership development and social capital. This type of approach is indicative of the convergent parallel design (Creswell & Plano Clark, 2011; Teddlie & Tashakkori, 2009).

Priority refers to the relative importance of the quantitative and qualitative methods for answering the study's research objectives (Creswell & Plano Clark, 2011). Equivalent priority was assigned to the quantitative and qualitative phases in this study because each plays an equally important role in addressing the final research objective. This approach is supported by Creswell and Plano Clark (2011), who write "the convergent parallel design prioritizes the methods equally" (p. 71).

Timing refers to whether the quantitative and qualitative data collection and analysis comes in sequence or concurrently (Creswell & Plano Clark, 2011). The survey and semi-structured interview data were collected and analyzed concurrently in this study. This was due in part to the exploratory nature and purpose of the study, which was to provide a more complete understanding of the relationships between constructs.

Mixing is "the explicit interrelating of the study's quantitative and qualitative strands" (Creswell & Plano Clark, 2011, p. 66). The mixing strategy used in this study was merging the two data sets during interpretation and metainference stage (Creswell & Plano Clark, 2011). Thus, the data from each phase was synthesized and mixed when connected to the conclusions, discussion, and recommendations of this study. This end-of-study mixing is characterized by comparison and synthesis of each strand and will reflect what was learned from the combination of methods (Teddlie & Tashakkori, 2009).

In summary, the data were collected and analyzed independently and mixed at the conclusions and metainference stage. Equal priority was given to the quantitative and qualitative

data, which was collected concurrently. A diagram, adapted from Creswell and Plano Clark (2011) depicts the research design and procedures for this study (Figure 3-1). The following sections provide an in-depth explanation of the quantitative and qualitative research strands of this study.

Quantitative Strand

The goal of this study was not to indicate causation or generalize, but to explore factors that influence the relationships between variables and develop a more holistic understanding of leadership development and social capital dynamic. Provided this goal, the role of the quantitative phase was to assess these relationships using a non-experimental, correlational design (Ary et al., 2010) that employed survey methods (Dillman, Smyth, & Christian, 2009). In this phase, numeric data was collected using Qualtrics survey software, a web-based survey program, and analyzed using the Statistical Package for Social Sciences (SPSS) version 22.

The results of correlational research should not be misconstrued as indicators of causation; however, examining theoretical relationships through the use of correlation coefficients and statistical control can provide a better understanding of a phenomenon (Ary et al., 2010). As the relationship(s) between variables becomes more evident, the researcher can use statistical analyses to detect patterns and make predictions (Pedhazur & Schmelkin, 1991). In addition, correlation evidence is significant because it can shed light on the tenability of causal models, which can lead to hypotheses that can be further investigated through experimental research (Pedhazur & Schmelkin, 1991).

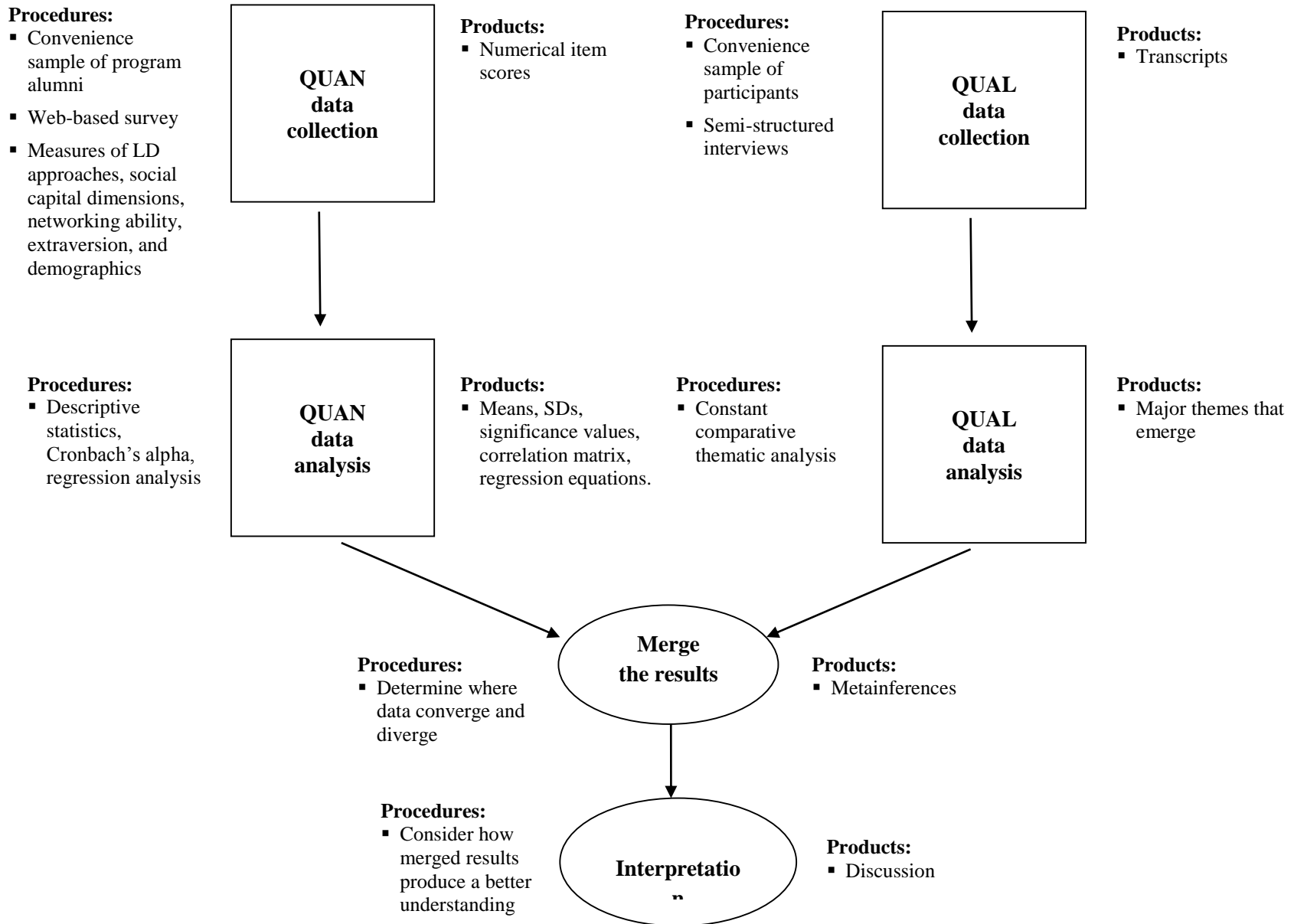


Figure 3-1. Diagram of design, procedures, and products for the convergent parallel design (Creswell & Plano Clark, 2011).

Population and Sample

The target population was individuals who have graduated (i.e., alumni) from agricultural leadership programs in the United States. Based on previous research, there is some evidence as to the population size. For example, Strickland (2011) estimated that since 1965 over 9,800 individuals have graduated from agricultural leadership programs in the United States. This does not include program graduates since 2011 or current participants. The target population was selected due to accessibility as well as the quantity of individuals and variation with regard to participants and sources of learning they experienced (i.e., different leadership development programs).

For this study, the sampling frame (Ary et al., 2010) was individuals who graduated from agricultural leadership programs from 2010 to present. The 2010 to present criterion was developed to reduce recall bias, and is supported by Bradburn, Rips, and Shevell (1987) who write that 50% of critical details from recognized events are irretrievable from memory after five years. A non-probability, purposive sampling procedure was employed to reach the accessible population. The accessible population was dependent upon program directors' willingness to provide email addresses for program alumni that meet the aforementioned criterion. There were 15 program directors who granted access to their program alumni ($n = 808$). This sampling method did not allow for generalization to the target population (Ary et al., 2010); however, this approach was justified because a probability sampling technique would not be feasible given that all program directors would not grant access to the email addresses of their program alumni.

Instrumentation

The researcher used survey methods to gather quantitative data electronically via the web-based survey program Qualtrics. Institutional Review Board (IRB) approval (#15-037) and

participant consent was obtained prior to administration of the instrument (Appendix A). The self-report instrument used to collect participant responses consisted of four sections (Appendix B). The first section was a researcher-developed questionnaire used to collect data with regard to the number, influence, and intensity of learning activities experienced by each respondent. For example, individuals were provided a list and description of the 32 learning activities and prompted to select each source of learning they experienced during the course of their leadership program. The respondents were informed as to which leadership approach the learning activities were most commonly associated with and prompted to indicate how influential those activities were at improving their conceptual understanding of leadership, providing feedback on their performance as leader, contributing to their personal growth, and developing their skills as a leader. A five-point Likert scale that ranged from 1 = “not at all influential” to 5 = “extremely influential” was used by respondents to report how influential these activities were at developing their leadership capacity. After selecting learning activities, and reporting influence, participants were provided with a summary of their learning activity selections and prompted to report the percent of time spent devoted to these activities over the course of their experience. Respondents reported time spent using a sliding scale that ranged 0-100 percent of the time.

The second section of the instrument consisted of two scales to measure the following human capital variables: networking ability and extraversion. Networking ability was measured with a six-item scale developed by Ferris et al. (2005) as part of the political skill inventory. This scale measures two dimensions: “The extent to which individuals spend time and effort networking with others” and an individual’s “ability to utilize their contacts for support when needed” (Forret, 2014, p. 19). Two sample items from the networking ability scale include: “I spend a lot of time and effort at work networking with others” and “I am good at using my

connections and network to make things happen.” Response options were based on a seven-point Likert scale ranging from 1 = “strongly disagree” to 7 = “strongly agree.” Ferris et al. (2005) provided the following guidelines for the interpretation of this networking ability scale: individuals with a mean score of one or two are considered to be low networking ability, individuals with a mean score that ranges from three to five are described as average in their ability to network, and individuals who have a mean score of six or seven are described as having high networking ability. As a control variable, extraversion was measured with eight questions developed by John, Donahue, and Kentle (1991) and further refined by John, Naumann, and Soto (2008). Two sample questions include: “I am someone who is talkative” and “I am someone who generates a lot of enthusiasm.” Response options are on a five-point Likert scale ranging from 1 = “disagree strongly” to 5 = “agree strongly.”

The third section of the instrument was used to collect data related to the following dimensions of social capital: groups and networks, trust and solidarity, cooperation and collective action, as well as empowerment and political action. The World Bank (2001) first identified these dimensions, and the instrument to measure these dimensions was developed by Nistler (2014), who used a combination of verbatim and adapted items from two instruments designed by Grootaert, Narayan, Jones, and Woolcock (2004), as well as Onyx and Bullen (2000). This instrument was specifically selected because opportunities to influence these social capital dimensions begins with entry into an agricultural leadership development program, as described in chapter two.

Demographic items constitute the fourth and final section of the instrument. The following demographics were collected: age, gender, race, marital status, and education level. The final item of the instrument prompted participants to share their contact information if they

were willing to participate in a phone interview to further discuss their leadership program experience.

Reliability and Validity

This instrument was pilot tested for content and face validity with two groups in December of 2014. The first group was selected graduates of an agricultural leadership program in Virginia, and the second group was faculty and graduate students in leadership studies. Each group provided extensive feedback with regard to the appropriateness of data-collection methods and utility of the instrument. Based on the results of this pilot, the researcher and committee faculty made extensive changes to the readability, format, structure and order of items in an effort to improve the ease of use and quality of the final study.

Reliability and validity were also assessed using the following procedures. First, Exploratory Factor Analysis (EFA) was used to identify the underlying structure of the items. Next, internal consistency coefficients for each scale were estimated to assess the reliability of the scales. EFA was conducted using the principle component method with VARIMAX-rotation. Factors with Eigenvalues greater than 1.00 were extracted in order to estimate the appropriate number of factors to derive. The VARIMAX-rotation method is one of the orthogonal rotation methods in factor analysis that has been proven to provide a clearer separation of factors than other rotation methods (Hair, Black, Babin & Anderson, 2009); these same scholars propose a guideline of a minimum of five variables for each factor using this method. Using this guideline, a second factor analysis was conducted to extract five or less factors. This second five-factor solution was found to explain 50% total of variance that could be explained by all 25 social capital variables. Two *a priori* criteria for item deletion were heavy loadings on more than one factor and loadings smaller than .4. Ford, MacCallum, and Tait

(1986) support this minimum acceptable loading when they posit that loadings above .4 should be considered meaningful. For the scales tested, scale revision was required to improve the validity of the measures. Scale revisions were made because the results of the EFA indicated inadequate construct representation, which “occur[s] when a measure does not have the desired location within some conceptual framework” (Reise, Waller, & Comrey, 2000, p. 288). Seven variables were excluded based on the aforementioned *a priori* criteria. Therefore, it was necessary to reduce the number of factors in the solution to meet the minimum case-per-variable ratio guideline (Hair et al., 2009). Additional factor analyses were conducted using the remaining 18 variables loaded on to three factors. The result of the three-factor solution revealed that all variables were grouped into the same factor as in the previous factor analysis and the factor loadings and total variance explained increased. Thus, the final three factors were retained. The Bartlett test of sphericity for the three-factor model was significant ($\chi^2(136) = 1391.163, p < .01$), and the Kaiser-Meyer-Olkin measure of sampling adequacy was .803, which is adequate for intercorrelations and factor analysis (Hair et al., 2009). This three-factor solution explained 54% of the total variance with 18 variables (Table 3-1).

Table 3-1

VARIMAX-rotated extraction of final three-factor solution

Number of factors extracted	Eigenvalues	% of variance	Cumulative % of variance
1	5.072	29.83	29.83
2	2.354	13.84	43.67
3	1.757	10.33	54.01

The first factor retained in the model consisted of items ($n=5$) related to groups and networks, the second factor consisted of items ($n=5$) related to trust and solidarity, and the final factor consisted of items ($n=8$) related to cooperation and political action (Table 3-2). Based on these revisions reliability estimates were calculated for each factor, as well as the extraversion

and networking ability scales, and all coefficients were above .80 (Table 3-3). Based on these factors, the social capital construct map was revised (Figure 3-2).

Table 3-2

VARIMAX-rotation factor loadings of final three-factor solution

Variable	VARIMAX-rotated loadings		
	Factor 1 Groups & Networks	Factor 2 Trust & Solidarity	Factor 3 Cooperation & Political Action
Number of groups	.873		
Number of different types of groups	.656		
Number of groups working with groups with similar goals	.770		
Number of groups working with groups with different goals	.763		
Number of different types of groups	.656		
Helps a neighbor		.732	
Community trust		.706	
Community helps each other		.724	
Cooperate to solve a problem		.690	
Trust in different types of people		.649	
Impact in your community			.873
Engage government or political officials			.835
Participation in government and political activities			.711
Worked with a group for change			.648
Engaged an elected official with a group			.550
Political efforts successful			.467
Worked on a project in last two years			.465
Taken into account when decisions are made			.429

Table 3-3

Coefficient alpha reliability estimate for scales

Measure	Dimension	Reliability Estimate
Networking Ability		α .90
Extraversion		α .89
Social Capital	Groups and Networks	α .88
	Trust and Solidarity	α .84
	Cooperation and Political Action	α .80

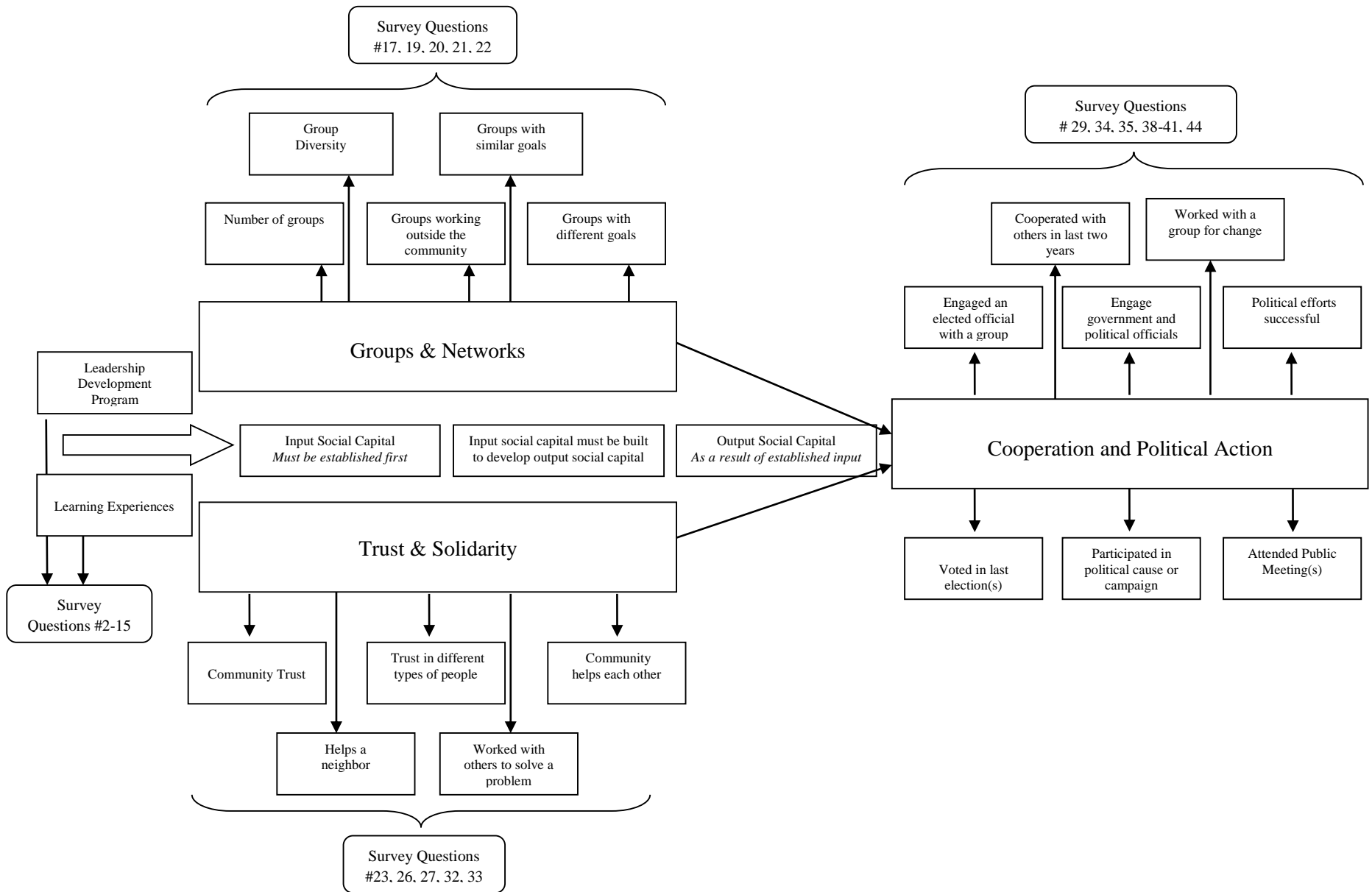


Figure 3-2. Revised social capital construct map based on the results of the Exploratory Factor Analysis.

Data Collection Procedures

The quantitative data collection procedures were guided by the *tailored design method* (Dillman et al., 2009). This method is underpinned by social exchange theory and “involves using multiple motivational features in compatible and mutually exclusive ways to encourage high quantity and quality of response to the surveyor’s request” (Dillman et al., 2009, p. 16). This method provides guidance on how to reduce sources of survey error and develop a set of well-tested survey procedures that encourage high response rates (Dillman et al., 2009).

All contact with participants, from the initial recruitment letter to the final reminder, was facilitated using electronic mail. Due to the fact that most agricultural leadership development program staff and directors communicate with participants and alumni via email (J. Waldrum, personal communication, October 22, 2014), this approach was justified and followed the lead of many researchers who have conducted studies of this population using electronic means (see Abington-Cooper, 2005; Diem & Nikola, 2005; Strickland, 2011).

The majority of agricultural leadership program directors ($n= 12$) provided emails for their alumni. When an email was provided, the survey was delivered to each program graduate ($n= 711$) electronically with an embedded link that was connected to the participant’s name. A small number of directors ($n= 3$) preferred to email their program graduates ($n= 97$) an anonymous link. In both cases, the survey instrument was administered through the Qualtrics survey software licensed to Virginia Tech.

The data collection process was informed by implementation procedures used to reduce nonresponse error advanced by Dillman et al. (2009). With a web-based survey, multiple contacts are effective at improving response rates (Dillman et al., 2009). Thus, the data collection procedures for this study included five separate contacts with program alumni. The

first contact was a pre-notice letter, sent by program directors approximately three to six days prior to the invitation to participate was sent by the researcher. This pre-notice letter included an appeal for help, a description of the study and its importance, as well as notification that they will be receiving an email with a link to the survey from the researcher (Dillman et al., 2009). A sample pre-notice letter (Appendix C) was provided by the researcher and modified as deemed necessary by the program directors before distribution.

Subsequent to the pre-notice letter, a second email contact that invited individuals to participate in the study (Appendix D). This invitation included information about why the participant was selected, the usefulness of the survey, how to access the survey via the embedded link, a statement with regard to confidentiality and voluntary nature of the study, as well as the researcher's contact information (Dillman et al., 2009). Ten days after the invitation email, a third contact in the form of a reminder was sent as a follow-up to participants who had not yet completed the survey (Appendix E). Fifteen days later, a fourth contact, another reminder email, was initiated as a follow-up with individuals who had yet to complete the survey (Appendix F). The fifth and final contact was initiated seven days after the previous contact and informed individuals that had not completed the survey that it would be closing in three days and encouraged them to respond (Appendix G). The content of each follow-up email varied, but included the following combination of information: the usefulness of the survey, an appeal for help, an embedded link, and the time sensitive nature of the request (Dillman et al., 2009). Program directors ($n = 3$) who chose to directly administer the survey via email were contacted by the researcher, received a copy of each reminder email, and prompted to share with their graduates using the timeframe outlined above.

The survey remained open for five weeks and the response rate was 29% ($n=231$), which is lower than the *a priori* target of 300 set by the researcher. However, Dillman et al. (2009) write that a low response rate is indicative of web-based surveys. It should be noted that 45 of the email addresses provided by program directors were returned to the researcher as undeliverable. And of the 711 emails distributed via Qualtrics, only 55% ($n = 394$) were opened by recipients, which leads the researcher to believe that a large amount of emails may have been redirected to the recipients' spam or junk mail folder. Due to the non-probabilistic sampling procedure and goal of the study, which was to better understand the phenomenon rather than generalize to the population, this response rate was deemed acceptable.

Data Analysis

In order to protect against misleading results, preliminary data screening was employed to identify and remedy potential problems with the data set (Warner, 2013). Data screening procedures were conducted following guidelines from Warner (2013) and included descriptive statistics for all variables, as well as information with regard to missing values, normality, multivariate outliers, homoscedasticity, and multicollinearity. Missing values from social capital items were replaced with zero in order to facilitate summed question and index total scores. For the remaining items related to conceptual approaches, networking, and extraversion, missing values were treated as user-missing by SPSS.

A .05 significance level was used to indicate statistically significant results. Statistical tests that were performed during the data analysis include: descriptive statistics, Cronbach's alpha test for reliability, exploratory factor analysis, bivariate correlation, path analysis, and multiple regression. Composite variables were developed to provide leadership approach measures that were composed of learning activities, intensity, and influence scores for each of

the four approaches. In addition, indices were developed using multiple items to measure the following social capital dimensions: groups and networks, trust and solidarity, and cooperation and political action.

A composite variable was constructed for each participant using the following approaches to leadership development: conceptual understanding, feedback, personal growth, and skill building. This composite consisted of the number of learning activities as well as the influence and intensity reported for each approach by respondents. Due to the fact that the number of activities associated with each approach varied on a range from 4 to 13, the number of activities selected by the participant was divided by the number of activities associated with that approach. Thus, the score associated with learning activities for each approach ranged from zero to one. For example, if a participant selected 11 of 13 activities associated with the conceptual understanding approach, they would receive a score of .85 for that approach.

In an effort to equally weight all three items of the composite, this procedure of dividing the number of choices by the participant's response was repeated for influence scores. To calculate an influence score, the research used the following scale: 0 = not at all influential, 1 = slightly influential, 2 = somewhat influential, 3 = very influential, and 4 = extremely influential. For example, if a respondent reported activities associated with an approach were "very influential," that respondent would receive a .80 influence score for that approach. Finally, the percent of time spent devoted to the activities reported by each respondent was used as an intensity score and added to the activity and influence scores for each approach. For example, if a respondent reported spending 63% of the time devoted to that approach, they would receive a score of .63 for intensity. Thus, each item used to compute the composite was weighted equally

(range 0-1) and overall approach scores ranged from zero to three. The approach score for each respondent was calculated as follows:

$$\text{Approach Composite} = \left(\frac{\text{\# of activities selected by respondent}}{\text{\# of total approach activities}} \right) + \left(\frac{\text{Influence reported by respondent}}{\text{Total influence score (4)}} \right) + \text{Intensity reported by respondent}$$

In addition to the composite leadership approach variable, an index for each dimension of social was calculated from multiple items. A description of these items and how the indices were constructed follows.

The groups and networks dimension was measured by developing an index. Following the lead of Nistler (2014), this index was calculated using five items and “analyzed to help determine what types of groups participants interact with and the potential of social capital built as a result of their participation in these groups” (p. 69). Connections within and across group boundaries provide access to opportunities for resource and information exchange, which can result in increased social capital (Adler & Kwon, 2002; Burt, 2000; Nahapiet & Ghoshal, 1998; Roberts, 2013). In this vein, connections to multiple groups (i.e., interdisciplinary networks) are representative of high input social capital because these connections can facilitate opportunities for cooperation and political action. The groups and networks index was calculated for each respondent as follows:

$$\text{Groups and Networks Index} = \text{Q17}_{\text{total}} \text{ Number of groups.} + \text{Q19}_{\text{total}} \text{ Number of different types of groups.} + \text{Q20}_{\text{total}} \text{ Number of groups with similar goals.} + \text{Q21}_{\text{total}} \text{ Number of groups with different goals.} + \text{Q22}_{\text{total}} \text{ Number of groups working outside the community}$$

Items that comprised this index addressed the number of groups (Q17_t) of which the respondent identified as being an active member, the type of group (Q19_t), which groups work with others that have similar (Q20_t) or different (Q21_t) goals, as well as groups that work outside of the community (Q22_t). These items were each coded with a number and were summed to create an index score for each respondent. For example, if a respondent indicated they were active in five groups, they would earn a score of five for that item. For the types of groups, respondents were given the following nine descriptors to select from: neighborhood group, business association, professional association, political group, trade or labor union, cultural group, religious group, industry group, and other. For this item, each respondent received a score for the number of different types of groups to which they belong. In addition, respondents received a score for each group they described as working with other groups that have similar or different goals, and the number of groups that work outside of the community.

The trust and solidarity dimension was also measured by developing a summed index. Trust and solidarity have been described as the ‘basic active ingredient’ for social capital (Moran, 2005), because it serves as a governance mechanism for embedded relationships (Burt, 2000), as well as reduce transaction costs and permit a fast and effortless exchange of resources (Coleman, 1988). This index was calculated using five items. The first item asked respondents whether they agree or disagree with five statements that were used to gauge an individual’s level of trust in their community (Q23_t). The subsequent items prompted respondents to indicate their level of trust of 10 different types of people (e.g., people from their occupational group, neighborhood, government officials, police, teachers, and strangers) in their community (Q26_t). Last, respondents were asked how often individuals in their community help one another in a time of need (Q27) and how likely it would be that individuals in their community would

cooperate to solve a problem (Q32) or help a neighbor after a tragedy (Q33). Using these items, the trust and solidarity index was calculated for each respondent as follows:

$$\begin{array}{r}
 \text{Trust} \\
 \text{and} \\
 \text{Solidarity} \\
 \text{Index}
 \end{array}
 =
 \begin{array}{r}
 Q23_{\text{total}} \\
 \text{Community} \\
 \text{trust} \\
 \text{statements} \\
 \text{total}
 \end{array}
 +
 \begin{array}{r}
 Q26_{\text{total}} \\
 \text{Trust in} \\
 \text{types of} \\
 \text{people} \\
 \text{total}
 \end{array}
 +
 \begin{array}{r}
 Q27 \\
 \text{Help each} \\
 \text{other}
 \end{array}
 +
 \begin{array}{r}
 Q32 \\
 \text{Cooperate} \\
 \text{to} \\
 \text{solve a} \\
 \text{problem}
 \end{array}
 +
 \begin{array}{r}
 Q33 \\
 \text{Help} \\
 \text{a} \\
 \text{neighbor}
 \end{array}$$

Item 23 consisted of five questions, and 23.2 and 23.5 were reverse coded to match positively worded items. Item 26 consisted of 10 questions; thus, the totals for both 23 and 26 are comprised of multiple items. For example, if a respondent was to indicate that they completely trust the 10 types of people listed for item 26, they would receive a score of fifty. The remaining items were coded using a five-point Likert-type scale, and the five items were summed to calculate the index score. For example, if a respondent indicated that people in their community always help each other in a time of need, they would receive a score of five for that item.

The cooperation and political action dimension was calculated using eight items and analyzed to measure the respondent’s level of cooperation and political action in their communities. This dimension has been identified as *output* social capital, in that it serves as a proxy indicator of social capital and is often the result of *input* social capital (Grootaert et al. 2004; Nistler, 2014). Thus, cooperation is made possible through the networks, trust, and norms associated with social capital (Grootaert et al., 2004; Putnam, 1993), and political action has been described as “reflect[ing] the highest level of social capital” (Nistler, 2014, p. 73).

The first three items that comprise this index prompted respondents to report if they had worked with others on a project for the benefit of the community, state, or nation (Q29), whether

they have worked with a group to affect change (Q34), and whether they have lobbied an elected official for change (Q35). The remaining items asked respondents to rate the impact they have in their community (Q38) and how often they have worked with others to engage decision-makers during the last two years (Q39), to describe their participation in political activities (Q41), and to indicate if any of their political efforts were successful (Q40). The final items of the index asked respondents to report how often they felt government and political take into account their concerns when making a decision (Q44). Using these items, the cooperation and political action index was calculated for each respondent as follows:

$$\begin{array}{r}
 \text{Cooperation} \\
 \text{and} \\
 \text{Political} \\
 \text{Action}
 \end{array}
 =
 \begin{array}{r}
 \text{Q29} \\
 \text{Worked} \\
 \text{with} \\
 \text{others}
 \end{array}
 +
 \begin{array}{r}
 \text{Q34} \\
 \text{Worked} \\
 \text{with} \\
 \text{a} \\
 \text{group} \\
 \text{for} \\
 \text{change}
 \end{array}
 +
 \begin{array}{r}
 \text{Q35} \\
 \text{Engaged} \\
 \text{an} \\
 \text{elected} \\
 \text{official}
 \end{array}
 +
 \begin{array}{r}
 \text{Q38} \\
 \text{Impact} \\
 \text{in} \\
 \text{community}
 \end{array}
 +
 \begin{array}{r}
 \text{Q39} \\
 \text{Engage} \\
 \text{political} \\
 \text{of gov't.} \\
 \text{officials}
 \end{array}
 +
 \begin{array}{r}
 \text{Q40} \\
 \text{Political} \\
 \text{efforts} \\
 \text{successful}
 \end{array}
 +
 \begin{array}{r}
 \text{Q41}_{\text{total}} \\
 \text{participation} \\
 \text{in political} \\
 \text{or gov't.} \\
 \text{activities}
 \end{array}
 +
 \begin{array}{r}
 \text{Q44} \\
 \text{Taken} \\
 \text{into} \\
 \text{account} \\
 \text{when} \\
 \text{making} \\
 \text{decisions}
 \end{array}$$

Each item was coded using Likert-type scales and yes or no formats. For example, if a respondent indicated that they have a big impact in their community, they would receive a score of four for that item; and if an individual indicated ‘yes’ they have worked on a project for the benefit of others, they would receive a score of one for that item. Item 41 consisted of eight types of political activities that respondents could select if they had participated during the last two years. These activities included: attended a government meeting, public hearing, met with a politician, participated in a demonstration or campaign, etc. For each event the respondent selected, they earned a score of one; thus, item 41 is a total comprised of multiple questions. For example, if a respondent indicated that they participated in every type of activity described, they would receive a score of eight for the item total.

The statistical tests conducted for each research objective are described below. The first research objective was to describe the learning activities and associated approaches used by agricultural leadership programs as well as the networking ability and social capital associated with program graduates. For this objective, descriptive statistics were used to organize, summarize, and describe the results of the study.

The second objective was to assess the relationship(s) between leadership development approaches and social capital dimensions. The Pearson product-moment correlation coefficient (r) was used to examine the magnitude and direction of relationships between the independent (i.e., leadership approaches, networking ability) and dependent variables (i.e., social capital dimensions). These correlation coefficients can “range in value from +1.00, indicating a perfect positive relationship, through 0, indicating no relationship, to -1.00, indicating a perfect negative relationship” (Ary et al., 2010, p. 350). In social science, correlation coefficients have been widely used as a key index of effect size (Meyer et al., 2001). As such, the following effect size guidelines from Cohen (1988) were used as standards for reporting the magnitude of relationships; a correlation of .10 was described as a small effect size, a correlation of .30 was described as medium effect size, and a correlation of .50 was described as a large effect size (Cohen, 1998).

The third objective was to investigate the influences between leadership development approaches, networking ability, and social capital. To explain the influence among each of the variables model parameters and regression equations were used. The usefulness of the regression equation was evaluated by the coefficient of determination denoted by R-Square (R^2). Keith (2006) writes that there are “rules of thumb” for interpreting the value of R^2 when there is no previous research on which to base reporting. As such, the following guidelines from Cohen

(1988) were used to interpret the coefficient of determination (R^2); a R^2 of .01 was described as a small effect size, an R^2 of .09 was described as a medium effect size, and a R^2 .25 was described as a large effect size.

The final objective of the study was to describe and explore the influences of leadership development approaches on social capital. This objective was addressed through a qualitative research strand with semi-structured interviews. A description of the qualitative phase including sample selection, data collection, and analysis is provided subsequent to the quantitative sample demographics that follow.

Participants

Both the quantitative and qualitative phases involved graduates (2010 – present) of U.S. agricultural leadership development programs. For the quantitative phase, 15 agricultural leadership development programs were represented by the 231 survey respondents, with 7.8% ($n=18$) failing to indicate which program they had completed (Table 3-4). Of these respondents, those who graduated in 2014 responded most frequently, and those who graduated in 2013 and 2015 responding least frequently (Table 3-5). The average age of survey respondents was 44, with a range of ages from 25 years to 69 years.

Slightly over a majority of survey respondents were male ($n = 120$, 52.6%) and the remainder were females ($n = 109$, 47.4%). Of the respondents, 1.3% ($n = 3$) were Hispanic or Latino, 95.2% ($n=216$) were White/Caucasian, 2.2% ($n = 5$) were African American, 0.4% ($n = 1$) were Native American, and 2.2% ($n = 5$) reported their race as Other. A majority of respondents were married with children ($n = 148$, 64.9%), while 14.5% ($n = 33$) were single, 11% ($n = 25$) were married without children, 8.3% ($n = 19$) were divorced, and 1.3% ($n = 3$) were separated. Less than 9.7% ($n = 22$) had no college degree, 4.8% ($n = 11$) completed a two-year college

degree, 49.8% ($n = 114$) had a four-year degree, and 35.8% ($n = 82$) had completed a graduate or professional degree (Table 3-6).

Table 3-4

Respondent frequency by program (N=231).

Program State	<i>f</i>	%
Maryland	24	10.4
Nebraska	24	10.4
Wisconsin	21	9.1
Oklahoma	19	8.2
Arkansas	18	7.8
Indiana	17	7.4
Arizona	15	6.5
Michigan	15	6.5
Colorado	12	5.2
New York	11	4.8
Washington	11	4.8
Montana	5	2.2
Virginia	9	3.9
Kentucky	8	3.5
Georgia	4	1.7
Missing	18	7.8
Total (<i>n</i>)	231	100.0

Table 3-5

Survey response rate by graduation year for quantitative phase (N=231).

Graduation Year	<i>f</i>	%
2010	32	13.9
2011	27	11.7
2012	50	21.6
2013	26	11.3
2014	70	30.3
2015	26	11.3
Total (<i>n</i>)	231	100.0

Table 3-6

Demographic characteristics of survey respondents.

Variable	<i>f</i>	%
Gender		
Male	120	52.6
Female	108	47.4
Hispanic/Latino		
Yes	3	1.3
No	224	98.7
Race		
White/Caucasian	216	95.2
African American	5	2.2
Native American	1	.4
Other	5	2.2
Marital Status		
Single, never married	33	14.5
Married without children	25	11.0
Married with children	148	64.9
Divorced	19	8.3
Separated	3	1.3
Education		
High school graduate	7	3.1
Some college, no degree	15	6.6
2-year college degree	11	4.8
4-year college degree	114	49.8
Graduate or professional degree	82	35.8

Qualitative Strand

Given that the goal of the qualitative phase is to explore the experiences of program graduates, a case study design that consisted of multiple cases was employed (Yin, 2009). In this phase, data was collected using semi-structured phone interviews, and the subsequent interview transcript was analyzed using the constant comparative method (Corbin & Strauss, 2008). A case study approach is often used to build an explanation of results or outcomes (Rossman & Rallis, 2012; Yin, 2009); and, in this case, social capital outcomes were the focus.

Qualitative research is characterized as interpretive in that it attempts to describe a phenomenon by understanding the meaning individuals attribute to their experience (Denzin &

Lincoln, 2011). In this way, qualitative interview methods provided an opportunity to better investigate the final research objective of this study: How does participation in the leadership development program influence social capital? Each interview ($n = 11$) served as individual case that helped provide an understanding of the meaning graduates attribute to their experiences in the leadership development programs. The use of multiple cases (i.e., individuals) is beneficial because it allows the researcher to gather meaningful data that can be used to understand the phenomenon in totality of the context (Yin, 2009).

Qualitative research, by its nature, is emergent and flexible, which allows for decisions to be made about the study as it progresses, empowering the researcher to be the instrument through which the phenomenon is investigated, analyzed, understood, and articulated (Ary et al., 2010; Corbin & Strauss, 2008; Rossman & Rallis, 2012). As such, sensitivity to the researcher's personal biography has become central to qualitative research (Rossman & Rallis, 2012). One way to address the aforementioned sensitivity is through the use of reflexivity, which has been described as "a simultaneous awareness of self and other[s] and of the interplay between the two" in the research process (Rossman & Rallis, 2012, p. 10).

Researcher Subjectivity

The purpose of reflexivity "is to highlight the researcher's active role in the construction of knowledge and contribution to the understanding of the phenomenon that emerges from the research" (Hein, 2013, p. 3). In an effort to remain reflexive and situate the researcher in the qualitative phase of this study, a reflexivity statement that addresses the researcher's epistemological and ontological beliefs follows.

My own ontological beliefs are informed by a constructivist worldview to the extent that I believe there are multiple socially-constructed realities. I believe the nature of being, and

coming to know reality, is a dynamic and fluid experience that is the result of an individual's interpretative processes. I believe that what I have come to know as true has been constructed by me and has gained traction through my cognitive processes and social interactions. Thus, I tend to view reality as the product of constructive processes. Through this lens, I also view learning and leadership development as constructive processes that are not independent of context and an individual's meaning-making process. Through my experiences, I have come to understand that social processes are complicated, and a worldview that aims to utilize a singular reality, definitive answers, and exhaustive classification tends to provide an oversimplification of reality. However, as a novice researcher, I am reflexive with regard to my view of reality and how my view informs my conceptual awareness and expectations.

In terms of epistemological beliefs, I believe learning is a process and knowledge can manifest in multiple forms. I believe learning and knowledge creation is shaped by our lived experience, which includes sociocultural contexts. I believe the relationship between the knower (researcher) and the known (participant) is subjective and co-constructed. I believe knowledge creation is an interactive process, and dialogue, interaction, and reflection can serve as a medium to develop cognitive and behavioral capacity. I believe that education and leadership training can serve as a valuable tool to develop human and social capital by elevating individual awareness, challenging our understanding and assumptions about the world, and providing a space for reflection and growth. This type of development improves an individual's capacity for leadership and critical thinking; it certainly meets the transformational goal of education.

I do not believe that science is unitary — there are multiple ways of knowing. While my worldview is primarily constructivist, I am not bound to the qualitative methodology favored by most individuals with my worldview. In fact, I agree with Creswell and Plano Clark (2011), who

write that a practical and applied research philosophy should guide methodological choices. I recognize that a strictly qualitative approach for my proposed study would be a limitation, as it would not provide the depth and breadth that is needed to explore the complex and multi-level concept of leadership (Stentz, Plano Clark, & Matkin, 2012). A mixed methods approach presents a comprehensive approach to this study because it is problem-centered, real-world oriented, and uses a combination of approaches and ideas to help address the research question(s) at hand (Creswell & Plano Clark, 2011).

As a practitioner, I value practice-oriented methodologies that explicate consequences of actions and provide useful recommendations for application. In this vein, I will carry out this study using a mixed methods design because pragmatism employs a practical approach to the research process (Creswell & Plano Clark, 2011). Pragmatism incorporates and embraces blends of paradigms, philosophical assumptions, and theoretical perspectives directly driven by the purpose of the study (Ary et al., 2010). As a consequence of selecting this approach, I have come to value the objective and subjective knowledge this approach can provide, and I believe an approach that mixes methodologies will provide the best data for this exploratory study.

Sampling and Selection of Participants

The accessible population was comprised of individuals who completed the quantitative instrument and indicated they were willing to participate in an interview (n = 79). Based on this population, a purposive, case sampling technique was used to select cases “based on a specific purpose rather than randomly” (Teddlie & Tashakkori, 2009, p. 173). The purpose was to provide a sample that was representative of the multiple agricultural leadership programs (n = 15) participating in the study. An advantage of this technique is that it can identify commonalities, but it can also reveal differences across cases or programs (Rossman & Rallis,

2012). Teddlie and Tashakkori (2009) describe this technique as sampling to achieve representativeness.

In qualitative research most case studies contain multiple cases (Yin, 2009). However, Teddlie and Tashakkori (2009) write “though there are no universally accepted rules for sample size in qualitative research, there are some general guidelines” (p. 182). For example, a general sampling rule for case studies, involving individuals, ranges from six to 24 participants (Teddlie & Tashakkori, 2009). An *a priori* determination of eight to 10 cases was made by the researcher and committee faculty. However, 11 cases were needed to ensure data saturation (Teddlie & Tashakkori, 2009), and as a result determined the final sample size.

Instrumentation

Semi-structured interviews, guided by a researcher developed instrument and protocol, were used to collect qualitative data. The seven primary items that comprised the instrument were grounded in the literature from previous chapters. As such, an *a priori* propositions table that connects researcher propositions, supporting literature, and primary interview questions can be found as Table 3-7. The interview protocol consisted of the primary questions included in the aforementioned table and were supplemented by several possible follow-up questions to be used during interviews, as appropriate (Appendix H). Virginia Tech IRB (#15-037) approved the instrument and interview guide, and verbal consent was obtained from each respondent prior to the interview.

Table 3-7. *a priori Propositions Utilized to Explore the Relationship Between Leadership Development and Social Capital.*

Proposition	Supporting Literature	Interview Question
<p>Participation in a leadership development program will influence the composition of an individual's social network.</p>	<p>Networking is a widely reported outcome of leadership development programs (Black, 2006). As such, networking can influence the size, pattern, resources, and strength of relationships in an individual's social network (de Janasz & Forret, 2008).</p>	<p>1. How has participating in the [insert name] leadership development program influenced your network of personal and professional contacts?</p>
<p>Participation in leadership development programs can increase an individual's social capital capacity through skill development and network expansion.</p> <p>Leadership development programs provide a mechanism for repeat interaction with participants, agricultural industry stakeholders, and community members, which can build trust and solidarity.</p>	<p>Social capital has been shown to be higher in individuals who are active with groups that have different goals, and also with groups that interact with other organizations outside of their community (Putnam, 2000).</p> <p>Fukuyama (1995) and Putnam (1995) both argue that trust between individuals can facilitate the formation of social capital and influence the strength of social capital between individuals.</p>	<p>2. Were there specific activities or skills you gained in the program that influenced the way you interact or engage groups within or outside of your community?</p> <p>3. How has participating in the program impacted your trust of others – perhaps with other program participants or those outside of the program?</p>
<p>Leadership development programs can influence networks and provide opportunities for the development of trusting relationships that lead to collective action and cooperation.</p>	<p>Individuals will begin to work collectively and cooperatively within their community when relationships are characterized by trust and norms of reciprocity (Grootaert, Narayan, Jones, & Woolcock, 2004).</p>	<p>4. Thinking about the relationships that emerged or strengthened as result of participation in your program; did any of those result in working towards a shared goal?</p>

Leadership development programs can empower individuals to engage in the political process, politics, and government.

Empowerment happens as a result of increased assets and capabilities of individuals to influence, control, and negotiate those people and institutions that impact their lives (World Bank, 2002).

5. Has participating in the program influenced your involvement in the political process, politics or government? If so, can you describe how?
-

Data Collection

Data was collected using semi-structured telephone interviews. Semi-structured interviews are characterized by pre-formulated, open-ended questions that can be modified during the interview process (Ary et al., 2010). Rossman and Rallis (2012) contend that interviews provide rich descriptions and are used to “help understand the experiences people have and the meaning they make of them” (Ary et al., 2010, p. 438). Interviews are one of the most widely used and basic methods for obtaining qualitative data (Corbin & Strauss, 2008); and have been described as the most effective method for understanding how individuals make meaning and construct their worlds Lincoln (2013). In addition, the geographically dispersed nature of the sample would require a tremendous amount of time and financial resources to complete in-person interviews. Thus, telephone interviews allowed for contact with a diversity of graduates representing multiple programs from across the United States. Telephone interviews in qualitative research have been described as “legitimate” and as a “versatile” data collection tool (Carr & Worth, 2001, p. 521). In a synthesis of telephone interviews as a qualitative method, Novick (2008) writes, “There is little evidence that data loss or distortion occurs, or that the interpretation or quality of findings is compromised when interview data are collected by telephone” (p. 397).

On February 2, 2015, an initial email (Appendix I) requesting participation was sent to the first ten individuals, from different leadership programs, to volunteer to participate in an interview. The response rate to the initial email was 30% ($n = 3$); therefore, on February 11, 2015, a second email was sent to the second and third volunteers from each program ($n = 20$). The response rate for the second email was 40% ($n = 8$) which provided an adequate sample based on the aforementioned *a priori* determination. After receiving an affirmative response, a

follow-up email confirming the date and time of interview was sent to each individual. Attached to each email confirmation was a copy of the consent form (Appendix J). Interviews were conducted over a 16-day period in February 2015. Each respondent was assigned a pseudonym to protect their identity, and the duration of the interviews varied by respondent (Table 3-8).

Table 3-8

Description of qualitative interviews (N=11).

Interviewee	Date	Interview Duration
Elliot	February 4	41 minutes
Taylor	February 4	46 minutes
Nancy	February 10	35 minutes
Matthew	February 16	39 minutes
Nathan	February 16	19 minutes
Terry	February 18	37 minutes
Carmen	February 18	53 minutes
Lee	February 18	32 minutes
Tristen	February 19	31 minutes
Nicky	February 19	33 minutes
Cameron	February 20	35 minutes
Total		368 minutes

The telephone interviews were conducted in a secure room on the Virginia Tech campus. Each respondent provided verbal consent before the interview commenced. Upon receiving consent, the researcher digitally recorded the interview and took brief notes and memos during the interview process. The resultant audio recording was transcribed verbatim into Microsoft word documents by the researcher ($n = 6$) and a contract transcription service ($n = 5$). The contract with the transcription service contained a confidentiality clause so as to comply with IRB protocol.

Data Analysis

Analysis of the interview transcript involved identifying, coding, and categorizing patterns in the data. Atlas.ti coding software was used for data analysis. This software was

selected due to its user-friendly nature; it has been described as particularly useful for social scientists (Hwang, 2008). A whole text analysis of the transcript was completed using the following analytic procedures developed by Corbin and Strauss (2008). These procedures included: (1) a preliminary exploration of the data by reading through the transcripts and writing memos; (2) coding the data by segmenting and labeling the text; (3) using codes to develop themes by aggregating similar codes together; (4) connecting and interrelating themes; and (5) constructing a narrative (Corbin & Strauss, 2008).

Since multiple cases were used in this case study design, the data analysis was performed at two levels: within each case and across the cases (Yin, 2009). This approach allowed the researcher to situate the case within its context so the description and themes are related to the specific activities and situations involved in the case (Creswell & Plano Clark, 2011). The constant comparative method (Corbin & Strauss, 2008) was used to analyze the text within and across cases. This approach is well-suited when there are multiple cases within the same study (Ary et al., 2010). According to Corbin and Strauss (2008), the constant comparative method is characterized by whole text analysis, as well as the development of excerpts, codes, and finally themes within and across cases.

After the interviews were transcribed, the entire transcript was reviewed several times in an effort to gain a sense of the participant's lived experience of the phenomenon. Following this review, a line-by-line approach was employed and segments of text were excerpted. Excerpts consist of at least one complete sentence and are segments of the transcript that reveal how a participant's experience is related to the phenomenon being investigated (Charmaz, 2006).

Following the excerpting process, codes were developed to represent the explicit and implicit meaning of each excerpt. Codes are short phrases that give meaning to the text in the

transcript (Rossman & Rallis, 2012). In addition to codes, analytic memos were developed in an effort to help the researcher remain reflexive during the coding process, theorize about the phenomenon, address methodological questions, and document evolving insights for use during the remainder of the analysis (Rossman & Rallis, 2012).

Following the coding process, the researcher developed categories by reviewing all of the codes and clustering them based on meaning. Categories reflect a more general meaning than the codes, and can explain larger segments of the data (Corbin & Strauss, 2008). Again, analytic memos were also developed during the category development process to capture emergent insights, questions, and connections between categories. Category development also brings all of the data together and helps determine themes based on the research questions (Corbin & Strauss, 2008).

Following these procedures, codes, and categories were connected within and across cases to help better understand how leadership development approaches influence social capital. The results, reported as five major themes, are supported by participant quotes and offer a more holistic view of the relationship between leadership development and social capital.

Credibility and Trustworthiness

The measure of rigor in qualitative research differs from quantitative research. For example, qualitative researchers are concerned with verifiability, rather than measures of validity and reliability (Ary et al., 2010). In qualitative research, the researcher establishes internal and external validity by the qualitative concept of credibility. Reliability is established through another qualitative concept, trustworthiness (Ary et al., 2010).

Rossman and Rallis (2012) define credibility as “how adequately multiple understandings (including the researcher’s) are presented and whether they ‘ring true’ or have face validity” (p.

62). For this study, credibility was established using multiple methods. First, a mixed methods design provided an opportunity for data triangulation, which was used to determine if data collected with one instrument can be confirmed by another instrument (Ary et al., 2010). Second, member checking was used to establish credibility by soliciting feedback from participants on the accuracy of the coding scheme, themes, and results. Emails requesting member checks were sent to respondents ($n = 11$) on March 30, 2015. Validation based on this type of consensus is defined as “agreement among competent others that description, interpretation, evaluation, and thematic are correct” (Ary et al., 2010, p. 499). Third, providing thick, rich descriptions via respondent quotes to convey findings can also establish credibility. A thick description of a human behavior is one that explains not just the behavior, but the context, such that the behavior becomes meaningful to an outsider (Rossman & Rallis, 2012).

In qualitative research, the terms trustworthiness and dependability are used interchangeably to describe consistency of behavior, or the extent to which the data and findings would be similar if the study were replicated (Ary et al., 2010). For this study, multiple strategies were implemented to establish trustworthiness. First, thorough records of the decision chain — including details of sample selection, contextual descriptions, data collection methods, and field notes — were used to establish an audit trail. An audit trail is one of the best ways to establish trustworthiness; an audit trail provides a complete presentation of procedures (Rossman & Rallis, 2012). Second, trustworthiness can be demonstrated through consistent findings across multiple groups or cases. In this study, the analysis of both individual cases and across cases was used as a strategy to reach data saturation, corroborate findings, and contributes to the trustworthiness of the results.

Participants

The following tables provide a summary of the demographics for the qualitative phase and include data related to quantitative sample for comparison purposes. Each graduating class from 2010-2014 was represented, with graduates from 2012 representing 46% ($n = 5$) of the interviews conducted (Table 3-9).

Table 3-9

Comparison of qualitative and quantitative respondents by graduation year (N=11).

Graduation Year	<i>f (Qual)</i>	<i>f (Quant)</i>	<i>% (Qual)</i>	<i>% (Quant)</i>
2010	1	32	9.1	13.9
2011	1	27	9.1	11.7
2012	5	50	45.5	21.6
2013	1	26	9.1	11.3
2014	3	70	27.3	30.3
2015	0	26	0	11.3
Total (<i>n</i>)	11	231	100.0	100.0

The mean age of respondents was 44 years old (Table 3-10). Of those participating in interviews, the majority 70% ($n = 8$) were males and 30% were females ($n = 3$). All respondents were non-Hispanic White/Caucasians, with 72.7% ($n = 8$) reporting that they were married with children, 9.1% ($n = 1$) married without children, and 18.2% ($n = 2$) single. All of the respondents had college degrees, with 45.5% ($n = 5$) having a four-year degree and 54.5% ($n = 6$) having obtained a graduate or professional degree (Table 3-11).

Table 3-10

Comparison of qualitative and quantitative mean, standard deviation, and range of respondent age (N=11).

Variable	<i>M</i>	<i>SD</i>	<i>Range</i>
Age (Qual)	43.9	9.09	29-61
Age (Quant)	44.0	9.98	25-69

Table 3-11

Comparison of qualitative and quantitative demographic characteristics of respondents (N =11).

Variable	<i>f (Qual)</i>	<i>f (Quant)</i>	<i>% (Qual)</i>	<i>% (Quant)</i>
Gender				
Male	8	120	70.0	52.6
Female	3	108	30.0	47.4
Hispanic/Latino				
Yes	0	3	0	1.3
No	11	224	100.0	98.7
Race				
White/Caucasian	11	216	100.0	95.2
African American	0	5	0	2.2
Native American	0	1	0	.4
Other	0	5	0	2.2
Marital Status				
Single, never married	2	33	18.2	14.5
Married without children	1	25	9.1	11.0
Married with children	8	148	72.7	64.9
Divorced	0	19	0	8.3
Separated	0	3	0	1.3
Education				
High school graduate	0	7	0	3.1
Some college, no degree	0	15	0	6.6
2-year college degree	0	11	0	4.8
4-year college degree	5	114	45.5	49.8
Graduate or professional degree	6	82	54.5	35.8

Integration of Quantitative and Qualitative Strands

In a convergent parallel mixed methods design, the results of the quantitative phase are commonly integrated with the qualitative strand at the conclusion of the study to develop meta-inferences (Creswell & Plano Clark, 2011). A meta-inference is “a conclusion generated by integrating the inferences obtained from the qualitative and quantitative strands of a mixed-methods study” (Teddlie & Tashakkori, 2009, p. 238). By combining the strength of quantitative methods to provide a general understanding of relationships and the strength of qualitative methods to gain an in-depth understanding of how leadership development approaches influence

social capital. The mixing of results and subsequent meta-inferences will help “obtain a fuller picture and a deeper understanding” of this phenomenon (Johnson, Onwuegbuzie, Turner, 2007, p. 119).

Chapter Summary

This study used a mixed-methods design that involves the collection of quantitative data using survey methods, and qualitative data using semi-structured telephone interviews. The constructs being investigated are leadership development approaches, social capital, and networking ability. A survey instrument that consists of four sections was used to collect quantitative data that was subsequently analyzed using SPSS version 22. A researcher–developed instrument and protocol was used to collect qualitative data that was subsequently transcribed and analyzed using Atlas.ti coding software. The results of these two research phases can be found in the following chapter.

CHAPTER 4 RESULTS

Introduction

Chapter one provided a cursory overview that included the purpose, problem statement and variables that would be explored. Chapter two expounded upon the variables by providing a review of the literature, and chapter three outlined the research design as well as data collection and analysis procedures. This chapter provides a report of research findings. This study included two parallel phases; as such, this chapter is organized by research objectives with the quantitative and qualitative data reported separately.

Research Objective 1

The first research objective was to describe the leadership development approaches, networking ability, and social capital associated with graduates of agricultural leadership development programs. This following data was obtained from the survey instrument, and the final study population included 231 graduates representing 15 different agricultural leadership development programs.

Table 4-1 provides a summary of learning activities experienced by survey respondents. The most common sources of learning in agricultural leadership programs were tours (99%, $n = 229$), lectures (97%, $n = 225$), networking (97%, $n = 225$), small group discussions (97%, $n = 225$), and team building activities (94%, $n = 218$). The least common sources of learning were E-learning (18%, $n = 41$), researching leadership topics (45%, $n = 104$), audio or video feedback (46%, $n = 107$) and coaching (48%, $n = 111$).

Table 4-1

Frequency of leadership development learning activities.

Leadership Approach	Sources of Learning	% Experiencing	<i>n</i>
Conceptual Understanding	Tours	99.1	229
	Lectures	97.4	225
	Small group discussions	97.4	225
	Expert panels	92.6	214
	Observation of leaders	79.7	184
	Classroom-based training	74.5	172
	Storytelling	72.3	167
	Articles or books	68.4	158
	Self-study	59.7	138
	Case studies	57.6	133
	Video clips	55.8	129
	Research leadership	45.0	104
	E-learning	17.7	41
Feedback	Assessments and Instruments	83.5	193
	360° Feedback	53.2	123
	Coaching	48.1	111
	Audio or video feedback	46.3	107
Personal Growth	Networking	97.4	225
	Team building activities	94.4	218
	Group reflection	91.3	211
	Written reflection	68.8	159
	Service learning	58.4	135
	Personal vision statements	55.4	128
Skill Building	Icebreakers	92.6	214
	Group presentations	87.4	202
	Individual presentations	79.7	184
	Role playing activities	73.6	170
	Simulation or games	72.3	167
	Ropes or team courses	62.8	145
	Personal development plans	58.9	136
	Action learning	50.2	116

Table 4-2 provides a summary of the influence of each approach based on the following five-point Likert-type scale: 0 = “not at all influential” to 4 = “extremely influential.” The most

influential approach was personal growth ($M = 3.01$, $SD = .84$) and the least influential was feedback ($M = 2.64$, $SD = .98$).

Table 4-2

Summary of leadership development approach influence.

Variable	Measure/Item	<i>M</i>	<i>SD</i>	<i>n</i>
Influence	Personal Growth	3.01	.84	231
	Skill Building	2.99	.74	223
	Conceptual Understanding	2.86	.79	229
	Feedback	2.64	.98	212

Note. Ratings based on statements that used a five-point Likert-type scale: Not at all influential (0), Slightly influential (1), Somewhat influential (2), Very influential (3), Extremely influential (4).

Table 4-3 provides a summary of the intensity reported in percentage of time devoted to activities associated with each approach. Respondents reported spending the most amount of time devoted to conceptual understanding learning activities ($M = .55$, $SD = .24$), followed by personal growth ($M = .27$, $SD = .20$), skill building ($M = .23$, $SD = .21$), and feedback ($M = .20$, $SD = .18$) approaches. The time spent devoted to each approach varied widely across programs. While the percentages do not add up to 100, the premise of this question was to gather baseline data to see the amount of time devoted to each approach across programs and provide a way to better understand which approaches, and associated learning activities, are the most and least time intensive.

Table 4-3

Summary of leadership development approach intensity, based on percent of time spent

Variable	Measure/Item	<i>M</i>	<i>SD</i>	<i>n</i>
Intensity	Conceptual Understanding	.55	.24	227
	Personal Growth	.27	.20	230
	Skill Building	.23	.21	230
	Feedback	.20	.18	227

Note. Ratings based on a sliding scale from 0-100% percent of the time (e.g., .55 = 55% of time in program devoted to these activities).

Table 4-4 provides an overview of reported networking ability of respondents. The average level of agreement, with items measuring networking ability, was 5.45, indicating some agreement on the seven-point Likert-type scale (“strongly disagree” to “strongly agree”). The statement that received the highest level of agreement was: “I have developed a large network of colleagues and associates whom I can call on for support” ($M = 5.78$, $SD = 1.08$). The statement with the lowest level of agreement was: “I spend a lot of time developing connections with others” ($M = 5.17$, $SD = 1.11$). In addition, a t test was calculated comparing the mean score of respondents who identified as having a four-year college degree to the mean score of respondents who did not have a four-year college degree. No significant difference was found ($t(226) = 1.016$, $p > .05$). The networking ability of degreed respondents ($M = 5.48$, $SD = .90$) was not significantly different from the networking ability of respondents who did not have a bachelor’s degree ($M = 5.31$, $SD = .92$).

Table 4-4

Descriptive statistics for networking ability items.

Measure/Item	<i>M</i>	<i>SD</i>	<i>n</i>
I have developed a large network of colleagues and associates whom I can call on for support	5.78	1.08	231
I spend a lot time and effort networking with others	5.67	1.20	231
I am good at using my connections and network to make things happen	5.46	1.11	231
I am good at building relationships with influential people	5.45	1.08	230
I know a lot of important people and am well connected	5.22	1.10	231
I spend a lot of time developing connections with others	5.17	1.11	231

Note. Ratings based on statements that used a seven-point Likert-type scale: Strongly disagree (1), Disagree (2), Somewhat disagree (3), Neither agree nor disagree (4), Somewhat agree (5), Agree (6), Strongly agree (7).

An overview of the scale used to measure extraversion, and the associated items, can be found in Table 4-5. The average level of agreement was 3.48, indicating neither agreement nor disagreement on the five-point Likert-type scale (“strongly disagree” to “strongly agree”). The

statement that received the highest level of agreement was: “I see myself as someone who is outgoing, sociable” ($M = 3.80$, $SD = .91$). The statement with the lowest level of agreement was: “I see myself as someone who is reserved” ($M = 2.99$, $SD = 1.06$).

Table 4-5

Descriptive statistics for extraversion scale items.

Measure/Item	<i>M</i>	<i>SD</i>	<i>n</i>
I see myself as someone who is outgoing, sociable	3.80	.91	231
I see myself as someone who is full of energy	3.76	.77	230
I see myself a someone who generates a lot of enthusiasm	3.60	.83	230
I see myself as someone who has an assertive personality	3.58	.95	230
I see myself as someone who is talkative	3.54	1.03	231
I see myself as someone who is shy and inhibited ®	3.40	1.08	231
I see myself as someone who tends to be quiet ®	3.24	1.08	231
I see myself as someone who is reserved ®	2.99	1.06	231

Note. Ratings based on statements that used a five-point Liker scale: Strongly disagree (1), Disagree (2), Neither agree nor disagree (3), Agree (4), Strongly agree (5).

® = items that were reverse coded.

Table 4-6 shows a summary of the means and standard deviations of responses for the groups and networks dimension of social capital. On average, respondents were active in three to four groups ($M = 3.60$, $SD = 2.40$), belonged to a couple of different types of groups ($M = 2.49$, $SD = 1.37$), worked mostly with groups that had similar goals ($M = 2.64$, $SD = 2.03$) versus different goals ($M = 1.76$, $SD = 1.69$), and worked with about two groups outside of the community ($M = 2.32$, $SD = 1.89$).

Table 4-6

Descriptive statistics for groups and networks social capital dimension (N=231).

Variable	Measure/Item	<i>M</i>	<i>SD</i>
Groups and Networks	How many groups are you an active member	3.60	2.40
	Different types of groups	2.50	1.37
	Number of groups with similar goals	2.64	2.03
	Number of groups with different goals	1.76	1.69
	Number of groups working outside of community	2.32	1.89

Table 4-7 provides an overview of membership in different types of groups, respondents were most involved with professional associations (94%, $n = 217$) and Other groups (77.1%, $n = 178$), meaning that the type of group with which they were involved was not listed as a choice on the survey. Respondents were not at all involved with trade or labor unions and were least involved with cultural groups (6.5%, $n = 15$) and political groups (22.5%, $n = 52$).

Table 4-7

Descriptive statistics for membership in different types of groups (N=231).

Variable	Types of Groups	% n	f
Groups and Networks	Professional association	94.0	217
	Other	77.1	178
	Industry group	68.3	158
	Business association	54.5	114
	Religious group	42.8	99
	Neighborhood groups	34.6	80
	Political group	22.5	52
	Cultural group	6.5	15
	Trade or labor union	0	0

The trust and solidarity dimension was composed of several items used to gauge the trust in an individual's community (Table 4-8). Respondents agreed ($M = 4.01$, $SD = .62$) that most people in their community were willing to help if needed, and they also agreed that most people could be trusted ($M = 3.93$, $SD = .64$), and that people generally trust each other in matters of lending and borrowing ($M = 3.76$, $SD = .72$). Respondents agreed the least with the statement: "you can't be too careful in your dealings with people" ($M = 3.22$, $SD = .88$).

Table 4-8

Descriptive statistics for the trust and solidarity in community (N=231).

Variable	Measure/Item	<i>M</i>	<i>SD</i>
Trust and Solidarity	Most people in my community can be trusted	3.93	.64
	In my community, one has to be alert or someone is likely to take advantage of you ®	3.40	.87
	Most people in my community are willing to help	4.01	.62
	In my community, people do not generally trust each other in matters of lending and borrowing ®	3.76	.72
	You can't be too careful in your dealings with people ®	3.22	.88
	Total level of trust and solidarity in their community	18.32	2.62

Note 1: Ratings for these items are based on the following five-point Likert-type scale: Strongly disagree (1), Disagree (2), Neither agree nor disagree (3), Agree (4), Strongly agree (5). *Note 2:* ® = items that were reverse coded.

When indicating their level of trust for different types of people (Table 4-9), respondents expressed the most trust in nurses and doctors ($M = 3.88$, $SD = .70$) followed by people from their occupational groups ($M = 3.87$, $SD = .55$). They had lower levels of trust for strangers ($M = 2.36$, $SD = .84$) and federal government officials ($M = 2.48$, $SD = .81$).

Table 4-9

Descriptive statistics for the trust in different types of people (N=231).

Variable	Measure/Item	<i>M</i>	<i>SD</i>
Trust and Solidarity	Level of trust in nurses and doctors	3.88	.70
	Level of trust in people from your occupational group	3.87	.55
	Level of trust in police	3.67	.82
	Level of trust in teachers	3.67	.82
	Level of trust in local business owners	3.56	.62
	Level of trust for someone in your neighborhood	3.54	.70
	Level of trust in people from different occupational groups	3.27	.60
	Level of trust in local government officials	2.97	.77
	Level of trust in federal government officials	2.48	.81
	Level of trust with strangers	2.36	.84
Total level of trust for different types of people		33.22	4.24

Note: Ratings are based on the following Likert-type scale: I do not trust (1), I trust a little (2), I trust some (3), I trust a lot (4), I trust completely (5).

For items that measured solidarity (Table 4-10), respondents indicated they would be somewhat likely to cooperate with others in their community to solve a problem ($M = 2.41$, $SD = .865$), and help each other most of the time during a time of need ($M = 3.03$, $SD = .63$), and likely help after a tragedy ($M = 3.27$, $SD = .811$).

Table 4-10

Descriptive statistics for solidarity items (N=231).

Variable	Measure/Item	<i>M</i>	<i>SD</i>
	Help on another in time of need ¹	3.03	.63
Trust and Solidarity	Cooperate to solve a problem in community ²	2.41	.87
	Help a neighbor after a tragedy ²	3.27	.81

*Note*¹: Rating for this item was based on the following five-point scale: Never help each other (0), Rarely help each other (1), Sometimes help each other (2), Help each other most of the time (3), and always help each other (4). *Note*²: Ratings for these items were based on the following five-point Likert-type scale: Not at all likely (0), Slightly likely (1), Somewhat likely (2), Fairly likely (3), and Very likely (4).

The cooperation and political action scale used several items to measure this dimension. The first three items were dichotomous, yes or no questions (Table 4-11). The majority of respondents (87%, $n = 202$) have worked on a project to benefit their community, state or nation in the last two years, and 58.3% ($n = 134$) indicated they have worked with a group to lobby an elected official for change.

Table 4-11

Descriptive statistics for cooperation and political action dimension items (N=231).

Variable	Measure/Item	<i>f</i>	<i>%</i>
	Worked with others on a project		
Cooperation and Political Action	Yes	202	87.8
	No	28	12.2
	Worked with a group to affect change		
	Yes	134	58.3
	No	96	41.7
	Lobbied an official for change		
	Yes	183	79.6
	No	47	20.4

Note: The first three items were dichotomous yes or no format questions and coded as no (0) and yes (1).

When asked to indicate how much impact they thought they had in their community, respondents indicated a small to medium impact ($M = 1.71$, $SD = .66$) which was measured on a four-point scale (0 = “no impact” to 3= “big impact”). Considering their last two years of activity, respondents indicated that they had worked with others to engage decision makers, on average, two times ($M = 2.35$, $SD = 1.62$) and indicated that, on average, two of these engagement efforts to be successful ($M = 2.12$, $SD = 1.33$). Using a three-point scale that ranged from 0 = “not at all” to 2 = “frequently,” respondents reported that their concerns were occasionally taken into account by government and community leaders ($M = 2.18$, $SD = .52$). Considering political activities more broadly, respondents engaged in an average of more than three political activities ($M = 3.68$, $SD = 1.92$) with nearly 82% ($n = 189$) of respondents indicating they met with a politician and 65.8% ($n = 152$) indicating they participated in a neighborhood or city government meeting (Table 4-12). Activities with the least amount of participation from respondents were protests and demonstrations (6.5%, $n = 15$) and alerting media to a local problem (20.3%, $n = 47$).

Table 4-12

Descriptive statistics for political activity (N=231).

Variable	Types of Political Activities	% <i>n</i>	<i>f</i>
	Met with a politician	81.8	189
	Neighborhood or city government meeting	65.8	152
	Public hearing or discussion	63.6	147
	County government meeting	51.1	118
	Notified law enforcement about a problem	41.6	96
	Participated in an information or election campaign	38.1	88
	Alerted media to a local problem	20.3	47
	Participated in a protest or demonstration	6.5	15

Research Objective 2

Objective two was to identify the relationships between leadership development approaches, social capital dimensions, and networking ability. Correlation analysis was utilized to determine any possible relationships (Table 4-13). The researcher examined correlations between composites of social capital dimensions and leadership development approaches. Results indicate that there is a weak, positive relationship between total social capital and total leadership approaches ($r = .120, ns$). There are moderate, positive relationships between networking ability and total leadership approaches ($r = .322, p < .01$) as well as networking ability and total social capital ($r = .347, p < .01$).

Table 4-13

Pearson correlations coefficients (r), means, and standard deviations of leadership approaches, social capital dimensions, and networking ability (N =230).

Variable	M	SD	1	2	3	4	5	6	7	8	9
1 Social capital (total)	87.35	13.88									
2 Leadership approaches (total)	6.76	1.48	.120								
3 Conceptual understanding	1.90	.40	.062	.722**							
4 Feedback	1.38	.60	.101	.854**	.515**						
5 Personal Growth	1.79	.38	.106	.792**	.436**	.526**					
6 Skill Building	1.67	.47	.113	.834**	.438**	.576**	.666**				
7 Groups and Networks	12.84	7.60	.810**	.112	.097	.109	.118	.075			
8 Trust and Solidarity	61.74	6.20	.600**	.031	.003	.027	-.019	.080	.174**		
9 Cooperation and Political Action	12.76	5.56	.714**	.110	.117	.127	.124	.089	.454**	.144*	
10 Networking Ability	5.46	.90	.347**	.322**	.168*	.239**	.321**	.327**	.270**	.113	.368**

*Note: *p < .05, **p < .01.*

There were no significant relationships between the four leadership approaches and three social capital dimensions. However, networking ability has a significant relationship to all leadership development approaches with weak, positive relationships to conceptual understanding ($r = .168, p < .05$) and feedback approaches ($r = .239, p < .01$). Networking ability also has moderate, positive relationships with personal growth ($r = .321, p < .01$) and skill building approaches ($r = .327, p < .01$).

With regard to social capital, networking ability also has a weak, positive relationship with the groups and networks ($r = .270, p < .01$), and moderate positive relationship with cooperation and political action ($r = .368, p < .01$). There are strong, positive relationships between leadership development approaches. For example, feedback approaches has a strong positive relationship with conceptual understanding ($r = .515, p < .01$), personal growth ($r = .526, p < .01$), and skill building ($r = .576, p < .01$). In addition, there is a mix of weak and moderate relationships between social capital dimensions. For example, there are weak positive relationships between the groups and networks dimension with the trust and solidarity dimension ($r = .174, p < .01$), and with the cooperation and political action dimension ($r = .454, p < .01$). The dependent variables of this study are social capital dimensions; and while these dimensions are not significantly related to the leadership development approaches, the vast majority of relationships are positive with the exception of trust and solidarity dimension and the personal growth approach ($r = -.019, ns$). Based on these results (Figure 4-1), a test of the mediational role of networking ability between leadership development approaches and social capital is not appropriate (Baron & Kenny, 1986).

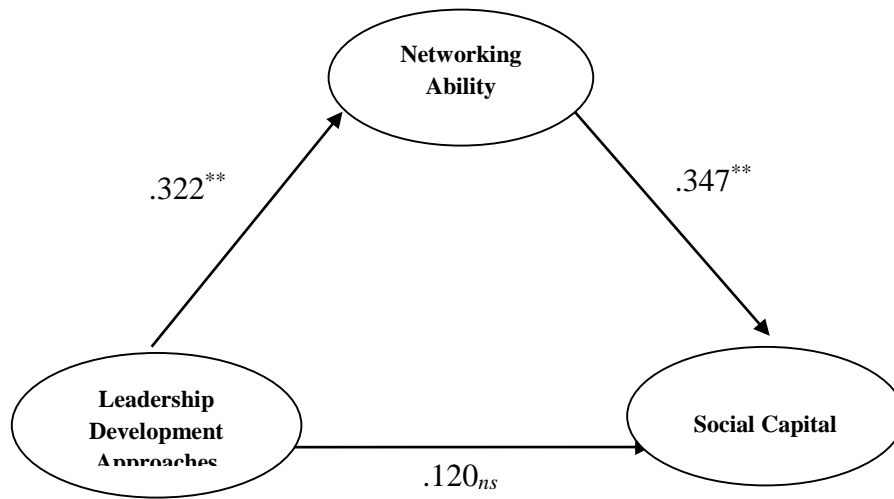


Figure 4-1. Conceptual model with correlations between total leadership development approaches, networking ability, and total social capital. Note 1: Although the arrows suggest causal paths, the statistics reported are correlation coefficients (r). Note 2: $**p < .01$, ns = non-significant.

Research Objective 3

The third research objective was to investigate the influence among leadership development approaches, networking ability, and social capital dimensions. Regression analysis was used to identify the predictive capacity of leadership development approaches on networking ability, as well as the predictive capacity of networking ability on social capital.

To verify the dataset met assumptions of regression the following tests were performed. An analysis of standard residuals was conducted using plots and residual statistics to identify any outliers in the data. One outlier in the trust and solidarity dimension was found and was removed from the data set (Std. residual min = -3.969, Std. residual max = 3.929). The remaining indices did not contain any outliers (Std. residual min = -2.603, Std. residual max = 2.593). Collinearity statistics reveal the tolerance level for each variable ranges from .481 to .989, and the VIF ranges from 1.45 to 2.07, which are within acceptable ranges to meet the assumption of collinearity. The data also met the assumption of independent errors with a Durbin-Watson value of 2.19. The histogram of standardized residuals indicated that the data contained normally distributed

errors, as did the normal P-P plot of standardized residuals, which showed points that were nearly completely on the line. The scatterplot of standard residuals showed that the data met the assumptions of homogeneity of variance and linearity. The data also met the assumption of non-zero variances. All tests related to the assumptions of regression can be found in Appendix K.

Table 4-14 provides an overview of the regression model with total social capital (TSC) as the outcome variable and leadership development approaches as predictors. The parameter estimates for each leadership development approach, conceptual understanding ($\beta = -.008$, $p = .919$), feedback ($\beta = .046$, $p = .620$), personal growth ($\beta = .048$, $p = .584$), and skill building ($\beta = .058$, $p = .545$) indicate that leadership approaches are not significant predictors of social capital. The overall model was not statistically significant, ($F(1, 229) = .900$, ns). The same was the case for each model that specified the groups and networks, trust and solidarity, and cooperation and political action dimensions of social capital as the outcomes variable and the four leadership development approaches as predictors.

Table 4-14

Multiple regression analysis for leadership approach variables predicting total social capital (N=230).

Variable	B^a	β^b	t	Sig.
Constant			14.74	.000
Conceptual Understanding	-.285	-.008	-.102	.919
Feedback	1.689	.046	.497	.620
Personal Growth	1.123	.048	.548	.584
Skill Building	1.696	.058	.607	.545
R^2			.016	
Adjusted R^2			-.002	
F			.900	.347

Note: ^a Unstandardized coefficients, ^b Standardized coefficients.

Due to the fact that networking is an antecedent to social capital, the influence of leadership development approaches on networking ability was investigated. First, the influence of each approach on networking ability was explored, while controlling for extraversion. These individual models (Table 4-15) were each significant and indicate that each of the leadership development approaches is a significant predictors of networking ability: conceptual understanding ($\beta = .151, p < .05$), feedback ($\beta = .193, p < .05$), personal growth ($\beta = .232, p < .01$), and skill building ($\beta = .234, p < .01$). The variance accounted for by each approach, while controlling for extraversion ranged from 28% ($R^2 = .280$) to 31% ($R^2 = .309$).

Table 4-15

Summary of regression models with leadership development approaches as predictors of networking ability, controlling for extraversion (N = 230).

Variable	Model 1 (CU)				Model 2 (FB)				Model 3 (PG)				Model 4 (SB)			
	<i>B</i> ^a	β ^b	<i>t</i>	<i>Sig.</i>	<i>B</i> ^a	β ^b	<i>t</i>	<i>Sig.</i>	<i>B</i> ^a	β ^b	<i>t</i>	<i>Sig.</i>	<i>B</i> ^a	β ^b	<i>t</i>	<i>Sig.</i>
Constant (NA)			8.04	.000			11.58	.000			8.24	.000			10.34	.692
Leadership Approach	.341*	.151*	2.67	.008	.289*	.193*	3.44	.001	.552**	.232**	4.12	.000	.442**	.234**	4.14	.000
Extraversion	.603**	.502**	8.90	.000	.591**	.493**	8.80	.000	.555**	.462**	8.22	.000	.552**	.459**	8.15	.000
<i>R</i> ²			.28				.29				.31				.31	
<i>Adjusted R</i> ²			.27				.29				.30				.30	
<i>F</i> Statistic			44.06**	.000			47.25**	.000			50.71**	.000			50.83**	.000

Note 1: ^a Unstandardized coefficients, ^b Standardized coefficients. *Note 2:* **p* < .05, ***p* < .01.

Note 3: NA = networking ability, CU = conceptual understanding, FB = feedback, PG = personal growth, SB = skill building.

The next step in the investigation was a full model with all approaches as predictors of networking ability, while controlling for extraversion (Table 4-16). This revealed a significant model, ($F(1, 229) = 21.371, p < .01$), that accounts for 32% of the variance in networking ability ($R^2 = 0.323$). However, the only significant predictor in the model was extraversion ($\beta=.456, p < .01$); and the leadership development approaches of conceptual understanding ($\beta= .022, p=.745$), feedback ($\beta=.118, p=.126$), personal growth ($\beta=.057, p =.439$), skill building ($\beta=.113, p=.157$) became non-significant predictors of networking ability. However, based on these results (Table 4-16) and the results of the previous models (Table 4-15) the influence of personal growth and skill building approaches on networking ability were further explored (Table 4-17).

Table 4-16

Multiple regression analysis for leadership approaches predicting networking ability while controlling for extraversion (N=230).

Variable	B^a	β^b	t	Sig.
Constant			7.014	.000
Conceptual Understanding	.049	.022	.325	.745
Feedback	.282	.057	.776	.439
Personal Growth	.085	.118	1.538	.126
Skill Building	.214	.113	1.418	.157
Extraversion	.548**	.456**	8.064	.000
R^2			.323	
Adjusted R^2			.308	
F			21.37**	.000

Note 1: ^aUnstandardized coefficients, ^bStandardized coefficients. Note 2: ** $p < .01$

First, model one with personal growth and skill building as predictors on networking without controlling for extraversion was fitted to the data (Table 4-17). This model was significant ($F(1, 229) = 16.36, p < .01$). This model accounts for 13% of the variance in networking ability ($R^2 = 0.126$), with both personal growth ($\beta=.185, p < .05$) and skill building as significant predictors ($\beta=.204, p < .05$). A second model that controlled for extraversion was

fitted to the data and was also found to be significant ($F(1, 229) = 35.45, p < .01$). This model accounts for 32% of variance in networking ability ($R^2 = 0.320$) with extraversion as the only significant predictor of networking ability. However, based on the R^2 change from model one to model two ($\Delta R^2 = .126$) it can be concluded that personal growth and/or skill building approaches have a moderate, positive effect (Cohen, 1998) on networking ability.

Table 4-17

Summary of regression models with personal growth and skill building as predictors of networking ability (N =230).

Variable	Model 1				Model 2			
	B^a	β^b	t	Sig.	B^a	β^b	t	Sig.
Constant (NA)			14.75	.000			8.26	.000
Personal Growth	.439*	.185*	2.21	.027	.331	.139	1.88	.061
Skill Building	.386*	.204*	2.45	.015	.270	.143	1.93	.055
Extraversion					.542**	.451**	8.03	.000
R^2			.13				.32	
ΔR^2							.19	
Adjusted R^2			.12				.31	
F Statistic			16.36**	.000			35.45**	.000

Note 1: ^aUnstandardized coefficients, ^b Standardized coefficients. Note 2: ** $p < .01$

Due to the fact that networking is an antecedent to social capital, the influence of networking was investigated in relation to social capital dimensions below. To better understand the influence of networking ability on social capital dimensions, four models that tested the predictive power, while controlling for extraversion were constructed as follows:

- Model 1: Networking ability (NA) + Extraversion (E) = Total Social Capital (TSC)
- Model 2: Networking ability (NA) + Extraversion (E) = Groups and Networks (GN)
- Model 3: Networking ability (NA) + Extraversion (E) = Trust and Solidarity (TS)
- Model 4: Networking ability (NA) + Extraversion (E) = Cooperation & Political Action (CA)

The results of these models can be found in Table 4-18. The parameter estimate for Model 1 is networking ($\beta = .307, p < .01$), which indicates that networking ability is a significant predictor of total social capital, when controlling for extraversion. Thus, a significant model was found, $F(1, 229) = 16.16, p < .01$, revealing that networking ability accounts for 13% of the variance in total social capital ($R^2 = 0.125$).

The parameter estimate for Model 2 is networking ($\beta = .216, p < .05$), which indicates that networking ability is a significant predictor of the groups and network dimension of social capital, when controlling for extraversion. Thus, a significant model was found, $F(1, 229) = 10.08, p < .01$, revealing that networking ability accounts for 8% of the variance in groups and networks ($R^2 = 0.082$).

The parameter estimate for networking in Model 3 ($\beta = .150, ns$) indicates that networking ability is not a significant predictor of the trust and solidarity dimension of social capital, when controlling for extraversion. The parameter estimate for networking in Model 4 ($\beta = .303, p < .01$) indicates that networking ability is a significant predictor of the cooperation and political action dimension of social capital, when controlling for extraversion. Thus, a significant model, $F(1, 229) = 19.73, p < .01$, revealed that networking ability accounts for 15% of the variance in cooperation and political action ($R^2 = 0.148$).

As a result of these analyses, it is clear that networking ability has a moderate effect on total social capital. However, upon further investigation, networking ability has a small effect on the groups and networks dimension, moderate effects on the cooperation and political action dimension, and non-significant effect on the trust and solidarity dimension.

Table 4-18

Summary of regression models with networking ability as a predictor of social capital dimensions, controlling for extraversion (N =230).

Variable	Model 1 (TSC)				Model 2 (GN)				Model 3 (TS)				Model 4 (CA)			
	B ^a	β ^b	t	Sig.	B ^a	β ^b	t	Sig.	B ^a	β ^b	t	Sig.	B ^a	β ^b	t	Sig.
Constant			10.11	.000			-.36	.737			22.08	.000			-3.97	.692
Networking Ability (NA)	4.76**	.307**	4.26	.000	1.85*	.216*	2.93	.004	1.03	.150	1.96	.051	1.88**	.303**	4.25	.000
Extraversion (E)	1.45	.078	1.08	.281	1.10	.107	1.45	.149	-.610	-.073	-.960	.338	.97	.129	1.82	.070
R ²			.13				.08				.017				.15	
Adjusted R ²			.12				.07				.008				.14	
F Statistic			16.16**	.000			10.08**	.000			1.92	.148			19.73**	.000

Note 1: ^a Unstandardized coefficients, ^b Standardized coefficients. *Note 2:* **p* < .05, ***p* < .01.

Note 3: NA = networking ability, CU = conceptual understanding, FB = feedback, PG = personal growth, SB = skill building.

Research Objective 4

The final objective was to explore the experiences of program graduates in order to better understand and describe the influence of leadership development programs on social capital.

From the 101 pages of interview transcripts, participant statements supported five themes and 20 categories of contributing statements (Table 4-19).

Table 4-19

Qualitative themes with associated data categories and the source of origin.

Themes and Categories	<i>Origin</i>
Theme 1: Program participation facilitates the development of diverse, strong connections.	
Participation influences connections in bonding and bridging networks	<i>a priori</i>
Group composition facilitates diverse connections	Emergent
Shared experiences facilitate network connections	<i>a priori</i>
Importance of informal time	Emergent
Influence of program length	Emergent
Theme 2: Graduates frequently access networks for learning and support.	
Connections influence resource availability	<i>a priori</i>
Network access behaviors	<i>a priori</i>
Affiliation/fraternity influences ease of access	Emergent
Theme 3: Program influences quantity and quality of engagement.	
Network expansion influences quantity of engagement	<i>a priori</i>
Quality of engagement enhanced	Emergent
Self-awareness leads to better engagement	Emergent
Program provided opportunity to hone leadership skills	Emergent
Theme 4: Shared interactions and experiences facilitate trust and dialogue.	
Repeat interaction builds trust	<i>a priori</i>
Experiences that influence trust building	<i>a priori</i>
Common frames of reference influence trust/trustworthiness	Emergent
Outcomes of trusting relationships	<i>a priori</i>
Theme 5: Access to decision-makers influences understanding, confidence, and involvement in political processes.	
Influences on involvement in political processes	<i>a priori</i>
Access provides confidence	Emergent
Confidence as catalyst for future involvement	Emergent
Empowered to act	<i>a priori</i>

Theme 1: Program participation facilitates the development of diverse, strong connections.

During the interviews, respondents were asked if they felt participation in their respective leadership programs influenced their network of personal and professional contacts. The vast majority of respondents described positive influences on their social network. Based on these responses, they were asked to further elaborate on and describe how their social networks were influenced. The positive influences ranged from Lee who shared, “my network had really increased both from personal and professional level” to Nancy whose network “expanded both somewhat in quantity but also in quality.” Taylor described it in simpler terms with “I networked. I met people, and I appreciated it;” and when asked about the influence on her network, Terry excitedly shared, “Absolutely, exponentially it grew!”

Respondents felt participation in the program provided an opportunity for strong connections among members of their cohort, but several also mentioned how the experience provided connections to a broader network. As Tristen explained, “It wasn’t just an intimate connection that I have with my cohorts, but it was an exposure and a connection with every presenter or delegate, or just really any individual we interacted with as a group.” This connection to broader networks was also described by Nancy:

It's made me more connected with people throughout the entire state. So if there is an issue in another county, and I know an individual there, I've contacted them to learn more about that issue. For example, there were fires in [omitted] County, and I connected with that person to see what myself personally, as well as our organization, might be able to do to help residents.

In this regard, Lee described how the program connected him to a broader network and how this was different from other leadership programs that he had participated in: “Each community we

went to, they brought in speakers from that area and the network for me; in my prior academy [i.e., leadership program] was mainly with agencies, but this was a global network that they provided here.” Many shared these feelings that the program, through its contacts across the state, provided opportunities for participants to embed themselves in larger personal and professional networks.

Building on the previous descriptions, several individuals operationalized their responses by discussing how both their personal and professional networks were expanded and enhanced. For example, Elliot shared this about his cohort, “As far as the personal network, I’d say, I mean it’s helped immensely; because before they were people I didn’t even know, and now there’s a couple of them that I talk to on a regular basis.” Nathan also shared the influence of the program on his personal network by explaining, “Absolutely! Yeah, it did expand, but I think it expanded maybe in a different way than others. My network expanded more internally with those folks, with those other participants, whereas others maybe expanded theirs externally.”

In the professional realm, many respondents described feeling connected with their segments of industry, but the program provided “access to people you would not have had access to before, it was one of those things where my network has really increased outside the regulatory [segment], and it was through this leadership opportunity.” When discussing his professional network Carmen explained, “In short it has extremely influenced my network,” and he went on to describe how the network he gained from the program influences decisions related to his profession:

I’m from the farm background, but I’m always reevaluating whether I should continue to be in agriculture industry, whether that’s the best fit for me in the future, but this [program] kind of made me feel like I had a special leg up in my industry. And that if I

choose to continue working in agriculture, I'm going to have this awesome base of incredibly smart farmers and business leaders in all parts of the state that I can call on. The diversity of individuals selected to participate in the programs also facilitated professional network expansion, according to Elliot, "It's also a wider network as far as it's not just corn and sorghum farmers; there were people in my class that were lawyers, there were bankers, there were..., I was at the time involved in commercial [omitted] production." For Matthew, the program had "a small amount of influence with professional contacts," and he followed with a description of how it has influenced his job in politics: "I did meet a few legislators. I met a few of the alumni people who are still in the political arena. So that helped in the crossover from the program to the real world application."

After sharing how their networks were influenced, respondents were prompted to describe how program activities influenced their ability to develop these network connections. A combination of formal learning activities, informal social time, and length of the program were identified as influential contributors to the development of these strong connections. When describing an activity that facilitated strong bonds among his cohort network, Elliot shared, "Well, I think part of that is it's just shared experiences." Tristen further elaborated on this point by not only describing the shared experiences as beneficial, but also the variety of experiences as beneficial to developing strong connections with the following statement:

The good thing is there was a variety of experiences, and a variety of settings, and because I got to know my cohorts in different ways, and the different environments provided different levels of comfort for me and for them. And so, in some areas, it was easier to bond with some versus others, but I think that the wide variety of atmospheres

and environments that we found ourselves in over the course of two years was very, very helpful.

This wide variety of experiences and situations described by Tristen, and other respondents, could be characterized as either formal or informal learning activities. With regard to formal activities, Cameron shared, “The ropes course was the initial bonding that got us to trust each other and begin the process of opening up.” And Nancy described how the group projects were beneficial:

We'd connect, usually when we were at those program days, but also outside of that meeting either on the phone, or separately to get whatever project presentation that we needed to get done, done. So in that respect, that helped build relationships.

Carmen provided further insight into how formal activities like group assignments facilitated bonds within the cohort:

I'm glad we paired with someone in our class and we both had to make a presentation about this certain aspect of agriculture or summarize something we had seen today. So the program is structured where you have a lot of different opportunities to work with people that you might not naturally have something in common with.

For others it was the travel that helped forge strong bonds. Terry explained, “For me, I would say the travel experiences were probably, were the ones that were most influential.” Building on this Lee described why the travel was so influential: “Struggling through the same thing at the same time automatically just forms a bond.” Elliot commented on how the bonds formed from traveling manifests: “You kind of form a bond as far as when you get home, you can say, well, remember that time when we were over in [location] and we saw the whatever.” Describing an outcome of these strong bonds Cameron said when “you develop that bond and then you're not

afraid to make a mistake in front of a person that you've only known for a couple of months up to that point.”

Respondents felt that the informal activities also provided opportunities for the formation and development of strong connections among fellow participants. Nicky described how important the informal time was, but also the value of formal activities in the process: “I think, without question, that the informal time was the predominant driver. There's huge value in training opportunities and exercises, but learning other peoples' perspectives in an informal manner clearly was important too.” Based on the patterns related to formal versus informal activities that were emerging during the interviews, some respondents were invited to identify the more influential of the two approaches. The consensus among the responses was that the informal activities were instrumental in their cohorts' relationship building processes. As evidence, Nathan posited, “I would say it's more than informal time; it's getting to know the individuals themselves and not trying to bestow these different leadership things upon others to gain relationship status, but actually getting to know the individuals themselves.” In terms of relationship building outside of the cohort, Terry felt informal activities were also valuable when she describes:

We always did a good as a small group and we always ate lunch with the presenters; we always had an opportunity to informally meet with them. It's not that they just brought them in and talked to us and left it was the fact that we always had some personal interaction with them.

In revealing the value of both approaches, Nicky described a reciprocal relationship between the formal and informal activities when he explains:

It was the down time, the social time, where you learned how people ticked. You know,

what drives them, what they're passionate about, what their family means to them, what their hopes and dreams are, what scares them about moving forward in their careers, what they really want to do. It's where people can talk freely, and that informal time is invaluable, but I think it complements the formal time. Because I think the model is such that you hear something, and you see something in people in how they act, or how they respond, or what they say in a formal setting, and then you ask them about it later, and it becomes a deeper conversation and, you know, usually there's beer involved and you can solve all the world's problems.

Carmen also shared that he thought "the informal down time is very valuable" and went on to explain "that's where you really get to know people and that's where you get to have these friendships that are so valuable after the fact."

Many respondents also alluded to the length of the program as a catalyst for the maintenance and further development of strong bonds. When speaking about this phenomenon, Tristen shared the following about how the program helped him build strong connections with others, "No particular exercise comes to mind that was singularly transformative, but more just the ongoing constancy and regular reconnection with folks over a long period of time is what helps." Nancy's description is also in line with these sentiments when she explains, "Spending that much time, over that period of time with the same group of people you build relationships outside of just the program itself." When commenting on how the length of the seminars improved program effectiveness, Carmen said, "If there was a less time commitment and it was not that overnight part to it. If it was something you drove to at the day time and then went home, it will lose its effectiveness." He continued with a salient example that compared his experience

in other leadership programs with his experience in the agricultural program:

So I have been in leadership programs that are kind of a one week deal. And yes, you did get a few friends out of these, but they're your same old type of friends; so the people you naturally gravitate to. So in this instance we had people [in my cohort] that I would not in a short time period get to know as well, people that are not as talkative or they're not from my part of the state. By virtue of the program being two years long, you just have so many informal opportunities where you're sitting next to someone on a road trip where you're working in a small group thing.

This sentiment was echoed by Terry, "If you were just going up one time a month for one meeting, and then you didn't stay overnight and you drove home, you wouldn't build that same relationship."

The aforementioned activities and experiences have positively influenced network expansion and relationship building in agricultural leadership development programs. In describing this phenomenon, Tristen posits:

Because of the variety of situations, eventually I was able to connect with everyone, over time. Whether we served together, or we had to work together on a project, or whether we bunked together at night during a rotation because we had a constant rotation of who we would room with at the hotels and other facilities. You know, it eventually, in totality it provided an opportunity for me to connect on, on a deeper than surface level with everyone in the program

This variety of approaches has been described as what facilitates the development of broad, diverse, and strong networks for program graduates.

Theme 2: Graduates frequently access networks for learning and support.

After discussing how their networks were influenced, respondents were asked to describe how they have used their network of personal and professional contacts developed as a result of their program experience. The data reveals that graduates are frequently accessing these networks for a variety reasons; however, commonalities emerged related to the use of network connections for information, advice, and support. Nancy characterized her network access behaviors by disclosing, “I still keep in contact with members specifically from my own class, and then others who are alumni from my local community.” Additionally, when speaking about his cohort network Elliot shared, “Several of them I’ve stayed in contact since then [graduation].” When asked about the use of her network, Taylor started her explanation with, “I use it all the time;” and when speaking as to why she feels comfortable accessing her network regularly she shared:

There's a real strong sort of fellowship, affiliation and fraternity that comes from the program, where you can pick up the phone and say, ‘I met you while I was in this class’ and there is an openness to help me.

The openness to help, characterized by Taylor, is prevalent among cohort members, but also the broader network with which the program and participants affiliate and have interacted with, whether it was speakers, legislators, or individuals in other communities. As evidence, Tristen spoke about what facilitates access to those affiliated with the programs by communicating the following: “As a group, us going as a leadership group really credentialed us and helped make an immediate connection with a high-level of comfortability where we were able to go back and interact with that person.” He clarified this point by sharing, “At any point in the future, I feel a high-level of comfortability to go back and remind them that I met them through an interaction

with the program and would feel very comfortable to communicate with them anytime moving forward.” Terry also explained her access behaviors at the cohort and broader network levels with:

I would say probably at least 50% of the people in our group, I still give referrals to or contact for questions, and that would include like people in [the state my program traveled to], contacts when we went to Washington DC, even our facilitators that they brought in and the speakers.

Nicky further elaborated on this point by sharing this about accessing his networks, “There's a very strong camaraderie for knowing I can pick up the phone if I need to talk with any one of them, and they'll pick up and help me with an issue or help me understand something.”

As previously stated, the networks that program graduates have formed are being accessed for a myriad of purposes, but a common reason was to share or gather information. When discussing how he uses his network Matthew explained, “Some of the people that were in the class that I still maintain contact with are within the industries that I have a great deal of interest in; so we just share information back and forth.” Tristen provided a description of how this information sharing includes access to others through his program connection:

I mean it really, I think it's come into play a couple of times where I've had a need or request, request for information and I knew one of my cohorts would have that information or point me in the right direction with somebody else that had that piece of information that I needed for my job.

As Tristen has described above, others described how they use their contacts from the program as a ‘credential’ and how it allows them to bridge networks or affords new connections. For example, when speaking about his cohort network, Lee explains how he uses his cohort members

as points of access in his career:

I have close contact with them [cohort members] and they're from different departments throughout the state. I use them when I have an issue or a red flag that I see may impact them. I have their [phone] numbers available and they are a reference for me to get to the right person.

Taylor further elaborated on this point with regard to the program credentialing her and how it allows her to bridge connections:

I think there is a[n] openness to sitting down and talking with me because I went through the program. I think it's a little bit of a ticket. It shows that you care. It's got a little bit of a badge quality to it.

Many respondents also shared how they use their network for advice and support. Nancy shared how she uses her connections to “sometimes just to share ideas or get someone else's perspective on something.” And with regard to advice, Elliot describes how a fellow participant “kind of became somewhat of a mentor to me and so I kind of use him as a sounding board to run ideas by, which prior to that [program] I wouldn't have had.” In describing how he relies on his connections with fellow participants in support of his career, Carmen explained his first example this way, “When someone gives me a question in my policy arena about something that I would not comfortable talking about, I directly have someone that I can call and ask a stupid question to, and that is extremely valuable.” As a follow-up, Carmen also provided a second example of how he has used this new network in support of his career:

I have recruited three members of my former [program] class to be board members in our group. So it made me, it's allowed me to have a network of people that I can directly incorporate into my board. And that makes my job easier because, they're younger and

they're willing to talk to groups and I know their leadership capabilities already.

Nathan further explained how he uses internal connections made through the program to support his career by saying, "I utilize a lot of those folks even today when I teach courses at the college; and I bring those folks in, my former teammates if you will as guest speakers. So I'm able to utilize those folks as resources." Lee uses external connections he has made through the program as resources too, and he provides an example of how he is using them with the following statement:

When I put on events, I use some of these speakers and use some of them to help push the message that I didn't have enough background in the past to move forward. So yes, I really use a lot of these external speakers in different ways and they have been great resources for me.

In terms of support from classmates related to the agricultural industry, Nicky shared:

Local to my county, we've had a lot of push back on a dairy that wanted to move in, and I was able to pick up the phone, call people, get educated, get them up to my county to start to help educate other people and evaluate a strategy to move forward.

Also related to the agricultural industry, Tristen explained, "My oldest daughter is interested in sustainable agriculture. She's only in middle school, but she's highly interested, and there's a couple of connections from the leadership program that have provided some experiences that she could participate in." Nicky described the profound impact, and value of the connections he made from the program by sharing the "networking opportunity was one of the biggest takeaways for me; and in many ways, I don't think I would be where I am today; I know I wouldn't be where I am without it [the network]."

Theme 3: Program influences quantity and quality of engagement.

When asked to describe how the program has influenced their involvement in groups, respondents readily provided numerous examples of how their engagement was influenced by participation and experiences in their respective leadership programs. For the most part, engagement was discussed in terms of relationships with new groups as well as the quality of engagement with groups they were already involved with. When asked if participating in the leadership program influenced his involvement in community or industry groups, Cameron shared, “Ah, I’m more involved, much to the chagrin of my wife.” Nathan prefaced his comments with “You know, I’m more involved.” Nancy describes being more engaged in the industry and provides the following description of how the program has facilitated this engagement: “I’m more engaged, more engaged because I have more familiarity. I know more people, I have met more people, I’ve learned of the culture.” As a result of the program, Lee describes becoming more engaged at work when he shares, “Yes, I believe that the department has given me more roles because of my leadership background that I gained the program. So that has put me into more groups.” Tristen also spoke about his engagement at work and posited more engagement was an expectation after completing the program:

I think those in my organizations, who know I have participated, have a higher level of comfortability with asking me to serve in leadership capacities and have an expectation; to you know, to get a return on their investment. So, I think there is less hesitation [to ask me to lead] in my own office.

In relation to the quantity of engagement, respondents also described how groups sought them out as a result of their participation in the leadership program. For example, Terry said, “I would say that the program gave some validity to leadership skills and how people in the community

kind of viewed me.” She went on to share, “I think after the program, just because the program has recognition in our area, I was flooded with people asking me to be on their board of directors.”

The exposure to different groups and organizations provided by the programs also facilitated engagement and new relationships. Taylor was excited when she described how her organization gained a new partner from her participation in the program:

We developed a much closer relationship with the [my state] Fish Commission because of a speaker presentation by their executive director. That definitely came through the program, where he presented and I thought, ‘Eureka, you know, this is a really important relationship for us.’

When describing his involvement with new groups, Carmen shared that he became involved only after learning more about these groups because before the leadership program, “I thought they would had never been worth my time to participate.” He went on to explain his involvement in the following new groups after participating in the program, “so county extension, rural electric cooperatives, farm service agency, you know, all are related to your agricultural industry, but not things that I thought were worth my time, but now I’ve made them a priority and participated.”

In addition to the number of groups in which respondents became engaged, several reported that they felt the quality of their engagement within their existing groups had improved. As evidence, Nicky explained, “I think the program made me better at it [engaging], and better at understanding other perspectives, in working in those kinds of groups. So yeah, I think there was a slight increase, I think the quality of that engagement improved.” In describing the quality of his involvement, Tristen shared:

I’ve been able to use the equipping that the program has provided me in places where I

am already serving like at my church, for instance. I had very much increased leadership roles and expectations in the last couple of years. I was involved in leadership roles there, but then continued to be asked for more and more as I had, so to speak, had 'more tools in my toolbox' to be able to help with the increasing complexity and increasing responsibility of leadership roles.

In relation to the new leadership roles described by Tristen, Elliot described how his experience in the leadership program influenced his decision to step into a leadership role as chairman of a new group:

If I hadn't gone through the program I probably would not have ventured out into that aspect, as far as being the chairman. I might have wanted to be the lead of a committee, but not so much being the chairman of the conference.

Related to these statements, Lee, after pausing to think, said, "I feel like I'm able to assume roles that I probably couldn't or didn't before the class."

In explaining the learning experiences and skills that helped them become more engaged, respondents reported a wide variety of influences. However, the experience of being required to lead or facilitate groups as part of their programs was a salient topic. For example, Lee shared he felt more comfortable leading because he learned "a lot of self confidence; they put you in leadership positions to lead groups, and I think that has been very beneficial to me in taking on some of these roles." Cameron echoed these sentiments and related public speaking, "I gained confidence, loads of confidence. I mean, if two years prior to that I would have been as nervous as all to get out." He went on to share, "I also observed that in the whole class is that people gained confidence, became great speakers public situations where they wouldn't have opened

their mouth; they would have fainted if they'd had to talk.” When discussing skills that have served her well, Taylor shared:

I think, stand up and talk skill. I'm pretty good with people, but I don't prefer to stand up and be in front of the room and just talk for five minutes. I definitely got the skill of doing that. And that was a skill that was forced on me, and I gained from it.

In addition, Cameron described that by facilitating or leading class sessions, the skill he gained was “Listening, listening to the others concerns and input, where probably before I would have discounted what others had said, others’ input more readily than what I do now.”

In describing learning activities that influenced his ability to engage with others Tristen described feedback in terms of assessments by sharing, “Some of the assessments provided a little bit of objectivity, knowing our change style, knowing our true colors assessment was helpful.” Cameron felt the feedback from fellow participants was valuable when he described, “There for a minute you’re by yourself in your own mind, and another minute you’re communicating with a group of twenty-three individuals, and then in the next two minutes those twenty-three individuals are giving you feedback.” Terry also mentioned how feedback from others has influenced her engagement in groups when she humorously shares that she learned to:

Shut up and listen. [Laughs.] I had a girl in our group who was an introvert that I think I offended. She told me that I tend to have a lot of ideas and I’m not necessarily the person who puts all of those idea in the action, but I think the skills that I probably learned where to not take over a group and to learn more how to be part of a group.

In describing skills he gained from the program Nicky said, “I think the way you read people, the way you focus on what kind of personality strengths and weaknesses they have and how to best reach them was a trait or a skill that was sharpened in the program.”

Several respondents also described how reflection on their behaviors and the behavior of others has helped them become better at leading and engaging groups. With regard to reflection, Elliot commented: “I would say on the personal side; I mean it also personally made me take a look at a lot of things, not just through the program but also on the personal side.” Reflecting on his life and program experience, Tristen shared:

Well, one of my big take home lessons was facing fear, and knowing that it's not unusual to be afraid. That leading is, many times, a scary prospect of being out front, but seeing historical and real life examples of leaders facing their fear, and how they identified it and how they analyzed it. That has made me more quickly identify when I am, when I'm feeling those emotions and dealing with them. Finding whether they are founded, or unfounded fears, keeping my wits and moving past what can't be, and accepting them. I think that was, you know, one of the more specific take-home lessons was dealing with fear.

Reflecting on his experience and engagement with groups after the program Lee shares he now has the ability “to place listening as a priority in everything I do.” He goes on to share, as a team leader in his job, he has realized, “I’m a part of the discussion, but listening matters and sometimes you have to watch from the balcony and that can help you understand how the whole puzzle works before you start to jump to an answer.” Reflecting on speakers and presentations from the program, Nancy described “knowing what you can realistically take on” as a skill that serves her well, and she described this skill as “deciding which ones [activities] are a priority, and which ones are not was helped through the program.”

This theme presented a holistic picture of the influences related to how agricultural leadership program graduates are engaging in new and current groups in their communities and

states. Elliot's thoughts provide an eloquent conclusion to this theme by explaining the overarching sentiments related to how the program influenced his engagement:

I mean, part of being a great leader is you also have to know yourself. And part of learning, or part of going through that program is you learn how, you learn your limits. You learn when you need help. You learn your strengths and weaknesses. You learn what your personality is and how well or how not so well you clash with others. And you also learn how to handle that which improves your ability to lead groups.

Theme 4: Shared interactions and experiences facilitate trust and dialogue.

Respondents were asked to describe how trust was built with people they met or interacted with through their programs. A common influence was meaningful, shared conversations and experiences. When discussing how trust was established, Nancy shared, "for me, it came down to conversations, sharing." Nicky also echoed this sentiment when asked to describe how trust was built: "Well, a couple of key ways. I mean one was sharing, the recognition that you share common goals, objectives, perspectives, and I think that helps to build a foundation [for trust]." Matthew shared that "interaction outside of the classroom setting" was most influential for him and followed his statement with this explanation:

I would say just the relationship building from the social piece of it, whether it was riding on the bus, whether was sitting around after the evening meal and just discussing different things, is where I built more trust in that arena than in a classroom or project setting.

Carmen also described the "informal conversations" where he was "able to vent about difficulties I'm having with my job or personal life or anything like that. Having those conversations over time and getting feedback builds trust." When asked to further elaborate on

how these conversations established trust Nathan said, “I think it was based on conversations based on real, sort of get down to work conversations about who they are as an individual, and that was how I think we built trust.” Tristen elaborated that conversations and sharing characterized by “vulnerability and honesty” were influential in establishing trust. He followed his previous comment with:

You know, when I exhibited those qualities or when other individuals exhibited those things as well, very much increased trust because I think we all think and feel things sometimes; but when it's explicitly spoken of, or addressed or talked about in, in an ugly, honest way, that really went a long ways to increasing trust in those relationships.

Some respondents highlighted learning activities that facilitated these deep conversations. For example, Nancy shared: “Trust was built through the projects we worked on together. Knowing that that person would pull their fair share of the weight, and could be relied upon to do what they said they were going to do.” Lee described another activity that was helpful in establishing trust with someone he did not agree with on environmental issues:

We did do some walks, you know; they called them walk and talks, and she was one of the ones I did a walk and talk with, and we were able to just get a really good understanding of each of our perspectives; and I know she will make an impact on [the state] from where she stands, and I think I can make an impact from where I stand. We have a lot of trust, so if we ever have an issue or something where we need clarification we are more than willing to call each other and talk about it.

Terry discussed travel as a trust building activity in these terms: “You know when you’re riding a camel across the desert and having to take care of each other in an unfamiliar environment, that

helps to build trust.” Providing an example of how the program helped her become more trusting, Nancy provides a summary:

Actually, it increased my trust, probably. I heard some political presenters and hearing them speak, personally, and getting a real view of who they were, as a person, that again, that familiarity steps up your trust a little bit. You no longer see them as, ‘Oh, that’s the Republican that voted against such and such.’ You think of them as, ‘Oh, that’s the person I heard speak; warm person, well-meaning, doing the best she can.’ And familiarity, I think, is closely linked to trust, because you have an easier time seeing somebody else’s view.

Interestingly, many respondents echoed Nancy’s sentiments in that a by-product of familiarity and trust was the ability to disagree with civility. For example, when recalling what he learned through the program related to trust, Nathan said, “Good people can disagree.” Carmen shared, “Being able to talk about political issues, for me, or social issues and it not devolving into, you know, some kind of a fight or bickering or something like that, that’s a rare thing that is something that builds trust.” Elliot elaborated on this point by sharing:

So I guess when you don’t trust someone as much, your walls go up a little bit, and so you kind of have to think about what you say and how you say it before you say it; whereas if you’re in comfortable company, then you speak a lot more freely. Because then you’re not worried about offending somebody or having a big disagreement over something.

Terry explained, “You know, when you’re in a room, [or] you’re traveling on a bus and you’re driving through protesters, conversations happen and the group was respectful enough that people could talk about their views, different views on things.” She went on to explain that “a

couple of the participants said, I would have never been friends with someone with your views, but I appreciate that I have heard why you think that way.” Elliot further described what he learned from trusting others, “There’s more than one way to do things, and you have to realize that just because they have a different opinion than you doesn’t mean they’re wrong, doesn’t mean their way’s not going to work.” Taylor described it as “we liked each other; therefore, we could tolerate one another's views.” In describing a situation in which a journalist was not fair-minded in their coverage of her organization, Nancy said, “If it were someone that had been in the program, I'd feel like I could more easily confront and talk to them about it and trust that they were actually considering my viewpoint and changing.” In describing how he has learned to disagree with civility, Tristen shared, “The person I am thinking of will probably never agree in the end, but we both understand that each of has an opinion, and a right to our opinion, and the basis for why we have that opinion.” When prompted to elaborate on how the program has influenced their ability to disagree with civility Elliot shared:

This program also tried to show both sides of the story. So whether you liked hearing it or not, it showed you that you need to listen to both sides and make an objective opinion, rather than say ‘ok, well I think it should be done this way, so that’s the way it needs to be.

As evidenced by previous statements, trust building was described predominantly at the program or cohort level, but it was also addressed in terms of how it has translated to the agricultural industry and their communities. For example, Nancy shared, “I trust people more if they've been through the program.” Taylor expressed, “If I'm in a setting where it's clear that I was in that program, it's definitely, kind of, I get a positive mark. It's like I'm viewed differently.” Tristen

explained in terms of credibility rather than trust when asked how he would view other individuals who had completed his program:

I think so, but it wouldn't be anywhere close to the same level [of trust] as one of my classmates. I think it would add some credibility, but I think really the trust would not be too different than someone who wasn't in the program.

This type of credibility works both ways as Taylor shared, “They say, when you go into it, ‘[the program] will do anything for you,’ and it’s true. It's kind of corny, but you can call up and say, ‘Oh, [my program] class of 31. Oh, great, what can I do for you?’ It's corny, but true.”

Cameron described in terms of his participation establishes credibility with others by sharing:

I would be more trusting, but the main thing is that I would be more credible. I can think of one [graduate] now that’s a state representative. I just walked up to him and said; ‘Hey man, I’m [my program] class 14, I know you were in [my program] class 10.’ And you know, that is a common thing that you can begin a relationship on, and then at that point you could discuss any legislation or anything; that’s an opening.

Lee also shared, “I absolutely believe that it [participation] does bring credibility,” and he goes on to explain “which is a strong advantage rather than just cold calling someone.”

When asked to explain why they would trust other graduates from the program or find them more credible the shared frame of reference was cited by many respondents. For instance, Elliot shared, “It’s like being in the Greek system or anything else that you’ve done in life. Automatically it’s another little bond that you have.” This sentiment was also echoed by Nicky who shared, “It's like any kind of feeling of belonging, or sorority, or fraternity, kind of brotherhood;” and he went on to provide this example:

So when you hear, 'Oh, yeah I was in class 12,' you're like 'ahh, we have shared experiences. Therefore, we have shared values; therefore we have an opportunity for trust more quickly than we might have with some other group.' Whether that's real or not, it's a perception.

This was also echoed by Nancy who shared the value of this shared frame of reference with her cohort and others who have graduated from the program:

You have an idea of some of the different aspects of the communities throughout the state that they've been exposed to and some of the experiences they've had. What level of understanding they probably have about different rural issues, agricultural issues, military and government at different levels. That there is an assumption that if they're in the program then they are going through these same experiences and they have that same understanding. They don't have to figure out, 'Do they get this stuff?'

When asked to describe how he thinks the trust built up among his cohort will translate to the agricultural industry, Tristen said:

Well, I'm hoping that it will effect and increase collaboration. That, there really is, for the most part, I would think that anybody who was a cohort that there is an implicit level of trust that does not have to be recreated. Or, you know, it's really re-established within a brief beginning of a conversation. That there is a higher baseline of trust that could, like if we had to work on something together, there wouldn't have to be a ground work laid because of the experiences we face together, because of that trust. I think there's a new much higher baseline for collaboration.

As described above, the shared social interactions and experiences within the cohort and with others who have graduated from these programs facilitates trust and dialogue that was not present before participation in the program.

Theme 5: Access to decision-makers influences understanding, confidence, and involvement in political processes.

When describing how participation influenced their views and involvement in government, politics, or the political process, several respondents discussed how they have become more involved in the political process. For example, when speaking about his cohort, Matthew shared, “I would say, for the most part of everybody would be more involved.” Cameron described becoming more involved at the state level: “I was already involved in politics, but subsequent to that [program graduation] I went ahead and got involved at the state level in the political process or ensuring that the political process was fair.” Taylor also described how it has influenced her career: “Policy has become a huge part of my personal job now. I think my confidence to do the policy work and the lobbying that I've evolved into, I'm sure, was helped by [my program].”

Although Nathan has not become more involved, he explained: “It made me to be more mindful of it, but I haven't become more of a participant in it. I understand it a little better, the political process, but I'm not actively involved with it.” Tristen echoed these sentiments: “It hasn't influenced my involvement yet, but it's definitely increased my awareness, and I think that was one of the biggest effects.” Tristen also shared this about his cohort and their involvement: “I would say those who were not politically involved before may not have stepped up a lot, but I'm positive nobody has stepped away; nobody found experience so bad they wanted to not be involved.” He went on to say this about himself and his cohort members running for political

office: “I think it’s more like me; they just haven’t seen the right opportunity at the right time.” Augmenting these sentiments, Terry, when talking about running for a political office, shared, “I never had that as a possibility; I think that I definitely think of it now as a possibility.” She also described how another graduate, “did the program to enhance what he was doing as a job and then all of a sudden, he graduated and thought ‘I can do this’ and he’s been a state senator since the 80s when he took the program.”

When prompted to further elaborate on how the program influenced their current or future involvement in the political process, the vast majority of respondents spoke about how the confidence they gained through their program experiences was a catalyst for further engagement. Elliot explained, “I mean it’s given me more, what’s the word, more confidence in it, but it’s not like I’m going to go out and run for president tomorrow.” In addition, Taylor shared, “My confidence definitely was affected by the program.” She goes on to say, “It strengthens your confidence to engage representatives.” Carmen echoed these sentiments when describing the overall mood of his class,

I can think back to several members of our class that said, ‘you know, I feel confident going up to Washington DC now. I realize that they [elected officials] are approachable and that they look to people like me for insight about big issues, and I can really affect policy by just participating.’

Terry also shared her thoughts, “I think it strengthened my confidence in participating. It kind of all adds up, but it strengthened my relationships in [my state capital] and Washington and my confidence in these relations.” Nancy operationalized her confidence in the following way: “I think it helped me feel more confident about being able to more often speak up.” Lee also repeated what many others shared, “I just think that it’s having a little more confidence and

understanding that we all have a role” that has influenced his involvement.

Participants were probed as to what specific experiences or activities contributed to this confidence, and as alluded to in previous themes, it was a variety of activities and experiences. For example, Elliot identified “the personality tests and everything that we went through, the public speaking” as confidence builders. Nathan described learning from a classmate who worked in politics: “I think it was really mainly working with my colleagues that worked in that area, and so they educated me a little bit more on what goes on within those boundaries.” Carmen explained it was both “the educational part where you’re doing an activity that’s a state scenario and matching that with going to Washington and actually doing it; that was invaluable.”

A better understanding of the political process was the primary source of confidence as described by respondents. For example, Cameron shared, “Understanding the process was a big part of it, but again I reflect back and I believe [the program] gave you the confidence and the skills to be before a public audience and communicate your vision.” Nathan described something similar in that his confidence came from “actually going to [my state capital] and then when we went to D.C. and we got to see how, we got to talk to our representatives and just kind of figured out how all the process works.” When probed as to how understanding the process influenced his confidence, Tristen explained:

I think in my mind, before the program, there was a lot of ignorance and nebulousness, unawareness of how things worked; but after meeting people and watching the process of legislation taking hold or seeing bills being negotiated or reworked or language being edited or issues being put forward. You know, I think that's the biggest help was just to increase awareness.

Elliot's comments built on this sentiment, "We had a political processes seminar, which was in [my state capital], and we got to see the inner workings; we got to talk to our state representatives, and so I thought that was very helpful." Lee provided his thoughts on how the program influenced his view by positing, "Politics is, sometimes you want to hide from it, but through the leadership program I understand its importance and role."

However, nearly every respondent referenced how their programs provided access to important decision-makers, and how that access has made them more comfortable operating in political environments. As described by Tristen, "Just being able to actually interact with representatives, legislators, political leaders at multiple levels and to discuss issues that were appropriate, meaningful, or in the news at the time was very helpful." Taylor said "the access is phenomenal," and she followed this comment with:

You get access to some really important people. The program is incredibly well-regarded. And that did impact me. You meet with your senator in [state capital], in Washington, D.C. You just have access to all kinds of unusual settings that you never would have. That impacted me.

Terry echoed these sentiments about access, "I mean when else do you, when are you ever placed as the average Joe citizen in front of so many politicians, you know; it's not something that you just go and do, it really forced the exposure." This access led to more involvement as described by Nicky, "I think it was the whole program cements to you that your voice is important, and it is worth the extra effort to reach out, that they [decision makers] are accessible." He goes on to describe this in more detail by sharing this about he and his classmates:

It gets engrained in the mind how accessible leadership is on a local and national level.

And so, I think that the program, exposing them to that I think really helped people understand, ‘Hey, I could just pick up the phone or send an email and I could get to a whole lot of representatives and they will listen.’ It’s something that I think people take for granted. You know, most people don’t have this opportunity, so they don’t think they can do it.

Taylor also talked about access and how it was beneficial in these terms: “You get these incredible opportunities to be in the chambers and to see how things work. And it just breaks down some perceptions. So you have three days there, and you kind of see how accessible folks are.” Terry shared what the program helped her realize about involvement in the political process with:

We really put politicians sort of on this platform of like – I don’t want to say that they’re not real people, but really elevate them to this status, and then you meet them and you’re thinking, ‘you know, they’re pretty average,’ and, you know, and I think maybe that face-to-face exposure with our politicians was probably the biggest eye opener.

Carmen shared this about fellow classmates: “That was the first time they had met with their congressman, and it was a huge deal, but it took the learning curve and the confidence kind of curve away.” The access to decision makers and exposure to the process were the most influential program activities associated with political action and involvement. The confidence graduates gained through these activities has facilitated more involvement in the political arena or confidence to engage when the time is right.

Chapter Summary

The results described in this chapter provide an overview of the types of learning activities taking place in agricultural leadership development program as well as the influence and intensity of leadership development approaches. An examination of the relationships

between study constructs reveals moderate, positive relationships with networking ability and both leadership approaches and social capital. There is not a significant relationship between leadership approaches and social capital. However, networking ability was identified as a significant predictor of social capital, and the five themes developed from the qualitative data help provide a better understanding of how leadership development approaches influence the groups and networks, trust and solidarity, and cooperation and political action dimensions of social capital. The following chapter provides a discussion of the results and recommendations.

CHAPTER 5 SUMMARY AND DISCUSSION

This chapter summarizes the study and presents important conclusions drawn from the data presented in chapter four. Additionally, it examines potential implications for practice and offers recommendations for further research.

Summary of the Study

Problem Statement

Spending on leadership development is at an all-time high. Although considerable time and resources have been devoted to understanding the outcomes of leadership development, little time and effort has been dedicated to understanding the processes and interventions that affect the emergence of these outcomes (Collins & Holton, 2004; Dinh et al., 2014; Gardner et al., 2010; Wituk et al., 2003). The problem is that leadership development programs are often viewed as “black-boxes” that receive inputs (i.e., learning interventions) and produce outcomes (i.e., social capital) (Stufflebeam & Shinkfield, 2007), and as a result there is little consideration given to the mechanisms that facilitate the development of individuals and/or groups. Such is the case for the relationships between common approaches to leadership development and their influence on social capital; even less is known about the relationship between networking ability and these two constructs (Collins & Holton, 2004; Day, 2000; Van De Valk & Constanas, 2011). The lack of a systematic understanding of these dynamic relationships illuminates the conceptual need to untangle the relationship between leadership approaches, social capital, and networking ability.

The current economic environment portends the decline for current and future leadership development programs that cannot provide evidence of how their programs develop the capacity of individuals, groups, and organizations. This study sought to explore the relationships between

inputs and outcomes to address the “black box” by identifying the links between learning interventions and outcomes. Workman and Scheer (2012) posit that, as funding becomes more limited and much more competitive, programs that have documented evidence of their merit will be the ones that receive funding and continue to exist. Thus, a better understanding of the nexus between these constructs can advance leadership theory and practice.

Purpose and Research Objectives

The purpose of this study was to explore the relationships between leadership development approaches, networking ability, and social capital. The research objectives of this mixed-methods study were to:

- Describe the leadership development approaches, networking ability, and social capital associated with graduates of agricultural leadership development programs.
- Assess the relationships between leadership development approaches, networking ability, and social capital.
- Investigate the influence among leadership development approaches, networking ability, and social capital.
- Explore and describe the influence of leadership development approaches on social capital.

Methodology

Stentz, Plano Clark, and Matkin (2012) assert that the application of multiple research approaches is needed to understand the complex processes involved in leader and leadership development. In light of this assertion, this study was implemented using a convergent parallel mixed methods design that consisted of concurrent quantitative and qualitative phases (Creswell & Plano Clark, 2011). The data from each phase of this study was analyzed separately and then merged to develop a more complete understanding of the nexus between leadership

development, social capital, and networking ability. Methodology related to the quantitative phase will be discussed first, followed by the qualitative methods.

The quantitative phase of the study was conducted using a non-experimental, correlational approach. The target population was individuals who graduated from agricultural leadership programs in the United States, 2010 - 2014. A non-probability, purposive sampling procedure was employed to reach the accessible population associated with the 15 agricultural leadership development programs represented by the final study sample ($n = 231$). The researcher used survey methods to gather data electronically via the web-based survey program Qualtrics. The self-report instrument used to collect participant responses consisted of four sections (Appendix B). The first section was related to leadership development approaches; the second section addressed networking ability; the third section measured social capital dimensions; and the fourth section consisted of demographic items.

Data collection procedures were guided by the *tailored design method* (Dillman et al., 2009). All contact with participants, from the initial recruitment letter to the final reminder, was facilitated using electronic mail. The survey remained open for five weeks and the response rate was 29% ($n = 231$). Preliminary data screening was conducted in order to protect against misleading results (Warner, 2013). A .05 significance level was used to indicate statistically significant results. The following statistical tests were performed during the data analysis: descriptive statistics, Cronbach's alpha test for reliability, exploratory factor analysis, bivariate correlation, and multiple regression. Composite variables were developed to provide leadership approach measures that were comprised of learning activities, intensity, and influence scores for the conceptual understanding, feedback, personal growth, and skill building approaches to leadership development. In addition, indices were developed using multiple items to measure

the following social capital dimensions: (a) groups and networks, (b) trust and solidarity, and (c) cooperation and political action.

Concurrent with this phase, a separate qualitative phase was conducted using semi-structured telephone interviews. Each interview ($n = 11$) served as an individual case that informed a broader case study that helped provide an understanding of the meaning graduates attribute to their experiences in leadership development programs. In an effort to remain reflexive and situate the researcher in the qualitative phase of this study, a reflexivity statement that addressed the researcher's epistemological and ontological beliefs was provided in chapter three.

A purposive, case sampling technique was used to select cases "based on a specific purpose rather than randomly" (Teddlie & Tashakkori, 2009, p. 173). The purpose was to provide a sample that was representative of the multiple agricultural leadership programs ($n = 15$) participating in the study. Semi-structured interviews, guided by a researcher-developed instrument and protocol, were used to collect qualitative data (Appendix H). The seven primary items that comprised the instrument were grounded in the literature and an *a priori* propositions table that connects researcher propositions, supporting literature and primary interview questions (see Table 3-8).

Analysis of the interview transcripts involved identifying, coding, and categorizing patterns in the data. Atlas.ti coding software was used for data analysis. A whole text analysis of the transcript was completed using the following analytic procedures developed by Corbin and Strauss (2008): (1) a preliminary exploration of the data by reading through the transcripts and writing memos; (2) coding the data by segmenting and labeling the text; (3) using codes to

develop categories and themes by aggregating similar codes together; (4) connecting and interrelating themes; and (5) constructing a narrative.

The results of the two phases were merged to help identify convergence and divergence, as well as draw meta-inferences that are discussed in the conclusions and discussion section of this chapter. The findings of this study are discussed in relation to each research objective.

Summary of Findings

Research Objective 1: Describe the leadership development approaches, networking ability, and social capital associated with program graduates.

The purpose of this objective was to describe the type, intensity, and influence of leadership approaches and learning activities that are taking place in agricultural leadership development programs. In addition, the networking ability and social capital associated with the sample of program graduates was investigated and described. As such, the findings indicate that agricultural leadership programs are using a wide variety of learning approaches to accomplish programmatic objectives, and the following provides a summary of these findings:

- The two most influential approaches in leadership development programs were personal growth and skill building approaches. The most common learning activities associated with these approaches are characterized by social and/or group interaction.
- The most amount of time in leadership development programs is spent on one of the least influential (conceptual understanding) approaches, and more time is spent on this approach than the two most influential approaches combined. The least influential approach was feedback in the form of assessments and formal activities.
- The most common sources of learning in leadership development programs are associated with conceptual understanding and personal growth approaches; and they are tours, lectures, networking, small group discussions, and team building activities.

Networking Ability

The typical rating for items measuring networking ability was “somewhat agree,” and the mean rating was 5.45 based on a seven-point scale ranging from one (“strongly disagree”) to seven (“strongly agree”). The findings were:

- Graduates of agricultural leadership development are slightly above average in their networking ability.
- Program graduates rate their ability to use established contacts slightly higher than their ability to develop contacts.
- There were no significant differences in the networking ability of respondents who had completed a four-year degree and those who had not.

Social Capital

The groups and networks dimension of social capital provided an overview related to the types of groups respondents interact with as an active member. The salient findings were:

- In comparison with graduates of another leadership development program, the respondents in this sample are involved in significantly more groups. Thus, graduates of these programs exhibit high input social capital.

With regard to the trust and solidarity dimension, the findings were:

- Respondents have a slightly above average level of trust in their communities.
- Respondents are more likely to trust and cooperate with individuals in their community that they know or have a connection with.

In terms of cooperation and political action:

- Respondents feel they have a small impact in their community, and it may be attributed to their high level of cooperation with others on projects to benefit community.

- Respondents are engaging frequently in political action but more so at the individual level than they are collectively.

Research Objective 2: Assess the relationships between leadership development approaches, networking ability, and social capital.

This was accomplished using bivariate correlation analysis to identify the relationships between leadership development approaches, networking ability, and social capital. Given that social capital was the dependent variable, special attention was paid to how other variables influenced this construct. The findings reveal that there are no significant relationships between leadership development approaches and total social capital or each of the social capital dimensions (Figure 5-1).

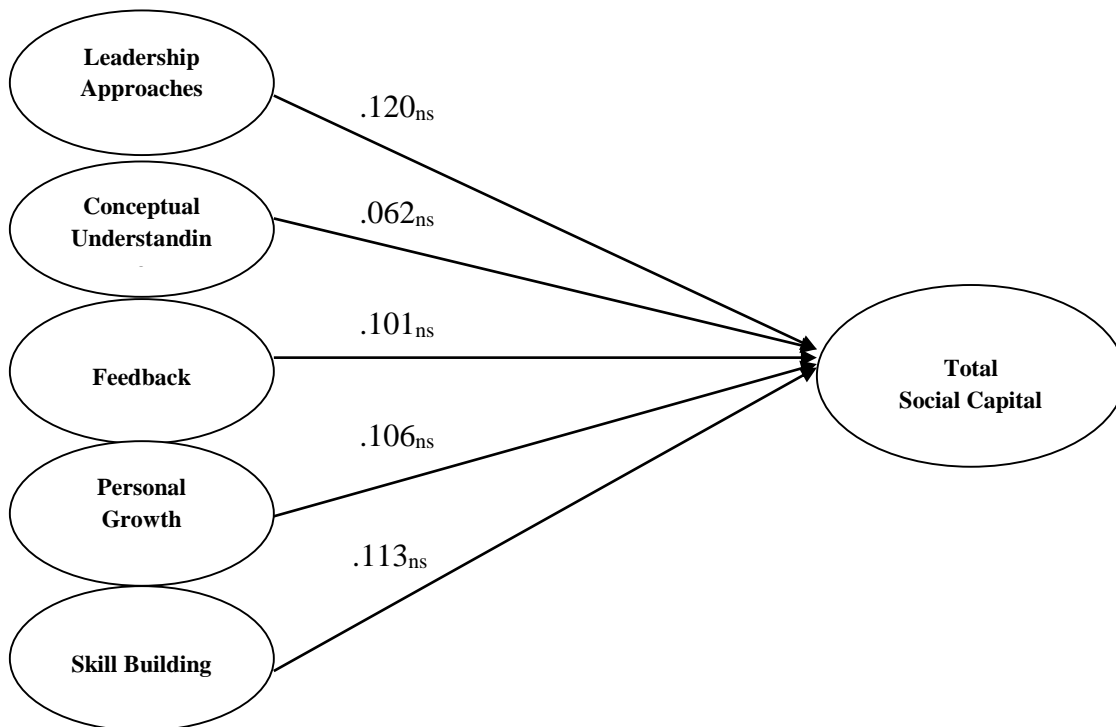


Figure 5-1. The relationships between leadership development approaches and total social capital. Note 1: Although the arrows suggest causal paths, the statistics reported are correlation coefficients (r). Note 2: ns = non-significant.

The relationships between leadership development approaches and networking ability were explored and the findings are:

- All of the leadership development approaches had significant positive relationships with networking ability (Figure 5-2).
- There is a moderate positive relationship between the leadership development approach composite measure and networking ability.
- Personal growth and skill building approaches have the strongest, moderately positive relationships with networking ability.
- Feedback and conceptual understanding approaches have weak, positive relationships with networking ability.

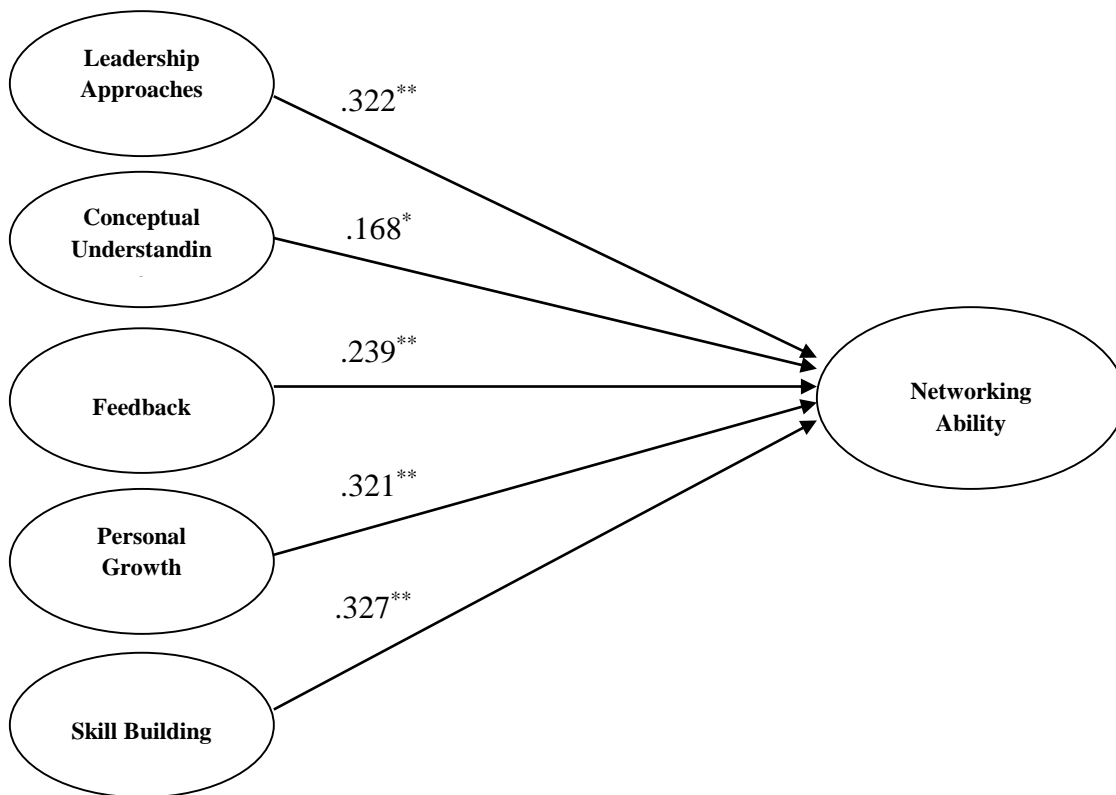


Figure 5-2. The relationships between leadership development approaches and networking ability. Note 1: Although the arrows suggest causal paths, the statistics reported are correlation coefficients (r). Note 2: * $p < .05$, ** $p < .01$

The relationships between networking ability and social capital were explored and the findings are:

- Networking ability has a significant, positive relationship with total social capital and two social capital dimensions (Figure 5-3).
- The strongest relationship among variables is the moderately positive relationship between networking ability and the cooperation and political action dimension.
- Networking ability has a weak positive relationship with the groups and networks dimension.
- Networking ability has a no significant relationship with the trust and solidarity dimension.

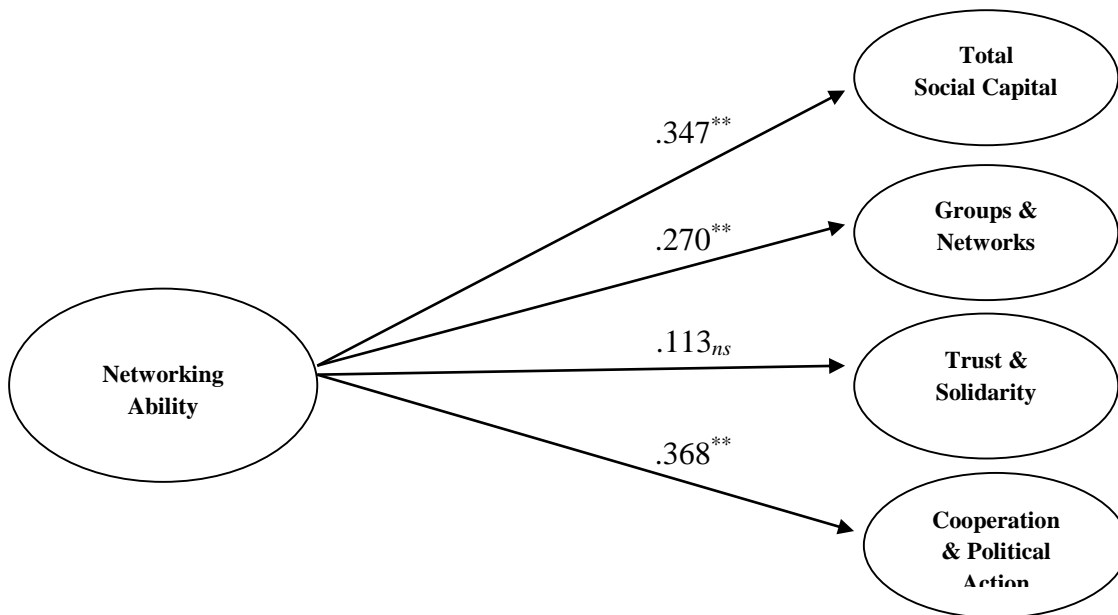


Figure 5-3. The relationships between networking ability and social capital. Note 1: Although the arrows suggest causal paths, the statistics reported are correlation coefficients (r). Note 2: ** $p < .01$, ns = non-significant.

Research Objective 3: Investigate the influence among leadership development approaches, networking ability, and social capital.

For this objective, regression analysis was used to explore the predictive capacity of leadership development approaches and networking ability on social capital. The findings do not support a relationship between leadership development approaches and social capital. Next, the influence of each of the leadership development approaches on networking ability was investigated by constructing several regression models. The first set of models controlled for extraversion and included the leadership approach as the predictor and networking ability as the outcome. The findings from these models are:

- Each leadership development approach is a significant predictor of networking ability.
- Together, skill building and personal growth approaches are the strongest predictors of networking ability (i.e., SB + PG = NA).
- The conceptual understanding approach is least predictive of networking ability.

Controlling for extraversion, regression models highlighted the predictive nature of networking ability on total social capital and each dimension of social capital. The findings are:

- Networking ability is a moderate predictor of total social capital. The best model for this data is: Extraversion (E) + Networking Ability (NA) = Total Social Capital (TSC).
- Networking ability is a weak, significant predictor of the groups and networks dimension of social capital.
- Networking ability is not a significant predictor of the trust and solidarity dimension of social capital.
- Networking ability is a moderate predictor of the cooperation and political action dimension of social capital. The best model for this data is: Extraversion (E) + Networking Ability (NA) = Cooperation and Political Action (CA).

Research Objective 4: Explore and describe the influence of leadership development approaches on social capital.

This objective was accomplished using semi-structured interviews and the constant comparative method of analysis (Corbin & Strauss, 2008). The experiences shared by 11 graduates, from 10 different leadership development programs, provided a better understanding of the influence of leadership development programs on social capital. Based on the experiences and descriptions shared by respondents, the following themes emerged about the influence of agricultural leadership development programs on social capital.

Program participation facilitates the development of diverse, strong connections.

Respondents described how their personal and professional networks have expanded as a result of program participation. Nancy describes how her network was expanded by sharing:

“It's made me more connected with people throughout the entire state. So if there is an issue in another county, and I know an individual there, I've contacted them to learn more about that issue. For example, there were fires in [omitted] County, and I connected with that person to see what myself personally, as well as our organization, might be able to do to help residents.”

The expansion of participants' social networks was facilitated by the diversity of cohort members in terms of backgrounds, careers, etc., and also by the diversity of individuals with whom they interfaced during the program (e.g., speakers, tour hosts, and elected officials). The multiple opportunities for shared experiences provided by the program influenced the strength of connections among program participants. However, informal time provided the most profound impact on the development of strong connections, as it afforded opportunities for participants to understand what made others “tick.” In addition, the length of the program served as a network maintenance mechanism that contributed to the development of strong connections.

Graduates frequently access networks for learning and support. Graduates of agricultural leadership development programs are accessing the networks they developed through the program for a variety of reasons. Respondents are regularly accessing the bonding network they formed with fellow program participants, and some graduates are accessing the network they developed with individuals who interfaced with the program. Nicky shares how he accessed his cohort network when he explains:

“Local to my county, we’ve had a lot of push back on a dairy that wanted to move in, and I was able to pick up the phone, call people, get educated, get them up to my county to start to help educate other people and evaluate a strategy to move forward.”

The most common reasons for network access were learning in the form of advice and information, as well as support for them personally, their careers, or the organizations they represent. Respondents reported that the affiliation with their respective programs facilitates access to weak connections in their network, and the fraternal connection with fellow participants facilitates access to strong connections in their network.

Program influences quantity and quality of engagement. Respondents provided thick, rich descriptions of how the program provided access to and opportunities to learn about different groups, which resulted in new partnerships and/or memberships in those groups. Graduates also described how the quality of engagement with groups in which they already belonged was influenced by their participation in the programs. For example, Tristen shared, “I think the program made me better at it [engaging], and better at understanding other perspectives, in working in those kinds of groups. So I think the quality of that engagement improved.” Program graduates are being expected to provide leadership for these groups through increased roles and responsibilities after completing the program. This is because,

typically, some of these preexisting groups provided financial support for the graduate to complete the leadership program. Nevertheless, graduates feel the quality of their engagement with groups was influenced, in that they are more aware of their strengths and weaknesses as a leader, feel they value input from others more, are able to speak on behalf of themselves and others in a public setting, and are willing to lead when provided an opportunity.

Shared interactions and experiences facilitate trust and dialogue. The opportunity for sharing provided by the program (whether it was shared conversations, goals, or experiences) facilitated the development of trusting relationships. Learning activities that provided an opportunity for interaction, teamwork, and feedback were the most influential at establishing trust within the leadership program cohort. The trust developed through the aforementioned means fostered a safe atmosphere where participants felt they could disagree with each other without fear of retribution. As a result of these trusting relationships, participants felt compelled to consider the opinions and contributions of others more often. The outcomes of these strong, trusting relationships is individuals who are more inclusive in their worldview and an understanding that it is healthy to be “less dogmatic” and open to other views that may differ from their own. This trust has translated into communities insofar as that shared frames of reference have facilitated cooperation and the development of new relationships with others who have a shared frame of reference (i.e., other graduates of the program). As evidence, Nicky described how he would be inclined trust others who have graduated from his leadership program when he shared:

“So when you hear, ‘Oh, yeah I was in class 12,’ you’re like ‘ahh, we have shared experiences. Therefore, we have shared values; therefore we have an opportunity for

trust more quickly than we might have with some other group.’ Whether that's real or not, it's a perception.”

The programs provide a shared frame of reference that influences trust among the cohort as well as the perceived trustworthiness of other program graduates.

Access to decision makers influences understanding, confidence, and involvement in political processes. Graduates of agricultural leadership development programs are more involved in political processes after graduation. This involvement is borne from the access the program provides to government and elected officials. An outcome of this access was a greater understanding of not only of the legislative and regulatory process, but also a great understanding that their voice is important and sought after in these processes. The interaction with decision makers bred familiarity, and the familiarity facilitated confidence in the participants’ knowledge and skills to engage in the political process. Carmen described this phenomenon when he explained:

“I can think back to several members of our class that said, you know, I feel confident going up to Washington D.C now. I realize that they [elected officials] are approachable and that they look to people like me for insight about big issues, and I can really affect policy by just participating.”

The access and confidence gained through the program has empowered graduates to become more involved, run for political office, or stand ready to serve when the opportunity presents itself.

Conclusions and Discussion

The following meta-inferences were developed by synthesizing the findings of the quantitative and qualitative data in an effort to provide a more holistic picture of the dynamic relationships between leadership development, networking, and social capital.

Participation in agricultural leadership programs influences the social capital capacity of graduates by providing opportunities that help them become “networked.”

Through this study, the significant relationship between leadership development and networking became more apparent. The formal and informal opportunities to network within the cohort and with others with whom the program interfaces influences the size, strength, and pattern of relationships in a participant’s social network. Networking is a widely cited outcome of agricultural leadership development programs (see Abington-Cooper, 2005; Black, 2006; Carter & Rudd, 2000; Dhanakumar, Rossing, & Campbell, 1996; Diem & Nikola, 2005; Kelsey & Wall, 2003; Strickland, 2011). However, using guidelines from Ferris et al. (2005), respondents in this study reported being only slightly above average in their networking ability. This is a vexing proposition. However, when the relationship between leadership development and networking is untangled, it can be concluded that the identification of “networking” as an outcome does not necessarily suggest the theoretical definition or the interrelated behaviors that constitute networking ability per se, but, rather, how the participant became “networked” or embedded in a unique network that consists of strong, diverse connections through their participation in the program. This proposition reflects Strickland’s (2011) findings that program directors identify “the development of networks” as a primary intended outcome of agricultural leadership development programs (p. 103). Furthermore, de Janasz and Forret (2008) reported that network expansion, the strength of connections in a network, and the pattern of relationships influence social capital capacity. As such, participation in agricultural leadership programs leads

to enhanced networks and, as a result, improves an individual's social capital capacity. The following section provides details on how networks are expanded, connections are strengthened, and relationship patterns are influenced in leadership development programs.

Participant diversity influences network expansion and social capital capacity.

Participation in an agricultural leadership development program could be classified as a networking activity in and of itself because it is an iterative experience that follows the “sequential logic of relationship development” (Kim, 2013, p. 123). As such, the design provides opportunities for participants to develop new connections and maintain those connections through frequent contact (i.e., multiple seminars). The diversity of program participants is the primary source of these new, non-redundant network connections. The diversity of a cohort is important because individuals tend to be homophilous, meaning that they typically have stronger ties to people that are similar to them, which results in redundant network connections (Borgatti & Lopez-Kidwell, 2011).

A cohort with diversity in terms of demography, cognition, political affiliation, and world views offers benefits. First, it provides opportunities for participants to learn how relate to others, disagree with civility, and become more empathetic towards others who may be different from them. Second, diversity influences the availability of network-embedded resources like support, advice, and information. These resources are especially important in a leadership development context when multiple points of view are often sought after in the decision-making process. This notion is supported by Narayan and Cassidy (2001) who posit that the influence of social capital is most profound when relationships are among diverse individuals. Thus, diversity allows disconnected individuals an opportunity to connect and gain benefits in the form of unique resources that are not already circulating in their social networks. When discussing the

importance of diverse connections in a leader's network, Balkundi and Kilduff (2005) write "the opportunity for ego [individual] to play an informal leadership role, distributing ideas and other valued resources throughout the immediate social circle, vanishes if ego is simply one more person in a highly connected group (Balkundi & Kilduff, 2005, p. 951). Furthermore, diversity has been found to be a key determinant of group (McCallum & O'Connell, 2009) and organizational effectiveness (Uzzi, 1996). Thus, non-redundant connections provided by a diverse cohort have value because they link participants to people who are not connected to other actors in their network, and such a connection affords an individual access to unique information or resources that are not already circulating in their network (Borgatti & Lopez-Kidwell, 2011).

Furthermore, graduates of agricultural leadership development programs frequently cite networking, interaction with others, and relationship building as the most beneficial aspects of the program (Helstowski, 2001). Therefore, a program without a diversity of individuals with non-redundant connections would not provide the same opportunities for networking, interaction, and relationship building that were previously described as beneficial. A diverse cohort improves an individual's social capital capacity by increasing the number of connections, which improves the potential sources of support, information, and advice in which individuals can draw upon (de Janasz & Forret, 2008).

Program length facilitates the development of strong connections and influences social capital capacity.

In agricultural leadership programs, it is through formal and informal learning activities and shared experiences that these new connections evolve from weak to strong connections. This evolution is due to the learning activities, but, more importantly, to the frequency of contact afforded by the length of the programs and the number of seminars, which was described as enabling to the development of strong relationships. Kaufman, et al. (2012) reported that the

average program cohort lasted 21 months and consisted of 12 educational seminars delivered in-state, regionally, and internationally. The program length and number of seminars serve as network maintenance and strengthening mechanisms; and de Janasz and Forret (2008) support this assertion when they conclude that relationships “need to be maintained to be effective” (p. 644). When describing the strength of their relationships with members of their cohort, respondents operationalized strength in terms of relationship quality. Interestingly, as these relationships became characterized by greater familiarity and comfort (i.e., strengthened), respondents felt they could share openly, disagree civilly, and take feedback from other participants, which facilitated personal growth, reflection, and self-awareness. This characterization is indicative of strong connections, which are particularly valuable when an individual seeks emotional support and often entail a high level of trust (Granovetter, 1973). While the number of ties in an individual’s network can increase social capital capacity, equally important is the strength of relationships within the network because they influence the aforementioned outcomes, which should be investigated through further research. In conclusion, the length of the programs facilitated the development of strong relationships and is supported by previous research that describes frequency of contact as determinant of relationship strength (de Janasz & Forret, 2008).

Programs provide more opportunities for the development of bonding network connections than bridging connections.

As previously described, program participation likely facilitates the development of strong connections, typically referred to in the literature as bonding connections. Bridging connections are those that are often operationalized as weak connections. The literature speaks to the importance of both bonding and bridging connections in an individual’s network. In the context of agricultural leadership programs, bridging connections are typically described as

external to the cohort network and are typically developed with individuals who interface with the program, such as speakers, farmers, industry representatives, and elected officials.

Respondents report that they are frequently accessing the bonding connections for support, advice, and information, but they are accessing bridging connections less frequently. Graduates that described using bridging connections more frequently provided examples of how they interfaced with these individuals formally as speakers or tour hosts, but also informally through meals, discussions, and other means. Given the fact that bridging connections are often viewed as sources of novel information and resources, they are equally important as bonding connections (Borgatti, Jones, & Everett, 1998). Since tours and lectures are the most common sources of learning, providing a mechanism for participants to develop more meaningful connections with these presenters and hosts through informal activities may facilitate the development of a more accessible bridging connection and diverse network. This approach is also supported by the fact that respondents, with regard to networking, report that their ability to access already established connections as their strongest networking behavior. Taken together, providing an opportunity for a more meaningful connection with bridging connections can improve participants' willingness to access these connections. Nevertheless, program participation provides opportunities for the development of bonding and bridging connections that influence the availability of support, which is indicative of social capital.

Collaborative learning and shared experiences influence social capital skill development.

The statistical relationships between leadership development approaches and social capital were not statistically significant; however, participants identified collaborative learning activities that are commonly associated with the personal growth and skill building approaches as most influential in their development. Graduates provided multiple examples of how these collaborative approaches were influential in the development of the relational, social skills that

are often identified with the social capital leadership model and competencies (Day, 2000). In addition, personal growth and skill building approaches had the strongest relationships with networking ability which speaks to the importance of these activities and reinforces the relational nature of the leadership process. Allen and Hartman (2009) also found this preference for personal growth and skill building approaches among participants of a college-based leadership program.

The variety of formal collaborative learning activities and shared experiences was integral to social capital skill development because, as one respondent explained, it afforded opportunities for participants to “work with people that you might not naturally have something in common with.” Allen and Hartman (2009) also found that a variety of activities likely yields the best results. These activities and experiences provided opportunities for participants to develop skills that helped them relate to others, build commitments, and develop extended social networks, all of which have been described as important skills associated with social capital (Day, 2000). Therefore, learning activities that were characterized by group learning and social interaction provide a mechanism for social capital skill development. Furthermore, Bilhuber Galli, and Müller-Stewens (2012) reported that social capital skills are not necessarily developed through one leadership practice, but rather the product of meaningful learning activities that enable social interaction and shared experiences. Given the fact that agricultural leadership development programs align closely with grassroots leadership, which seeks to achieve shared, collective leadership (WKKF, 1999), less time should be devoted to individual-based activities and more time should be devoted to activities that are characterized by teamwork and repeated social interactions. Taken together, graduates preferred shared interactions and experiences, which reinforces the relational nature of social capital and the leadership process.

Informal activities and learning facilitate trust building and social capital skill development.

Neither leadership development approaches nor networking ability had a statistically significant influence on the trust and solidarity dimension of social capital. However, respondents reported that they were more likely to trust and cooperate with individuals they knew or had a connection with in their community. This speaks to the value of informal activities in leadership development programs because of the role they play in developing trust and solidarity among graduates. For example, one respondent echoes the sentiments of others when he described “interaction outside of the classroom” as most influential in developing trust.

The informal time was influential because it allowed participants to learn more about each other; it allowed for conversations and interactions that were characterized by “vulnerability and honesty,” which enabled participants to be open and honest about their feelings. These informal activities served as a relationship bonding mechanism and also led to the development of social capital skills like empathy and conflict management. In addition, respondents described how the trust developed through these informal interactions provided an avenue to engage in deep, meaningful conversations, disagree civilly, and provided many with the social awareness to realize that “good people can disagree.” Thus, informal activities provide important opportunities for trust building, but they also facilitated the development of important social capital skills identified by Day (2000). This phenomenon is supported by several scholars who posit that shared experiences afford opportunities to develop strong relationships and learn more about each other’s values, attitudes, competencies, and aspirations (de Janasz & Forret, 2008), which leads to the “development of a safe trustful environment [that] facilitates the sharing of knowledge and information” (McCallum & O’Connell, 2009, p. 156).

These informal learning activities are vitally important because they provide an opportunity to develop trustful connections, which in turn influences the comfort and ease with which graduates cooperate and access connections after graduating from the program. Nahapiet and Ghoshal (1998) write that this represents the “two-way interaction between trust and cooperation: trust lubricates cooperation, and cooperation itself breeds trust” (p. 255). As such, the informal activities at night, conversations over meals, and discussions during car or bus rides facilitate the development of trust, which lubricates future cooperation in terms of being able to access those connections as resources when needed.

Graduates frequently access the social capital embedded in their network of connections.

Networking ability positively influences the groups and networks as well as the cooperation and political action dimensions of social capital. As previously discussed, respondents report their ability to access established contacts higher than their ability to make new connections. In addition, graduates report that they are frequently accessing the networks from the program for learning in the form of advice and information, as well as for support. Taken together, graduates are cooperating with each other because of the strength of the relationships and high level of comfort they have with each other. This finding is typical among graduates, as Diem and Nikola (2005) found that 72% of agricultural program graduates report that they regularly access their network of contacts acquired through the program.

Given that social capital has been conceptualized as a set of social resources embedded in relationships (Burt, 1992; Lin, 1999), and graduates have expanded the resources or benefits that can be derived from their new connections, it is clear how program participation improves cooperation and social capital. In this vein, cooperation represents a degree of consensus in a social network (Nahapiet & Ghoshal, 1998); and in agricultural leadership development

programs, this consensus is the result of shared interaction, the length of the program, and the resulting strong connections and shared meanings developed among participants. This conclusion is further supported by Nahapiet and Ghoshal (1998) who assert that social capital is significantly affected by time, interaction, and network closure.

Interestingly, respondents also discussed how these network connections are being used to provide resources and support for them personally and professionally, which means connections developed are appropriable. Coleman (1998) operationalizes appropriability as the transferability of connections across a network (e.g., professional and personal networks), which is clearly a reality of participation in agricultural leadership development programs. For the aforementioned reasons, it can be concluded that agricultural leadership programs, through networking, provide opportunities for participants to build networked relationships that enhance cooperation and resource exchange, which has been described as the primary aim of leadership development (Day, 2000). Therefore, agricultural leadership development programs provide opportunities that result in increased levels of social capital (i.e., relational resources) that are being accessed regularly by graduates.

How leadership programming influences the quality of engagement at the groups and networks level should be investigated through further research.

In comparison with Nistler's (2014) study of 4-H leadership development program graduates ($n = 160$), this sample for this study exhibited higher levels of input social capital in the form of group memberships and affiliations. The respondents in this sample are involved in more groups and several different types of groups, which is indicative of higher levels of connectivity. This could be attributed to the fact that the program has provided opportunities to learn about other groups or organizations, which led to the development of new partnerships described by graduates. However, it could also be attributed to the 18-year difference in mean

age of the two samples. It could also be that the diversity of participants involved in the agricultural program, and the group affiliations they bring to the program, provide exposure to other participants who elect to become involved in those groups or organizations. At this point it is difficult to conclude that the high level of input social capital can be attributed to the program even though there was a significant relationship between networking ability and the groups and networks dimension of social capital. In addition, while individuals report that the quality of their engagement with groups has improved as a result of the skills they have learned in the program, this is difficult to measure without feedback from the groups with which they are members.

Participation in agricultural leadership programs empowers participants to become involved in political processes.

Grootaert et al. (2004) describe political action as an indicator of high levels of social capital; however, this indicator is characterized as *collective* political action. The political action associated with this sample of respondents is characterized by individual political action. It could be respondents are engaging more at a local level and the geographic dispersion of cohort members makes it difficult to work collectively. Or it could be for other reasons that are unknown at this time. Despite this incongruence, the majority of respondents report becoming more empowered to engage in political processes due to confidence gained through the program.

Respondents' confidence to engage was influenced by access to decision makers, which provided a deeper understanding of political processes. This deeper understanding facilitated a sense of confidence that empowered graduates to engage. The experiential nature of political seminars where respondents observed the legislative process or met with elected officials was often cited as providing opportunities to realize that elected officials are approachable and will listen to their individual concerns. However, more research is needed to better understand the relationship between political action, empowerment, and leadership development.

Study Limitations

A mixed methods approach allows for a combination of the strengths of both quantitative and qualitative methodologies (Ary, Jacobs, & Sorensen, 2010); however, this approach also had limitations. For example, the quantitative phase of the study employed a non-probability, purposive sampling procedure where participants were recruited via email to participate. As a result, voluntary response bias could have occurred by oversampling individuals who have strong opinions about their experience or agricultural leadership programs in general (Dillman et al., 2009). This sampling approach is also limiting in that it will not allow for generalization to the target population (Ary et al., 2010). Another limitation associated with the quantitative phase is social desirability, which is related to the validity and reliability associated with the self-report instruments (Friedrich, Byrne, & Mumford, 2009). However, the online administration and the careful wording of questionnaire items were used to make the survey less susceptible to social desirability bias (Joinson 1999; Tourangeau & Yan, 2007).

A third limitation of this study is related to the interpretive nature of qualitative research (Rossman & Rallis, 2012). The researcher may introduce bias into the analysis of the findings by becoming attached to one viewpoint or by asking the respondents leading questions. In an effort to remain reflexive about the researcher's active role in knowledge construction, the researcher provided a personal narrative to address how he is positioned in relation to the research objectives. Reflexivity will not remove bias, but instead highlight the researcher's contribution to the understanding of the phenomenon that emerges from the research (Rossman & Rallis, 2012). Also, the study may be subject to different interpretations by different readers. To address this limitation low inference descriptors, verbatim descriptors (i.e., direct quotations), and respondent feedback were used to improve the credibility of interpretations in this study

(Johnson, 1997). The final limitation is related to the developmental level of study respondents. As such, the skills and knowledge gained from different learning activities are likely to vary based on leader experience. As a result, the influence of learning activities and their impact on an individual is difficult to predict because development level, motivation, and self-efficacy may all play a role in the influence of activities and level of impact (Allen & Hartman, 2009).

Recommendations for Practice

Based upon the findings and conclusions of this study, the following recommendations are offered to leadership development practitioners who wish to influence and improve social capital capacity and outcomes for participants in leadership programs:

1. Networking ability should be specifically targeted for development in leadership development programs. Networking is a particularly useful human capital skill because it influences social capital capacity, and, as found in this study, can predict the highest levels of social capital (i.e., cooperation and political action). For this reason, a network perspective and networking behavior should be explicitly included in the curricula of leadership development programs that have the aim of social capital development. This approach will certainly influence social capital capacity and outcomes and provide participants with a better understanding of the network expansion aims of the program. This approach can help participants develop a better appreciation for “the networks they are already part of and a sense of how, as an emerging network, they might tap into, connects, align, and mobilize across their networks to amplify their impact” (Meehan & Reinelt, 2012, p. 7).
2. Practitioners should spend less time on individual-based learning activities and devote more time to collaborative, group learning and activities. These are the best formal

approaches to facilitate the development of strong bonds and improve relational, social capital (i.e., interpersonal) skills which influences the ability of participants to engage in shared leadership in the future. Some examples of these activities are seminar planning, group reflection, service learning, team building, group projects or presentations, role-playing, and ropes or team courses. As such, practitioners should leverage the relational aspects of existing leadership development efforts by redesigning individual-based activities to provide maximum opportunities for social interaction and teamwork (Rabin, 2014).

3. It is recommended that practitioners recruit a diverse cohort of program participants. This strategy will afford participants the opportunity to develop new, non-redundant connections in their network, which improves social capital capacity. These non-redundant connections have value because they provide participants who are not already connected an opportunity to practice networking and relationship development skills. It also affords non-connected access to unique information or resources that are not already circulating in their network.
4. Program planners should continue to provide extended programs with multiple seminars. The program structure provides opportunities for participants to develop new connections, and maintain those connections through frequent contact; this structure also catalyzes the evolution of weak connections into strong, trusting connections. Such evolution is vitally important because strong connections facilitate cooperation and access to network embedded resources (i.e., social capital) after graduation from the program.

5. To improve the relationships with bridging connections, practitioners should provide more informal opportunities or connection maintenance activities with individuals with whom the program interfaces (i.e., speakers, tour hosts, etc.). The most frequent learning activities in these leadership programs are devoted to lectures and tours, so the time with these individuals should be leveraged in order to provide participants opportunities to connect with these bridging connections on a more meaningful level. A stronger relationship will hopefully lead to more access than is currently taking place. Providing opportunities for previous program graduates to interface with current program participants can also influence network expansion and social capital capacity.
6. Provide an equal amount of time to formal and informal learning activities, as the latter has proven to be integral in influencing the strength of relationships in an individual's network. Many respondents described a reciprocal relationship between these formal and informal activities. As such, providing debrief time in the evening as an informal activity is beneficial, as it provides participants an opportunity to discuss their experiences from the day, as well as develop shared meanings and trust.

Recommendations for Future Research

It is clear that agricultural leadership development programs offer benefits related to the formation of networks. However, the following recommendations for future research are offered to provide next steps in providing a better understanding of leadership development, social capital, and networking ability.

1. Further investigate the influence of program participation on the networking ability of participants by using a pre/post program measure of this human capital skill. Although networking is a widely reported outcome of leadership development programs, there is

currently a dearth of research that provides evidence if networking ability is influenced by program participation.

2. Further research should examine the meaning program directors and participants attribute to networking as an outcome. This type of study could further clarify whether leadership development programs produce “networked” or “networking” individuals. It could also serve as a starting point to develop a definition of networking in the leadership development context which is different from many definitions in the literature that define networking in a career advancement context.
3. More evidence is needed to determine the relationship(s) between leadership approaches and human capital skills (e.g., networking ability and self-awareness) to determine if collaborative, group activities have the same effect on human capital skills as they do on social capital skills. This type of research would provide a more comprehensive understanding of which learning activities are influencing intrapersonal (i.e., human capital) and interpersonal (i.e., social capital) skill development in leadership programs.
4. Mixed-methods research should be conducted to untangle the nexus between access to decision-makers and confidence building that has been described as influential in future political involvement. The relationships between type and frequency of access and their influence on confidence and future political involvement would help determine the most beneficial approaches that lead to political involvement.
5. Future research should be conducted to assess the social capital of program participants before and after program participation. This research could be conducted using social network analysis and network measures of social capital outlined by Borgatti, Jones, and Everett (1998). The pre-program snapshot of an individual’s network could be compared

with the post-program snapshot to determine if participation influenced structural social capital. It could also assist in examining the influence of leadership development program participation on network formation, expansion, and density (Nahapiet & Ghoshal, 1998). Another approach to this research would be a study that utilizes the measures from this study as a pre- and post-program measure of social capital. In this study, the measures provided a snapshot of the respondent's level of social capital. As such, it does not allow the researcher to quantitatively conclude that the level of social capital on the dimensions under study changed as a result of the program.

6. Further qualitative research should be conducted in an effort to refine the current measures of social capital used for leadership development programs. These measures should not only focus on the outcomes of social capital, but also on the interpersonal skills identified as important to social capital, shared leadership, and collective action. These refined measures should then be validated through further quantitative research with leadership development programs.
7. In order to further investigate the influence of program length on relationship strength, quantitative and qualitative data should be collected from different programs that vary with regard to the length and number of seminars to determine if these variables are significant predictors of relationship strength. Also, comparisons should be made between the different program lengths and number of seminars to better understand the most beneficial timeframe for developing strong relationships that facilitate cooperation and collective action.
8. This relationship between specific informal activities and their influence on social capital should be further investigated as well. This research study focused on

quantitatively measuring the influence of formal activities on social capital. However, social capital research elucidates the importance of social interaction, and in the case of agricultural leadership development programs much of the beneficial interaction takes place informally.

Study Implications

Leadership development programs are often viewed as “black boxes” that receive inputs (i.e., learning activities) and produce outputs (i.e., social capital). The purpose of this study was to look inside the “black box” and better understand the relationships between common leadership development approaches, networking ability, and social capital. This study found that cohort diversity, program length, and shared experiences influence the social capital capacity of program participants by enhancing the size and strength of relationships, as well as the resources embedded in a participant’s social network. These findings are salient given that many scholars have made the case that more research is needed to determine if and how leadership interventions may lead to enhanced networks (Day, 2000; Hoppe & Reinelt, 2010; Strickland, 2011).

Dinh et al. (2014) identified a need to better understand the approaches that affect the emergence of leadership program outcomes. In this vein, respondents from this study indicate that the most influential approaches in their development were personal growth and skill building. These approaches were also the most significant predictors of networking ability, which illuminates the relationship between leadership development and networking. More importantly, networking ability was identified as a significant predictor of social capital outcomes like cooperation and political action. Thus, networking ability should be specifically targeted for development in leadership programs because of its role in predicting social capital

outcomes. Two approaches that should be used to develop networking ability are personal growth and skill building. These approaches, and learning activities that use collaborative learning, provide opportunities for program participants to develop the relational, interpersonal skills necessary for cooperation and collective action.

Networking ability was not a significant predictor of the trust and solidarity dimension of social capital. This finding was corroborated by respondents who described how non-formal activities and learning facilitated trust building and solidarity. Furthermore, the role of informal activities in trust building and solidarity is supported by the fact that the networking ability scale used for this study measures formal behaviors and activities of respondents. Given the renewed focus on leadership as a collective process, understanding the role of networking ability on cooperation and political action as well as non-formal activities on trust building provides a better understanding of how program graduates develop the skills and relational attributes necessary to relate to others, acquire resources, and coordinate activities to create change in their communities.

This study substantiates and builds on research from Bilhuber Galli and Müller-Stewens (2012) who found that social capital develops through stages characterized by contact, assimilation, and mutual identification experiences, with the latter providing the most opportunity for social capital formation. Thus conceived, social capital is not necessarily developed through one leadership approach, but rather the product of collectively organized, formal and non-formal, approaches that provide learning experiences and an opportunity for repeated social interactions (Day, 2000). The implications from this study are salient because they provide a glimpse inside of the black box and present preliminary evidence of the connections between inputs and outputs in leadership development programs. In doing so, the

research provides a significant contribution to the study and practice of leadership because it answers calls to untangle the relationships between leadership development, networking ability, and social capital (Collins & Holton, 2004; Day, 2000; Van De Valk & Constanas, 2011).

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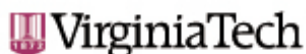
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Appendix A: Virginia Tech IRB Approval



Office of Research Compliance
Institutional Review Board
North End Center, Suite 4120, Virginia Tech
300 Turner Street NW
Blacksburg, Virginia 24061
540/231-4606 Fax 540/231-0969
email irb@ut.edu
website <http://www.irb.ut.edu>

MEMORANDUM

DATE: January 15, 2015
TO: Eric K Kaufman, Bradley James Burbaugh
FROM: Virginia Tech Institutional Review Board (FWA00000572, expires April 25, 2018)
PROTOCOL TITLE: The Influence of Leadership Development Approaches on Social Capital: A Mixed Methods Study
IRB NUMBER: 15-037

Effective January 15, 2015, the Virginia Tech Institutional Review Board (IRB) Chair, David M Moore, approved the New Application request for the above-mentioned research protocol.

This approval provides permission to begin the human subject activities outlined in the IRB-approved protocol and supporting documents.

Plans to deviate from the approved protocol and/or supporting documents must be submitted to the IRB as an amendment request and approved by the IRB prior to the implementation of any changes, regardless of how minor, except where necessary to eliminate apparent immediate hazards to the subjects. Report within 5 business days to the IRB any injuries or other unanticipated or adverse events involving risks or harms to human research subjects or others.

All investigators (listed above) are required to comply with the researcher requirements outlined at:

<http://www.irb.vt.edu/pages/responsibilities.htm>

(Please review responsibilities before the commencement of your research.)

PROTOCOL INFORMATION:

Approved As: **Expedited, under 45 CFR 46.110 category(ies) 5,6,7**
Protocol Approval Date: **January 15, 2015**
Protocol Expiration Date: **January 14, 2016**
Continuing Review Due Date*: **December 31, 2015**

*Date a Continuing Review application is due to the IRB office if human subject activities covered under this protocol, including data analysis, are to continue beyond the Protocol Expiration Date.

FEDERALLY FUNDED RESEARCH REQUIREMENTS:

Per federal regulations, 45 CFR 46.103(f), the IRB is required to compare all federally funded grant proposals/work statements to the IRB protocol(s) which cover the human research activities included in the proposal / work statement before funds are released. Note that this requirement does not apply to Exempt and Interim IRB protocols, or grants for which VT is not the primary awardee.

The table on the following page indicates whether grant proposals are related to this IRB protocol, and which of the listed proposals, if any, have been compared to this IRB protocol, if required.

Invent the Future

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY
An equal opportunity, affirmative action institution

Appendix B: Survey Instrument

Your participation in this research study is completely voluntary but would be greatly appreciated. You will not directly benefit from this research; however, your participation will enhance our understanding of common learning activities used in agricultural leadership programs and their relationship(s) with specific outcomes. The results of this research may be published, but none of your personally identifying information will be used; the published results will be presented in summary form only. You may withdraw from this study at any time without penalty. If you have any questions about the study, you may contact the researcher conducting the study: Brad Burbaugh (burbaugh@vt.edu, 904.400.5518). Questions or concerns about your rights as a research participant should be directed to the Virginia Tech Institutional Review Board Chair, Dr. David Moore (moored@vt.edu, 540.231.4991). By selecting "agree" below you are indicating that you are at least 18 years old, have read and understand the consent information and agree to participate in this study.

- Agree
- Disagree

Q1 You were selected for this study because you have participated in one of the agricultural leadership development programs in the United States. Please select which program you participated in:

- Advancing Georgia's Leaders in Agriculture and Forestry
- AgForestry Leadership - Washington State
- Colorado Agricultural Leadership Program
- Great Lakes Leadership Academy
- Indiana Agricultural Leadership Program (ALP)
- LeadAR - Arkansas
- LEAD Maryland
- Leadership Wisconsin
- LeadNY - New York
- Nebraska LEAD1 Program
- Oklahoma Agricultural Leadership Program
- Project CENTRL: Arizona
- REAL Montana
- Virginia Agriculture Leaders Obtaining Results (VALOR)
- Kentucky Agricultural Leadership Program

Q2 In what year did (or will) you graduate from your agricultural-based leadership development program?

Enter Year (YYYY)

Q3 The following list of learning activities are used in leadership development programs to enhance an individual's understanding of leadership. Please check each of the sources of learning that you experienced during your leadership development program.

- Case studies: Participants review written or oral stories that highlight a case of effective or ineffective leadership.
- Video clips: Participants learn about leadership through film or television clips.
- Lecture: Participants attend a prepared discussion on some aspect of leadership; often given by an expert.
- Expert panels: Participants listen to or interact with a panel of experts who share their experience as it relates to the topic of leadership.
- Tours: Participants attend an industry tour; often given by innovative or well-known farmer or leader.
- Storytelling: Participants listen to a story highlighting some aspect of leadership; often given by an individual with a novel or unique experience.
- Observation of leaders: Participants observe an individual leading others effectively or ineffectively.
- Research leadership: Participants actively research a leadership theory or topic and present findings in oral or written format.
- E-Learning: Participants use the Internet or an Intranet as the primary platform for learning about leadership.
- Articles or books: Participants use popular press or research articles and/or books to learn about leadership.
- Self-study: Participants read a book or complete a workbook, video, online module, or audio lesson/podcast.
- Small group discussions: Participants take part in small group discussions on the topic of leadership or some aspect of group dynamics.
- Classroom-based training: Participants use the classroom as the primary location for learning about leadership.

Q4 How influential were these learning activities at improving your understanding of leadership?

- Not at all influential
- Slightly influential
- Somewhat influential
- Very influential
- Extremely influential

Q5 The following list of learning activities are used in leadership development programs to provide feedback on your performance as a leader. Please check each of the sources of feedback that you experienced during your leadership development program.

- 360 degree feedback: Participants receive feedback from supervisors/advisors, direct reports, peers, and others in their sphere of influence.
- Coaching: Participants work closely with a professional to develop their knowledge, skills, and abilities in a variety of ways (e.g., self-awareness, leadership).

- Assessments and instruments: Participants complete questionnaires designed to enhance self-awareness in a variety of areas (e.g., learning style, personality type, leadership style).
- Audio or video feedback: Participants have the opportunity to see themselves display behaviors that do or do not align with those associated with effective leadership.

Q6 How influential were these learning activities at providing feedback on your performance as a leader?

- Not at all influential
- Slightly influential
- Somewhat influential
- Very influential
- Extremely influential

Q7 The following list of learning activities are used in leadership development programs to help contribute to your personal development as a leader. Please check each of the sources of personal development that you experienced during your leadership development program.

- Written reflections: Participants develop written reflections on experiences.
- Group reflection: Participants reflect on a completed activity; the purpose is to help them make connections and capture learning.
- Personal vision statements: Participants identify a desired future state at the personal level.
- Service learning: Participants meet a need identified in their community and learn by connecting their experience with a structured learning component.
- Networking: Participants have the opportunity to make connections with individuals in the industry.
- Team building activities: Participants engage in group activities that emphasize working together in a spirit of cooperation.

Q8 How influential were these learning activities in your personal development as a leader?

- Not at all influential
- Somewhat influential
- Very influential
- Extremely influential

Q9 The following list of learning activities are used in leadership development programs to help develop your skills as a leader. Please check each of the skill building activities that you experienced during your leadership development program.

- Ropes or team courses: A series of experiential learning activities designed to teach participants about various topics (e.g., group dynamics, problem solving, self-awareness).
- Icebreakers: Participants engage in relationship-building activities to get to know one another.
- Simulations or games: Participants work to solve simulated organizational problems or issues and reflect on the process, results, and learning.
- Role playing activities: Participants engage in activities designed to help them practice behaviors or skills.
- Personal development plans: Participants develop specific goals for individual development.
- Action learning: Participants work to solve real agricultural problems and issues and reflect on the process, results, and learning.
- Group presentations: Participants work on a prescribed presentation in a small group.
- Individual presentations: Individuals teach or present program content or skills to fellow participants.
- Group projects: Participants work on a prescribed presentation in a small group.

Q10 How influential were these learning activities at helping you develop your skills as a leader?

- Not at all influential
- Somewhat influential
- Very Influential
- Extremely influential

We now want to know what percent of time was spent devoted to the learning activities you previously selected. Because learning activities may overlap one another, it is possible that these percentages do not equal or exceed 100%. We are requesting approximations.

Q11 Previously, you selected the following learning activities that were used to enhance your understanding of leadership: (Selections populated here). Over your entire experience in the leadership program, what percentage of the time was spent/ devoted to these learning activities?

_____ % of time spent

Q12 Previously, you selected the following learning activities that were used to provide feedback on your performance as a leader: (Selections populated here). Over your entire experience in the leadership program, what percentage of the time was spent/ devoted to these learning activities?

_____ % of time spent

Q13 Previously, you selected the following learning activities that were used to contribute to your personal development as a leader: (Selections populated here). Over your entire experience in the leadership program, what percentage of the time was spent/ devoted to these learning activities?

_____ % of time spent

Q14 Previously, you selected the following learning activities that were used to help develop your skills as a leader: (Selections populated here). Over your entire experience in the leadership program, what percentage of the time was spent/ devoted to these learning activities?

_____ % of time spent

Q15.1-15.6 We now want to know more about your behaviors as a leader and/or community member. Using the following scale, please rate your level of agreement and disagreement with the following statements.

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
I spend a lot of time and effort networking with others.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am good at building relationships with influential people.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have developed a large network of colleagues and associates whom I can call on for support when I really need to get things done.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I know a lot of important people and am well connected.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I spend a lot of time developing connections with others.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am good at using my connections and network to make things happen.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q16.1-16.8. Below you will find a number of characteristics that may or may not apply to you. Please indicate the extent to which you agree or disagree with the statement.

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
I see myself as someone who is talkative.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I see myself as someone who is reserved.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I see myself as someone who is full of energy.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I see myself as someone who generates a lot of enthusiasm.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I see myself as someone who tends to be quiet.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I see myself as someone who has an assertive personality.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I see myself as someone who is sometimes shy, inhibited.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I see myself as someone who is outgoing, sociable.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q17 This section is about your current membership in groups and organizations. These could be formally organized groups or just a group of people who get together to work on a project or talk about things. With how many groups are you an active member?

Q18 Please name the groups with which you are an active member of: Acronyms and abbreviations are acceptable.

Q19 For the groups you have identified, please select what type of group it is.

	Neighborhood Group	Business Association	Professional Association	Political Group	Trade or Labor Union	Cultural Group	Religious Group	Industry Group	Other
{q://QID25/ChoiceTextEntryValue/1}	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
{q://QID25/ChoiceTextEntryValue/2}	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
{q://QID25/ChoiceTextEntryValue/3}	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
{q://QID25/ChoiceTextEntryValue/4}	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
{q://QID25/ChoiceTextEntryValue/5}	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
{q://QID25/ChoiceTextEntryValue/6}	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
{q://QID25/ChoiceTextEntryValue/7}	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
{q://QID25/ChoiceTextEntryValue/8}	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q20 Of the groups you have identified, which ones work with other groups that have a similar mission or goals? (For example, if you belong to a gardening club, do they also work with a school landscaping group.) Select all that apply.

- {q://QID25/ChoiceTextEntryValue/1}
- {q://QID25/ChoiceTextEntryValue/2}
- {q://QID25/ChoiceTextEntryValue/3}
- {q://QID25/ChoiceTextEntryValue/4}
- {q://QID25/ChoiceTextEntryValue/5}
- {q://QID25/ChoiceTextEntryValue/6}
- {q://QID25/ChoiceTextEntryValue/7}
- {q://QID25/ChoiceTextEntryValue/8}

Q21 Of the groups you have identified, which ones work with other groups in the community that have a different mission or goals? (For example, if you belong to Rotary, do they also work with a school or church.) Select all that apply.

- {q://QID25/ChoiceTextEntryValue/1}
- {q://QID25/ChoiceTextEntryValue/2}
- {q://QID25/ChoiceTextEntryValue/3}
- {q://QID25/ChoiceTextEntryValue/4}
- {q://QID25/ChoiceTextEntryValue/5}
- {q://QID25/ChoiceTextEntryValue/6}
- {q://QID25/ChoiceTextEntryValue/7}
- {q://QID25/ChoiceTextEntryValue/8}

Q22 Of the groups you have identified, which ones work with other groups outside your community? (For example, if your church group works with another group in another city.) Select all that apply.

- {q://QID25/ChoiceTextEntryValue/1}
- {q://QID25/ChoiceTextEntryValue/2}
- {q://QID25/ChoiceTextEntryValue/3}
- {q://QID25/ChoiceTextEntryValue/4}
- {q://QID25/ChoiceTextEntryValue/5}
- {q://QID25/ChoiceTextEntryValue/6}
- {q://QID25/ChoiceTextEntryValue/7}
- {q://QID25/ChoiceTextEntryValue/8}

Q23.1-23.5 Thinking about the larger community that your leadership development program serves (e.g, state, industry, rural communities), and perhaps more specifically the groups that you work with most regularly or most strongly identify with, please indicate your level of agreement or disagreement with the following statements:

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
Most people in my community can be trusted.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In my community, one has to be alert or someone is likely to take advantage of you.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Most people in the community are willing to help if you need it.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In my community, people generally do not trust each other in matters of lending and borrowing (e.g., materials and supplies).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
You can't be too careful in your dealings with people.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q25 Over the past five years has the level of trust in your community gotten worse, better, or stayed the same?

- Much Worse
- Worse
- About the Same
- Better
- Much Better

Q26.1-26.8 Please indicate your level of trust for each of the different types of people.

	I do not trust	I trust a little	I trust some	I trust a lot	I trust completely
People from your occupational group (e.g., agriculture)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
People from other occupational groups	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Someone in your neighborhood	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Local business owners	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Local government officials	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Federal government officials	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Police	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Teachers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Nurses and Doctors	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Strangers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q27 How often do people in your community help each other in a time of need or crisis?

- Never help each other
- Rarely help each other
- Sometimes help each other
- Help each other most of the time
- Always help each other

Q28 In general, compared to five years ago, has the honesty of government deteriorated, improved, or stayed about the same?

- Deteriorated a lot
- Somewhat deteriorated
- Stayed about the same
- Somewhat improved
- Improved a lot

Again, thinking about the larger community that your leadership development program serves (e.g., state, industry, rural communities), and perhaps more specifically the groups that you work with regularly or most strongly identify with, please answer the following questions.

Q29 In the past two years, have you worked with others on a project for the benefit of the community, state, or nation?

- Yes
- No

Q30 Thinking about the project(s) that you have worked with over the last two years, please consider your level of involvement in up to ten projects and provide approximate numbers for participation and time investment.

	How many people participated in this project?	How many hours did you serve for this project?
Project 1		
Project 2		
Project 3		
Project 4		
Project 5		
Project 6		
Project 7		
Project 8		
Project 9		
Project 10		

Q31 When people from your community do not participate in community activities, how likely are they to be criticized or sanctioned?

- Not at all likely
- Slightly likely
- Somewhat likely
- Fairly likely
- Very likely

Q32 If there was a problem in your community that could be addressed with individual or collective action, how likely is it that people will cooperate to try and solve the problem?

- Not at all likely
- Slightly likely
- Somewhat likely
- Fairly likely
- Very likely

Q33 Suppose something unfortunate happened to someone in your community such as a serious illness, or the death of a parent/child. How likely is it that some people in the community would get together to help them?

- Not at all likely
- Slightly likely
- Somewhat likely
- Likely
- Very Likely

Q34 Have you ever worked with a group to lobby an elected official for change?

- Yes
- No

Q35 Have you ever personally written a letter, or email, or called an elected official to lobby for change?

- Yes
- No

Q36 How much control do you feel you have in making decisions that affect your everyday activities?

- No control
- Control over very few decisions
- Control over some decisions
- Control over most decisions
- Control over all decisions

Q37 Do you feel that you have the power to make important decisions that change the course of your life?

- Totally unable to change my life
- Mostly unable to change my life
- Neither able nor unable
- Mostly able to change my life
- Totally able to change my life

Q38 Overall, how much impact do you think you have in your community?

- No impact
- Small impact
- Medium impact
- Big impact

Q39 In the past two years, how often have you worked with other members of your community to engage government officials or political leaders?

- Never
- Once
- Twice
- Three times
- More than three times

Q40 Were any of these political efforts successful?

- None were successful
- One was successful
- Two were successful
- Three were successful
- More than three were successful

Q41.1-41.8 In the past two years, have you ever participated in any of the following? (Check all that apply)

- Attended a neighborhood or city government meeting.
- Attended a county government meeting.
- Attended a public hearing or public discussion.
- Met with a politician, called them, or sent a letter or email.
- Participated in a protest or demonstration.
- Participated in an information or election campaign.
- Alerted newspaper, radio, social media, or TV to a local problem.
- Notified law enforcement about a problem.

Q42 Did you vote in the last local election?

- Yes
- No

Q43 Did you vote in the last state, national, or presidential election?

- Yes
- No

Q44 How often do government and community leaders take into account concerns voiced by you (and people like you) when they make decisions that affect you?

- Not at all
- Occasionally
- Frequently

Q45 The following demographic questions will be used to help us better group and understand response options. If you are not comfortable answering a question, you may skip it and go to the next. What was your age as of January 1, 2015?

Q46 Please indicate your gender:

- Male
- Female

Q47 Are you Hispanic or Latino?

- Yes
- No

Q48 What is your race?

- White/Caucasian
- African American
- Native American
- Asian
- Other

Q49 What is your current marital status?

- Single, never married
- Married, without children
- Married with children
- Divorced
- Separated
- Widowed

Q50 What is your occupation?

Q51 Please indicate your education level:

- No schooling completed
- Less than 12th grade
- High school graduate (includes GED)
- Some college, no degree
- 2 year college degree (Associate, Technical, etc)
- 4 year college degree (Bachelor's)
- Graduate or professional degree (Master's, PhD, DVM, JD, etc.)

Q52 If you are willing to participate in a follow-up phone interview, please share your contact information here.

Name

Email Address

Phone Number

Q53 Please use this space to share any comments or clarifying information.

Appendix C: Sample Pre-Notice Email from Directors

DATE

SUBJECT: Call for participation in research study

Dear all,

Brad Burbaugh, a PhD student at Virginia Tech is conducting his research on networking outcomes of agricultural leadership programs. Brad currently works with the Virginia program and has a deep interest in the future and success of these programs. I believe that through his research we will gain valuable insight about our leadership development efforts, which in turn will provide direct benefits to the [insert program name].

I have participated in this study, and I am asking each of you to participate in his study by completing the survey that he will be sending to you in the next couple of days. Responding to the survey should be very simple by clicking on the link that he provides. The survey will take approximately 20 minutes to complete and all of your responses will be kept completely confidential.

Should you have any questions for Brad, please feel free to contact him at (904) 400-5518 or burbaugh@vt.edu. Your responses are greatly appreciated!

Sincerely,

[insert program director's name]

Appendix D: Invitation to Participate Email with Survey Link

DATE

SUBJECT: Important survey on AG leadership programs

Hi folks,

This is a follow-up to an email sent by your leadership program's staff regarding a research study being conducted on agricultural leadership programs. You have participated in one of the 19 AG leadership programs nationwide that have been selected for this study. Please help me understand more about the learning activities you experienced in your program and your involvement in the community/industry by completing this short survey.

We are continually working towards making agricultural-based leadership programs better, and one of the best ways we have to learn about program experience and outcomes is by asking alumni like you to share your thoughts and opinions. I am hoping that you will be able to complete the survey on the Internet so that I can summarize results more quickly and accurately. Completing the survey is easy: just click on the link below or enter the web page address in your Internet browser and begin the survey.

Follow this link to the Survey:

[\\${1://SurveyLink?d=Take the Survey}](#)

Or copy and paste the URL below into your internet browser:

[\\${1://SurveyURL}](#)

Follow the link to opt out of future emails:

[\\${1://OptOutLink?d=Click here to unsubscribe}](#)

The survey should take no more than 20 minutes to complete. Your responses are voluntary and will be kept confidential. If you have any questions about this survey, or have difficulties accessing or completing the survey, I am happy to help and can be reached at burbaugh@vt.edu or 904.400.5518. This study has been reviewed and approved by the Virginia Tech Institutional Review Board. I hope you enjoy completing the survey and look forward to receiving your responses.

Many Thanks,

BRAD BURBAUGH

Graduate Student and Program Coordinator

Virginia Agriculture Leaders Obtaining Results (VALOR) Program

Appendix E: First Follow-Up Reminder

Date:

Subject: Reminder: Survey on Agricultural Leadership Programs

Hi Graduates of AG Leadership programs:

The week before last, I sent you an email with a request to complete an enclosed survey about your experience in a agricultural leadership program. This is a friendly reminder and request for you to please complete the survey. Your responses will help us continue to improve the experience for future program participants. Therefore, I hope that you will take the time to complete the survey by following the link below.

If you have already started the survey, you can click on the link again and continue where you left off. The survey should take about 20 minutes to complete. All of your answers will remain confidential.

Follow this link to the Survey:

[\\${1://SurveyLink?d=Take the Survey}](#)

Or copy and paste the URL below into your internet browser:

[\\${1://SurveyURL}](#)

Follow the link to opt out of future emails:

[\\${1://OptOutLink?d=Click here to unsubscribe}](#)

Again, I greatly appreciate your help in completing this survey. Please feel free to contact me if you have any comments or questions about the survey or research project at burbaugh@vt.edu

All the best,

Brad Burbaugh
Graduate Student and Program Coordinator
Virginia Agriculture Leaders Obtaining Results (VALOR) Program

Appendix F: Second Follow-Up Reminder

DATE

SUBJECT: Survey Reminder

Dear Alumni of Agricultural Leadership Programs,

A little over a week ago, I sent you a survey about networking outcomes and impacts of agricultural leadership development programs. This is a friendly reminder and notification that the survey will be closing next week.

It would be greatly appreciated if you could take the time to provide responses. It should take about 20 minutes to complete and can be done clicking on the link below or entering the web page address in your Internet browser.

Follow this link to the Survey:

[\\${1://SurveyLink?d=Take the Survey}](#)

Or copy and paste the URL below into your internet browser:

[\\${1://SurveyURL}](#)

Follow the link to opt out of future emails:

[\\${1://OptOutLink?d=Click here to unsubscribe}](#)

Your responses are voluntary and will be kept confidential. If you have any questions about this survey, or you have difficulties with the Internet, I am happy to help and can be reached by email at burbaugh@vt.edu or at 904.400.5518

Many Thanks,

BRAD

Bradley Burbaugh
Program Coordinator and Graduate Student
Virginia Agriculture Leaders Obtaining Results (VALOR) Program
Virginia Tech

Appendix G: Final Email Reminder

DATE

SUBJECT: Final Reminder

Dear Friends of Agriculture,

This just a quick reminder that the survey on networking outcomes and impacts of agriculture leadership development programs will be closing this FRIDAY! If you haven't had a chance to complete the survey, your responses would be greatly appreciated!

Follow this link to the Survey:

[\\${1://SurveyLink?d=Take the Survey}](#)

Or copy and paste the URL below into your internet browser:

[\\${1://SurveyURL}](#)

Follow the link to opt out of future emails:

[\\${1://OptOutLink?d=Click here to unsubscribe}](#)

Cheers,

Brad Burbaugh
Virginia Tech

Appendix H: Qualitative Instrument and Interview Protocol

Stage 1: Organizer and Set up

- Spend a few minutes introducing yourself and your role with agricultural leadership development programs. Review IRB informed consent procedure. Turn on Recorder.
- Proceed to some version of the following script:

"Thank you for agreeing to be interviewed as part of this study which seeks to better understand the relationship between leadership development and networking. I appreciate you taking the time to be interviewed. Let us first talk about how this interview will work. The interview is scheduled to last no more than 60 minutes. It will be tape recorded, transcribed, and then edited into a draft summary. The summary will include only your words, with questions edited out. In the interview, I'd like to focus on your experience as a participant in an agricultural-based leadership development program. You and your comments will remain anonymous in any formal report of the findings. I won't use your interview responses in any way that you don't personally approve."

- Make sure you ask if they have any clarifying questions.

Stage 2: Key Informant Interview Questions

The following questions are presented as a guide. They are best asked in the order listed. This social interaction will be treated as a "structured conversation" with the participant, and the researcher may ask clarifying questions throughout the interview. For example, the researcher might say, "let me see if I understand what you are saying."

Opening Question(s):

1. What were your most memorable experiences from your leadership development program?
2. What were the most influential learning activities that you experienced in the leadership program?

Groups & Networks:

3. How has participating in the [insert name] leadership development program influenced your network of personal and professional contacts?

Possible follow-up questions:

- a) How would you characterize the relationships with these contacts? For example, are they close friends or business acquaintances.
 - b) Describe how you have used this network since completing your program?
 - c) What specific activities in your program influenced your ability to network and build these relationships?
4. Were there specific activities or skills you gained in the leadership program that influenced the way you interact or engage groups within or outside of your community?

Possible follow-up questions:

- a. Do you recall interacting or engaging differently with these groups or others after completing your program (e.g., less or more involved, role changes, working across groups, number of groups involved with)?
- b. Were there specific learning activities or events that led you to change, modify, or adopt networking behaviors?

Trust & Solidarity:

5. How has participating in the leadership program impacted your trust of others – perhaps with other program participants or those outside of the program?

Possible follow-up questions:

- a. Think about an individual from your program that you developed a trusting relationship with over the course of the program. Can you describe how trust was built with this individual?
- b. Can you think of someone who you did not build as much trust with – can you describe the barriers to establishing trust?
- c. How has the trust built in your program translated into your community or industry?
- d. As a result of these experiences has the way you trust others (outside of your program) changed? Do you feel you network more now than you did before participating in the LP?

Cooperation & Collective Action:

6. Thinking about the relationships that emerged or strengthened as result of participation in your program; did any of those result in working towards a shared goal?

Possible follow-up questions:

- a. What skills did you use when cooperating with these individuals and groups?
- b. What specific activities in your program have contributed to your ability to work with others and/or accomplish shared goals?

Empowerment & Political Action:

7. Has participating in the [insert name] leadership development program influenced your involvement in the political process, politics or government? If so, can you describe how?

Possible follow-up questions:

- a. What can you tell me about others in the program and their engagement with the political process, politics and government?
- b. What activities in your program that influenced your ability to engage in the political process or with government?

Concluding Question:

8. Before we conclude, is there anything else you want me to know about the program or your experiences?

Appendix I: Email Requesting Participation in Interview

Date:

Subject: Request for Interview

Dear [volunteer's name],

As a follow-up to the research study you recently participated on networking in leadership development programs, I would like to thank you for volunteering to participate in an interview to help me better understand your experience in the leadership development program.

This information will be used to not only better understand your experience, but to help us identify high impact practices in leadership development efforts.

The interview will be audio recorded and transcribed verbatim using an interview guide. Your participation is voluntary and the time commitment will be approximately 60 minutes, depending on the length of the interview. Data will be collected at a mutually agreeable location using a digital audio recorder to record your interview. For your convenience, we are certainly happy to conduct the interview via telephone. Protecting your identity is the top priority of the study and by participating in this research project; your information will be kept strictly confidential.

If you are willing to participate please review the attached consent form and indicate your availability for an interview by following this doodle poll: <insert web link>.

After reviewing your availability I will confirm the date and time for an interview.

Thank you for your participation and time in this important study. Should you have questions, please do not hesitate to contact me.

Sincerely,

Brad Burbaugh

Appendix J: Interview Consent Form

Virginia Polytechnic Institute and State University
Informed Consent for Participants in Research Projects Involving Human Subjects

Project Title:

The Influence of Leadership Development Approaches on Social Capital: A Mixed Methods Study.

Investigators: Bradley Burbaugh, Graduate Research Assistant, Virginia Tech
Dr. Eric Kaufman, Associate Professor & Extension Specialist, Virginia Tech

I. Purpose of Research

The purpose of this study is to investigate, from participants' perspective, the networking behavior and social capital outcomes of adult agricultural-based leadership development programs. Using the perspectives of participants will allow us to gain insight on their opinion and experience of the program. This research will help us understand the relationship between leadership development efforts and networking. With a greater understanding of the relationship, leadership development practitioners can implement activities that impact networking behaviors.

II. Procedures

You are being asked to participate in an interview. The interview will last no more than 60 minutes. If you agree, this interview session will be audio taped. At no time will your audiotape be released to anyone other than the researchers involved with the project without your written consent.

III. Risks

This study has been reviewed and approved by the Virginia Tech Institutional Review Board. Individual answers and identities of the participants will be protected at all times. This research involves no more than minimal risk.

IV. Benefits

There are no known benefits to participants. The results of the interviews will help to better understand the relationship between leadership development and networking. The data collected from participants during this research may be developed into one or more papers for publication in academic journals or presentations. You may contact the researchers at a later time for a summary of the research results if you wish.

V. Extent of Anonymity and Confidentiality

Your identity, and that of any individuals who you mention, will be kept confidential at all times and will be known only to your interviewers. The above-mentioned interviews will be audio recorded and later transcribed by a member of the research team. When

transcribing the interview recordings, pseudonyms (i.e., false names) will be used for your name and for the names of any other people who you mention. These pseudonyms will also be used in preparing all written reports of the research. Any details in the interview recordings that could identify you, or anyone who you mention will also be altered during the transcription process. After the transcribing is complete, the interview recordings will be stored in locked offices used by the research team. The audio recordings will be destroyed after the analysis is complete, but the transcriptions will be stored indefinitely. It is possible that the Institutional Review Board (IRB) at Virginia Tech will view this study's collected data for auditing purposes. The IRB is responsible for overseeing the protection of human subjects who are involved in research.

VI. Compensation

There will be no compensation offered to study participants.

VII. Freedom to withdraw

Your participation in this research is entirely voluntary and your refusal to participate will involve no penalty or loss of benefits to which you are otherwise entitled. Similarly, you are free to withdraw from this research at any time. If you choose to withdraw from the research, any information about you and any data not already analyzed will be destroyed. You are free to choose not to answer any question at any time.

VIII. Subject's responsibilities

As a participant you are responsible for participating in an interview that no longer than 60 minutes.

IX. Subject's Permission

I have read the Consent Form and conditions of this project. I have had all my questions answered. I hereby acknowledge the above and give my voluntary consent:

Participant Signature

Printed Name of Participant

Date

Should I have any pertinent questions about this research or its conduct, and research subjects' rights, and whom to contact in the event of a research-related injury to the subject, I may contact:
Should I have pertinent questions about this research, I may contact:

Investigator:

Bradley Burbaugh, Department of Agricultural, Leadership, and Community Education
(904)400-5518
burbaugh@vt.edu

Virginia Tech Institutional Review Board:

David Moore, Virginia Tech Institutional Review Board
(540) 231-4991
moored@vt.edu

Appendix K: Tests of Regression Assumptions

Residuals Statistics^a

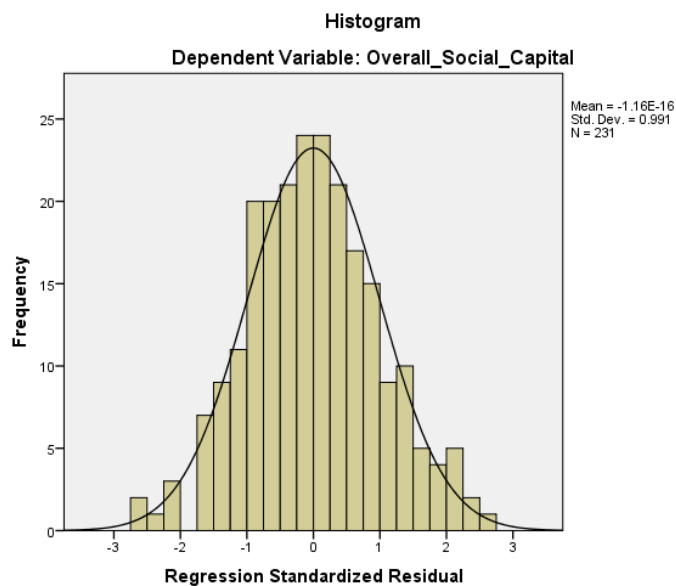
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	85.9623	97.7422	91.2814	2.08083	231
Residual	-38.79574	38.64828	.00000	14.77407	231
Std. Predicted Value	-2.556	3.105	.000	1.000	231
Std. Residual	-2.603	2.593	.000	.991	231

a. Dependent Variable: Overall_Social_Capital

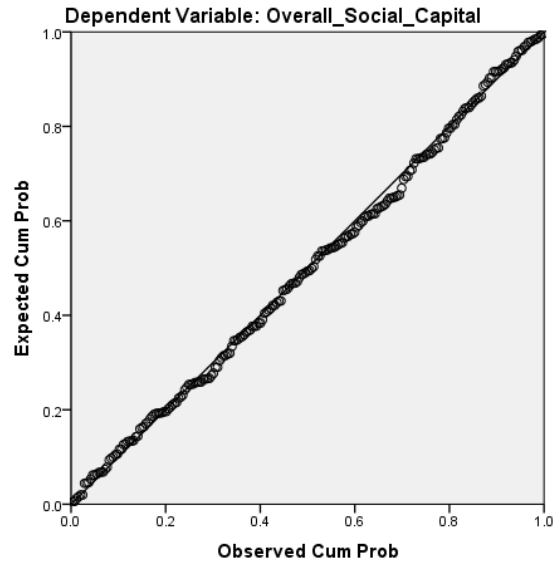
Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	83.636	5.850		14.298	.000		
	CU_composite	-.441	3.002	-.012	-.147	.883	.689	1.450
	FB_composite	1.952	2.187	.078	.893	.373	.566	1.768
	PG_composite	1.914	3.649	.048	.524	.600	.515	1.943
	SB_Composite	1.401	2.998	.044	.467	.641	.481	2.078

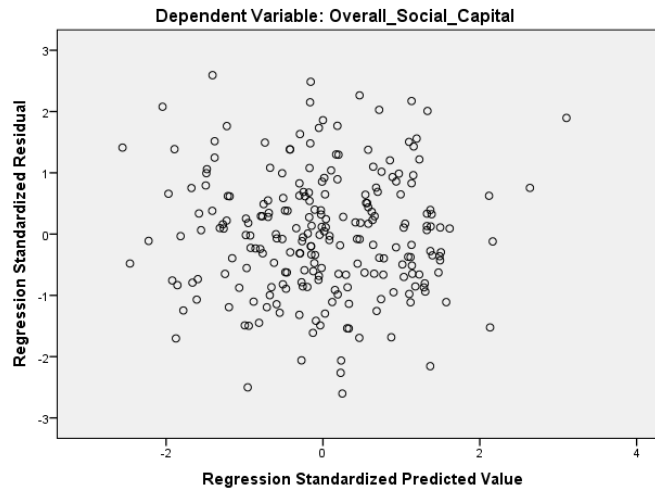
a. Dependent Variable: Overall_Social_Capital



Normal P-P Plot of Regression Standardized Residual



Scatterplot



Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation	Variance
Overall_Social_Capital	231	52.00	128.00	91.2814	14.91989	222.603
CU_composite	231	.43	2.75	1.9017	.39431	.155
FB_composite	231	.00	3.00	1.3799	.59741	.357
PG_composite	231	.91	3.00	1.7978	.37545	.141
SB_Composite	231	.31	3.00	1.6769	.47253	.223
Valid N (listwise)	231					