

PREDICTING LEADERSHIP BEHAVIORS OF PARTICIPANTS IN AGRICULTURAL-
BASED LEADERSHIP DEVELOPMENT PROGRAMS

By

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To my family for their continuous support, love, and belief in me

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The purpose of this study was to determine outcomes of agricultural-based leadership programs in order to predict the adoption of leadership behaviors of participants after participating in agricultural-based leadership development programs in the United States. Specifically, the study utilized the theory of planned behavior (Ajzen, 1991) and selected demographic characteristics to understand what influences alumni of agricultural-based leadership development programs to engage in certain leadership behaviors. A national study of agricultural-based leadership development programs has not been conducted in over 20 years (Howell, Weir, & Cook., 1982).

This study identified the outcomes and impacts of agricultural-based leadership development programs through a mixed-methods approach involving a focus group, four individual interviews, and a web-based survey instrument. The focus group participants consisted of the agricultural-based leadership development program directors ($n = 24$) that attended the 2009 annual meeting for International Association of Programs for Agricultural Leadership. The individual interviews were conducted with four purposefully selected directors based on program characteristics. Outcomes identified in the focus group and interviews included increased networking, relationship,

and team building skills, improved communication and social skills, and leadership skills. Medium-term outcomes identified included involvement in the policy development process, leadership roles and responsibilities, and life-long learning opportunities.

Program alumni ($n = 843$) from these same four programs completed the survey instrument. A response rate of 47.7% ($n = 402$) was received. The dependent variables in this study were the three behaviors identified in the focus group and individual interviews: involvement in policy development, leadership roles, and life-long learning. The independent variables were attitude, perceived behavioral control, and subjective norms (Ajzen, 1991) as well as age, gender, race, marital status, and education. Alumni reported participating somewhat frequently in policy development ($M = 3.86$, $SD = 1.41$) and more frequently in leadership roles ($M = 4.57$, $SD = 1.37$) and life-long learning opportunities ($M = 5.13$, $SD = 1.20$).

Multiple linear regression demonstrated that alumni are more likely to engage in the policy development process, take on leadership roles, and engage in life-long learning opportunities if they (a) have a positive attitude about the behavior, (b) felt they had the proper knowledge and skills needed to be effective, and (c) felt influential others would positively support their involvement in the behavior. Attitude is the strongest influencer of engagement for all three behaviors. These three variables explained over 50% of the variation in the alumni engagement of the three identified leadership behaviors.

CHAPTER 1 INTRODUCTION

Background

The W. K. Kellogg Foundation developed agricultural-based leadership programs in the 1960s “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” (Howell, Weir, & Cook, 1982, p. 52). Following World War II, individuals at Michigan State University (MSU) identified a need for effective rural leadership (Miller, 1976). Dr. Arthur Mauch, an agricultural economics professor at MSU, organized public policy workshops to deal with agricultural production, community affairs, and international development in the 1950s. Along this same time period, other variations of rural and community development programs were developed which eventually led to the development of the Kellogg Farmers Study Program (Lindquist & McCarty, 2007).

The Kellogg Farmers Study Program assumed many Michigan farmers were well developed in technology and management, but lacked in social science and liberal arts knowledge and understanding (Miller, 1976). The advisors of the program felt individuals would be more equipped to solve problems facing the rural areas through a broad background in humanities, social sciences, and a better understanding of world economics and politics. Along with this concept, the program advisors believed concentrated training experience would enhance and accelerate the leadership development process (Miller, 1976). The Kellogg Model of agricultural-based leadership programs was based on three main goals: (a) “increase participation in public affairs

activities on the part of young men and women from rural areas who show potential for leadership, (b) improve problem-solving and leadership skills of farmers and persons residing in rural areas and (c) expand extension programming at land grant universities in the areas of public affairs education and rural leadership development” (Howell et al., p. 5, 1982).

Since the development of the Kellogg Farmers Study Program, there have been approximately 45 other programs developed in the United States, Canada, New Zealand, Scotland, and Australia based on the Kellogg Model. Today, there are 39 programs within the United States that are members of the International Association of Programs for Agricultural Leadership (IAPAL) along with six others outside of the United States (Waldrum, personal communication, October 2010). In 2000, Helstowski reported more than 7,200 alumni for all of the programs. Today, there are more than 9,800 alumni within the United States (Alcorn et al., personal communication, March 2010). While each program has unique characteristics, the core and fundamental structure of these programs are the same (Mathews & Carter, 2008).

The original Kellogg programs were developed to assist in changing or enhancing participants’ knowledge, attitudes, skills and behaviors through participation in the programs (Howell et al., 1982). Miller (1976) conducted an evaluation to determine the extent to which the programs led to involvement in community roles, improved decision-making, and communication skills. More recent program evaluations of agricultural leadership development programs have identified similar program outcomes such as increased networks, increased self-confidence, and further development and

understanding of leadership responsibilities within communities (Dhanakumar, Rossing, & Campbell, 1996; Earnest, 1996).

Carter (1999) conducted an evaluation of the Wedgworth Leadership Institute for Agriculture and Natural Resources (WLIANR) and found participants broadened perspectives through exposure to different cultures, increased networks, and further developed critical thinking skills. Kelsey and Wall (2003) found graduates of the Oklahoma Agriculture Leadership Program (OALP) had increased awareness of communities needs. Abbington-Cooper (2005) found graduates of the Louisiana State University AgCenter's Agricultural Leadership Development Program had increased their leadership skills and had a better understanding of U.S. agricultural systems and state issues. Few studies have been able to measure the long-term outcomes and impacts of agricultural-based leadership development programs even though more than \$111 million has been spent on agricultural-based leadership development programs (Helstowski, 2000).

As with any program, agricultural-based leadership development programs must be "held accountable for planned program outcomes and impacts, and the effectiveness and efficiency of their efforts or inputs in producing the intended outcomes" (Boone, Safrit, & Jones, 2002, p. 231). An outcome is the "state of the target population or the social conditions that a program is expected to have changed" (Rossi, Lipsey, & Freeman, 2004, p. 204). Outcomes may be short-term, medium-term, long-term or program impacts (W. K. Kellogg Foundation, 2004). Boone et al. (2002) identified knowledge, attitudes, skills, and aspirations as short-term outcomes and behavioral changes as medium-term outcomes. Long-term outcomes may also be referred to as

program impacts on the social, economic, and environmental surroundings (W. K. Kellogg Foundation, 2004). Determining each type of outcome can be challenging for programs such as the agricultural-based leadership development programs, but necessary to continue to gain support from program sponsors. The challenge arises due to the difficulty in “attributing any measurable changes to the program” (McLean & Moss, 2003, p. 7). Often times, there is evidence of change, but establishing proof of what caused the change is the challenge (McLean & Moss, 2003).

Program theory is necessary to guide any program evaluation (Rossi et al., 2004). Identifying leadership program theory is a challenge in a majority of the current literature on agricultural-based leadership development programs yet, program theory is important as a basis for formulating and prioritizing an evaluation (Rossi et al.). Black and Earnest (2009) identified social learning theory by Bandura (1986) and adult learning theories of Birkenholz (1999), Caffarella (2002), and Knowles (1984) that can be applied to leadership development programs. Agricultural-based leadership development programs can model their facilitation techniques using the experiential learning process developed by Roberts (2006). Finally, the theory of planned behavior (Ajzen, 1985) provides a useful framework to explore potential influences of program alumni to adopt certain leadership behaviors.

The Theory of Planned Behavior provides a model about how human action is guided (Ajzen, 1991). Behavior is influenced by one’s attitude, subjective norm, and perceived behavior control (Ajzen, 1991). Program directors of agricultural-based leadership development programs are seeking to influence participant attitudes, subjective norms, and perceived behavioral control to have an impact on the

participants' behaviors (medium-term outcome) that will potentially have an impact on the agricultural and natural resources industry upon completion of the program (Ajzen, 1991; Howell et al., 1982). By understanding what the intended program outcomes and impacts are from the perspective of the directors as well as what the current attitudes, perceived behavioral control, subjective norms, and behaviors of the alumni are, agricultural-based leadership development programs can modify programming to reach the outcomes and impacts desired or further enhance the outcomes and impacts currently being reported.

Statement of the Problem

Program effectiveness becomes more difficult to determine when the outcomes of these programs are still unknown (Rossi et al., 2004). Critics of leadership education and leadership development have suggested that little thought is put into the outcomes of leadership development programs (Hustedde & Woodward, 1996) With over 40 agricultural-based leadership development programs today, only one in-depth evaluation has been conducted to determine the outcomes and impacts of these programs (Howell et al., 1982). However, program evaluations have been conducted for many individual programs, most of which only measured short and medium-term outcomes (Abbingtion-Cooper, 2005; Black, 2006; Carter & Rudd, 2000; Dhanakumar, Rossing, & Campbell, 1996; Kelsey & Wall, 2003; Whent & Leising, 1992). Further evaluation is needed for the programs to better understand the outcomes, including short, medium, and long term (Rohs & Langone, 1993).

Diem and Nikola (2005) recommended further evaluation of leadership programs to determine long-term impacts in regards to the agriculture and natural resources industries. Russon and Reinelt (2004) suggested there is knowledge about how

leadership programs affect individuals in terms of skills, capacities, and knowledge. However, there is little research to suggest the development of leadership over time (Russon & Reinelt, 2004). This study will identify outcomes and impacts of four programs within the United States from the perspectives of both the directors and program alumni. The four programs include the Wedgworth Leadership Institute for Agricultural Natural Resources of Florida (WLIANR), LEAD New York, Oklahoma Agricultural Leadership Program (OALP), and Kansas Agricultural and Rural Leadership (KARL). As Mathews and Carter (2008) found, while each program has unique characteristics, the core and fundamental structure of these programs are the same (Mathews & Carter, 2008). More specifically, the WLIANR, LEAD New York, OALP, and KARL are similar in program goals and objectives, incorporate a national and international travel component, and are all housed within their state's land-grant university.

Purpose and Objectives

The purpose of this study was to determine outcomes of agricultural-based leadership programs in order to predict the adoption of leadership behaviors of participants after participating in agricultural-based leadership development programs in the United States. The following research objectives were used to guide the research:

- To describe the intended outcomes and impacts of agricultural leadership development programs as perceived by program directors.
- To describe the current demographics of agricultural leadership development program alumni.
- To describe the outcomes and impacts of agricultural leadership development programs as perceived by program alumni.

- To compare and contrast how the outcomes and impacts of agricultural-based leadership development programs as perceived by the program directors align with those outcomes and impacts as reported by alumni.
- To identify the relationship between selected demographic characteristics, attitudes, subjective norms, and perceived behavioral control, and engagement in certain leadership behaviors.
- To determine the selected demographic characteristics, attitudes, subjective norms, and perceived behavioral controls that influence alumni of agricultural-based leadership development programs to adopt certain leadership behaviors.

Significance of the Study

This study will determine the impacts agricultural-based leadership development programs have on individuals within the agricultural industry and their behaviors related to policy development, leadership roles, and educational opportunities. Leadership development programs should have a clear set of expected outcomes and a means to evaluate those outcomes (W.K. Kellogg Foundation, n.d.). While not all programs have the same characteristics, the four programs used in this study are similar in program structure and function. All four programs reside within a land-grant university, have similar program goals and objectives, and include a national and international travel component (KARL, 2010; LEAD New York, 2010; OALP, 2010; WLIANR, 2010). Each of these programs have been in existence for over 15 years, yet only two evaluations of individual programs have been conducted in this time (Carter & Rudd, 2000; Kelsey & Wall, 2003). Additionally, an evaluation of agricultural-based leadership programs on a national scale has not been conducted in over 20 years, which was based on four of the original Kellogg Model programs in Pennsylvania, California, Michigan and Montana (Howell et al., 1982). There is a clear lack in research on the outcomes and impacts of agricultural-based leadership development programs, especially on a national scale,

despite the fact that millions of dollars are being spent on agricultural-based leadership development programs (Helstowski, 2000).

Definition of Terms

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

- Agricultural-based leadership development program – Adult leadership development programs designed to further develop leadership capabilities of participants from the agriculture and natural resources sectors.
- Alumni – An individual who is a former class member that completed the entirety of an agricultural-based leadership development program.
- Attitude – A favorable or unfavorable response formed in regards to a given matter (in this case, leadership behaviors) (Ajzen, 1991).
- Behavioral beliefs – Beliefs about the consequences of adopting a behavior (Ajzen, 2002).
- Behavioral intention – Formed by a combination of an attitude toward engaging in a certain leadership behavior, subjective norm, and perceived behavioral control (Ajzen, 2002).
- Control beliefs – Beliefs concerned with the potential factors that may facilitate or impede the performance of the targeted behavior and the perceived power of those factors (Ajzen, 1991; 2006).
- Director – The individual in charge of planning, scheduling, and making administrative decisions for an agricultural-based leadership development program.
- Impact – The long-term changes that can be attributed to a planned program (Boone et al., 2002; Rossi et al., 2004)
- International Association for Programs of Agricultural Leadership (IAPAL) – A consortium of leadership programs in the USA and several other countries which focus on the leadership development of individuals, communities, and the agricultural and rural industries.
- Outcome – The state of the target population or social conditions that a program is expected to change (Rossi et al., 2004); may include knowledge, skills, attitudes, and behavioral changes in individuals or social, economic, and environmental changes in communities (Boone et al., 2002).

- Perceived behavioral control – The perception of how easy or difficult it is to perform or adopt a behavior, relating to the concept of self-efficacy (Bandura, 1994; Eagly & Chaiken, 1993).
- Salient beliefs – The determinants impacting the intention of either performing or not performing certain leadership behaviors and outcomes. Humans hold numerous beliefs toward a specific behavior, but typically only attend to a few salient beliefs in any given situation (Ajzen & Fishbein, 1980).
- Subjective norm – Beliefs about the normative expectations of other people resulting in perceived social pressure (Ajzen, 2002).
- Theory of Planned Behavior – A model proposing that human action is guided by behavioral beliefs (producing attitudes), normative beliefs (producing subjective norms), and control beliefs (producing perceived behavioral control), which combine to formulate a behavioral intention leading to an actual behavior (Ajzen, 1991).

Limitations of the Study

Two populations were used for this study. The first population for this study was the directors of agricultural leadership development programs of the International Association of Programs for Agricultural Leadership (IAPAL). The second population were four of the agricultural leadership development programs from within the U.S., which were included in the quantitative segment of this study. Therefore, the results can only be generalized to these four programs. Additionally, only alumni with valid, working e-mail addresses were surveyed, therefore coverage error is also a limitation of the study. The focus group included all program directors attending the 2009 IAPAL conference and therefore is transferable to more agricultural-based leadership development programs.

The survey was researcher developed, therefore another limitation relates to measurement error. In order to address measurement error, a panel of experts was used to ensure validity of the survey instrument. Additionally, a pilot test of the

instrument with alumni of another similar agricultural-based leadership development program further addressed both validity and reliability of the instrument.

The researcher assumes that the participants of the study provided truthful responses, but bias may occur in the responses of the directors and alumni.

Summary

Research identifying the outcomes and impacts of agricultural-based leadership development programs is limited. Only one national study has been conducted since agricultural-based leadership development programs were developed in the 1960s (Howell et al., 1982). Chapter 1 provided the background and significance of the problem, as well as the purpose of the study. This study will identify the outcomes and impacts of agricultural-based leadership development programs as perceived by program directors and alumni. This study will also investigate the behaviors that program alumni are demonstrating and applying after completion of the agricultural-based leadership development programs as perceived by program alumni and directors. Finally, this study determined the attitudes, norms, and perceived behavioral control of the program alumni and the influence of these variables on alumni behaviors.

Chapter 2 will address the theoretical framework and the conceptual framework for the study. Research on agricultural leadership development programs, evaluations, and theory of planned behavior, as well as the four agricultural leadership development programs utilized in this study, will be discussed.

CHAPTER 2 REVIEW OF THE LITERATURE

The purpose of this study was to determine the outcomes of agricultural-based leadership development programs in order to predict the adoption of leadership behaviors of participants after participating in agricultural-based leadership development programs in the United States. The objectives of this study were to describe the current demographics of agricultural leadership development program alumni, the intended impacts and outcomes of agricultural leadership development programs as perceived by program directors and alumni, compare and contrast how the perceptions of the directors align with those of the program alumni, identify the relationship between selected demographic characteristics, attitudes, perceived behavioral control, and subjective norm and leadership behaviors, and determine the influence of selected demographics, attitudes, subjective norms, and perceived behavioral control on program alumni behaviors.

This chapter presents a review of the literature concerned with leadership, leadership development programs, and outcomes and impacts of leadership programs. The chapter focuses on agricultural-based leadership development programs, program development and evaluation, previous evaluations of leadership programs, and presents the relevant theoretical and conceptual frameworks. The chapter is divided into the following major sections: leadership and leadership development, agricultural-based leadership development programs, program development and evaluation theory, experiential learning, adult learning theories, and the theory of planned behavior.

Leadership and Leadership Development

Leadership is one of the most studied, yet least understood subjects (Bennis & Nanus, 1985). There are a wide variety of theoretical approaches to explain the leadership process (Bass & Avolio, 1994; Burns, 1978; Kouzes & Posner, 2002; Northouse, 2007). Along with the many approaches to leadership, there are also many definitions of leadership. Stogdill (1974) stated that there are as many different definitions of leadership as there are people who have tried to define it. Northouse (2007) defined leadership as a “process whereby an individual influences a group of individuals to achieve a common goal” (p. 3).

Hustedde and Woodward believed that “without capable leaders, local communities are prone to inertia, decay, and manipulation” (n.d., p. 1). A 2007 study found leadership development to be embedded into the culture of top companies by comparing global top companies with 530 organizations around the world (Kristick, 2009). Adair (1984) believed the skills of leadership can be learned. Coaching individuals who demonstrate leadership qualities will help them to reach their leadership potential (Taylor, 1962). Leadership development continues to grow within communities, organizations, businesses, and industries (Russon & Reinelt, 2004). In order to continue to survive in the new economy, employee training and leadership development must be an ongoing process that will have direct and meaningful influence (Kristick, 2009).

McCauley, Moxley, and Van Velsor (1998) defined leadership development as expanding the collective capacity of organizational members to engage effectively in “leadership roles and processes” (p. 4). Leadership roles may or may not come with formal titles or authority (Day, 2000). Leadership processes typically enable groups to work together in meaningful ways (Day, 2000; McCauley et al., 1998). Hustedde and

Woodward (n.d.) also discussed leadership development in terms of capacity building. Capacity building means engaging individuals and organizations to identify issues, resources, and opportunities and enhancing the potential of those individuals to solve problems (Hustedde & Woodward, n.d.). Day (2000) identified the differences between leader development and leadership development, which can be seen in Table 2-1. Leader development focuses on individual capabilities such as self-awareness, self-regulation, and self-motivation (Day, 2000). Leadership development places more emphasis on the organization, industry, or group as a whole (Day, 2000).

Table 2-1. Differences between leader and leadership development (Day, 2000)

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

Leadership development efforts may serve many purposes such as:

Expanding the capacity of individuals to be effective in leadership roles and processes, developing the pipeline of leaders within an organization or field, identifying and giving voice to emerging and/or invisible leadership, strengthening the capacity of teams to improve organizational outcomes, supporting the creation of new organizations or fresh approaches to leading, encouraging collaboration

across functions, sectors, and industries, and, creating a critical mass of leaders that can accelerate change in communities and countries to address key issues and problems. (Hannum, Martineau, & Reinelt, p. 5, 2007)

McCauley et al. (1998) identified three key elements to an effective leadership development experience: assessment, challenge, and support. These three elements provide motivation to learn, grow, and change and the resources for the learning to occur (McCauley et al., 1998). Leadership development programs can provide this developmental experience through classroom-type leadership training to activities such as high ropes courses and reflective journaling (Hernez-Broome & Hughes, 2004). In 2009, Leadership Excellence (Shelton, 2010) identified the top leadership development programs in the U.S. based on seven criteria: (a) vision/mission, (b) involvement and participation, (c) measurement and accountability, (d) design, content and curriculum, (e) presenters, presentations, and delivery, (f) take-home value, and (g) outreach. Over 1,000 organizations were reviewed and ranked in seven different categories: large organizations, small to midsize organizations, education/universities, non-profit organizations, government/military, independent consultants/trainers/coaches, and large consulting groups (Shelton, 2010). Leadership programs have been developed for businesses, universities, industries, communities, adults, youth and many other audiences.

Agricultural-Based Leadership Development Programs

History

Leadership development programs in agriculture and natural resources were originally developed to increase the level of awareness for leaders involved in the industries by engaging them in study and experiences (Miller, 1976). The W. K. Kellogg Foundation established the first agricultural-based leadership development program in

1965 at Michigan State University's (MSU) College of Agriculture by providing a grant to start the program (Howell et al., 1982). After World War II, individuals at MSU identified the need for effective rural leadership (Miller, 1976). Dr. Arthur Mauch in agricultural economics, organized workshops to focus on agricultural production, community affairs and international development (Lindquist & McCarty, 2007). Other programs were then developed in California and Pennsylvania. Agricultural leadership development programs were developed "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" (Howell et al., 1982, p. 5).

These agricultural leadership programs were developed for farmers and persons employed in occupations and professions related to agriculture because it was felt that these individuals had the technical knowledge, but often lacked the background in the social sciences and humanities to deal with issues related to agriculture and natural resources industries effectively (Howell et al., 1982). With a broad background in humanities, social sciences, and a better understanding of world economics and politics, the advisors of the programs believed individuals would be more equipped to solve problems facing the rural areas. Additionally, the advisors felt the concentrated training experiences would accelerate the leadership development process of the participants (Miller, 1976).

Since the development of the Kellogg Farmers Study Program, there have been approximately 40 other programs developed in the United States, Canada and Australia (Waldrum, personal communication, October 2010). Thirty-seven of these programs are

within the U.S. with more than 9,800 alumni (Alcorn et al., March 2010, personal communication). More than half of these programs were initiated without support from the Kellogg Foundation (Abington-Cooper, 2005). In 2001, more than \$111 million total support had been garnered by the 28 reporting U.S. agricultural/rural leadership programs (Helstowski, 2000). This financial support is generated from a number of sources including corporate grants, alumni donations, state appropriations, private sector agricultural industries and organizations, and university and foundation grants (Helstowski, 2000).

At the time of this study, 30 of the 43 programs were housed within a university system, while private non-profit groups, foundations, and other partnerships conduct the remaining programs (Waldrum, personal communication, 2010). A review of all programs in 2000 found most programs are 18 months to two years long and include 25 to 30 people who range in age from 25 to 50 (Helstowski, 2000). Throughout the program, content ranges from local to state, national, and international issues and approximately half of the programs include a national and international study seminar (Helstowski, 2000; Waldrum, personal communication, October 2010).

Each of the agricultural-based leadership development programs have unique characteristics, but the core and fundamental structure tend to be the same (Mathews & Carter, 2008). Based on an evaluation of four of the original Kellogg funded programs, program characteristics determined to be important included:

An educational program design with 'intensive' and 'extensive' dimensions that emphasized the analysis of public issues, participants who had leadership potential and a concern for agricultural and/or public affairs, and staff and involved institutions that had a strong commitment to the attainment of program goals (Howell et al., 1982, p. 51).

The common experiences of many of the U.S. programs include seminars throughout the home state of the program, a national trip to Washington, D. C. and another location within the United States and an international trip to another country.

Leadership Development Program Outcomes

Measuring the medium and long-term outcomes and impacts of agricultural-based leadership development programs continues to be a challenge because of the difficulty of attributing measureable changes to the programs (McLean & Moss, 2003). However, Diem (2003) stated that measuring impacts is important “to (a) justify the investment of time and effort, as well as the dedication of public and private funds, (b) earn and build professional, organizational, and political credibility and support, (c) yield tangible results that serve as the base for scholarly publications, as well as awards and recognition, and c) satisfy the requirements of political bodies and funding agencies” (p. 1). Rossi et al. (2004) also discussed the importance of measuring program outcomes and impacts. However, identifying the long-term outcomes and impacts is often more difficult to measure than short and medium-term outcomes and requires a longer period of time (Diem, 2003). Additionally, it is important to make a “feasible connection” between the leadership program and the end results (Diem, 2003, p. 2).

Diem (2003) suggested using Bennett’s Hierarchy (Rockwell & Bennett, 1995) to identify and measure the desired program outcomes. Bennett’s Hierarchy begins with inputs such as time, funds, and staff invested. The second level is the activities conducted such as events, programs, sessions or seminars offered. Participation is the third level, which is the number of participants involved in the program. The reactions are what the participants thought of the program, its organizations, and its leader. The top three levels are the knowledge, attitudes, skills, and aspiration (KASA) changes,

practice changes, and social, economic, and environmental (SEE) changes. Practice changes are the behaviors or improved methods of action that have been adopted. The SEE changes are the broader outcomes, effects, and benefits resulting from the changes in practice by the participants (Rockwell & Bennett, 1995).

KASA changes may be gained immediately following leadership program delivery. Practice changes however, may take months or years to implement and measure after a program is delivered. The practice changes lead to longer term social, economic, and environmental changes and may take years to assess (Rockwell & Bennett, 1995). Evaluations of various leadership development programs have been conducted to determine the many KASA, Practice, and SEE outcomes (Abbington-Cooper, 2005; Black, 2006; Carter & Rudd, 2000; Dhanakumar et al., 1996; Horner, 1984; Kelsey & Wall, 2003; Whent & Leising, 1992). The following is a description of the results found for evaluations of agricultural-based leadership development programs as well as other adult community and organizational leadership development programs.

Agricultural-based leadership program evaluations

Abbington-Cooper (2005) conducted a study to determine if graduates from 1988-2004 of the LSU Ag Center's Agricultural Leadership Development Program had increased their leadership skills and become more involved in agricultural and community issues. Respondents were satisfied with the program and felt the program had met their needs, improved their self-confidence, and had a positive impact on relationships and leadership competencies. Results also indicated the respondents felt they had a better understanding of issues of the U.S. and Louisiana agricultural systems due to the program and were more involved and influential in both agriculture and non-agriculture issues (Abbington-Cooper, 2005).

In 2006, Black conducted a study to determine the individual, organizational, and societal outcomes of the Ohio Leadership, Education, and Development (LEAD) program. At the individual level, respondents reported outcomes in the areas of personal growth, creative thinking, self-confidence, business skills, communication skills, and networking. For organizational outcomes, respondents reported improvements in networking, understanding of the “big picture,” increased communication skills, and improved management skills. Finally, on the community level there were lower levels of impact such as a decreased involvement in community organizations and leadership roles at the community level (Black, 2006).

An evaluation of the Florida Leadership Program for Agriculture and Natural Resources was conducted by Carter and Rudd (2000) through interviews with participants, participant spouses, and other individuals closely connected to participants. Carter and Rudd reported networking, increased leadership skills, broader perspectives, ability to identify issues, appreciation of diverse groups, and a basis for continued learning and development to be common themes identified by all three groups of individuals. Networking was found to be a major theme for all four areas of evaluation used in this study: people skills, policy development, analytical skills, and personal skills (Carter & Rudd, 2000).

Dhanakumar et al. (1996) conducted an evaluation of the Wisconsin Rural Leaders Perspective program (WRLP) using quantitative and qualitative surveys, which were sent to all alumni of the program. Dhanakumar et al. identified ten major themes and patterns from the surveys. Dhanakumar et al. concluded that:

knowledge and skills gained in the areas of communication skill and networking with other community members, alumni quality of decisions and effort in public

affairs and confidence, and active involvement and attention to public issues played greater roles on enhancing alumni leadership effectiveness, and their level of participation in civic and community activities (Conclusion section, ¶ 1).

The researchers also suggested rural leaders learn best through action and reflection (Dhanakumer et al., 1996).

Horner (1984) described the Nebraska Leadership Education/Action Development (LEAD) program and the results of the program after three years of existence. Horner found individuals were holding appointments on state boards and commissions and had been elected for state producer, educational and professional offices. Horner (1984) reported that more individuals were participating in civic, commodity, and educational leadership roles at the local and national levels after completing the program.

Kelsey and Wall (2003) conducted an evaluation of the Oklahoma Agricultural Leadership Program to determine if the program contributed to developing leaders for rural community development and if participants had taken an active role in their communities. This study used surveys and face-to-face interviews to evaluate the program. Respondents to the survey reported the program developed them as leaders to meet the needs of their communities and that they were taking an active role in their communities. Through the interviews, the researchers found the networking opportunities to be the most important aspects for all of the individuals that were interviewed (Kelsey & Wall, 2003).

Whent and Leising (1992) conducted an evaluation of the California Agricultural Leadership Program to determine the impact the program had on participants using survey research to all program graduates. Respondents reported that the program had made an impact on their personal, career, and leadership development. Whent and Leising reported the program had broadened the perspectives of participants, increased

their understanding of other cultures and societies, and assisted them in better representing the agricultural industry to other groups. Respondents also reported improved relationships with families and peers, increased networks, leadership skills, and interaction with governmental leaders (Whent & Leising, 1992).

An evaluation of Georgia's Community Leadership Program (GCLP) found that county programs can assist in helping communities deal with social and economic changes (Langone, 1992). This study conducted an impact assessment of the program since the inception of the GCLP through a survey. Langone found the program had a positive impact on counties, residents, and local Extension. Additionally, Langone found the program had positive impacts on networking, the role of Extension, developing a unified spirit, and involvement. Examples of involvement included the development of task forces, organizations to address issues, and Chambers of Commerce. Additionally, graduates became more active in local and state affairs by serving in political offices and school boards. Langone suggested that the greatest impact that community leadership programs have is the development of stronger linkages between individuals in rural areas.

Diem and Nikola (2005) completed an evaluation of the New Jersey Agricultural Leadership Development Program (NJALDP) in 2003. NJALDP is a two-year Extension program to create leaders in the agriculture-related professions by assisting them in further developing business skills, building an agricultural network, and developing marketing and communication skills. The participants reported having gained knowledge in a wide-range of areas such as the federal government process, economic and social issues, and characteristics of an effective team. More than 72% of the

respondents reported changes in practices such as being able to speak more effectively, having contacted government officials, media, or others on behalf of agriculture, and having used the network of individuals gained from the program (Diem & Nikola, 2005). Finally, respondents rated the program as very effective and worthwhile (Diem & Nikola, 2005).

The Canadian Agriculture Lifetime Leadership Program was evaluated using the Kirkpatrick Framework, which is a four-level evaluation framework (McLean & Moss, 2003). The four levels are: reaction, learning, behavior, and results (Kirkpatrick, 1994). The evaluation consisted of seminar instruments, a mid-point, end of program, and two year post program questionnaire, the Leadership Practices Inventory (LPI) developed by Kouzes and Posner (1997), and peer evaluation. McLean and Moss stated that behavior changes and impacts were not identified until the two-year post program evaluation. Specific behavior changes and impacts were not provided, only evaluation methods (McLean & Moss, 2003).

The Nebraska Leadership Education/Action Development Program (LEAD) participated in an evaluation study conducted by the Gallup organization in 2005 that surveyed alumni, candidates who had been selected for the program but had not yet participated, and those who had applied for the program, but not been selected (Gallup Leadership Institute, 2005). LEAD alumni were more active in a wide variety of organizations, specifically agriculture-related organizations. Alumni were also more likely to hold an officer position within those organizations and commit more time in organizational activities. The Gallup Leadership Institute found alumni to have a broader and deeper perspective of agricultural economics and policy, be more understanding of

influences on society, be more tolerant of individuals not involved in agriculture, and appreciate the relationships that exist between agriculture and other industries compared to non-participants (Gallup Leadership Institute, 2005).

Table 2-2 presents a summary of the outcomes identified through previous evaluations categorized by short, medium, and long-term outcomes.

Table 2-2. Summary of agricultural-based leadership development program outcomes

Level of Outcome	
Short-term	Medium-term
<ul style="list-style-type: none"> • Improved leadership competencies • Analytical and problem solving skills • Improved self-confidence • Creative thinking • Business skills • Communication skills • Improved management skills • Personal growth • Positive impacts on relationships • Networking skills • Appreciation of diverse groups • Increased understanding of other cultures and societies • Understanding the “big picture” • Understanding of US and state agriculture systems • Ability to identify issues • Broader perspectives • Increased knowledge of federal government processes, economic and social issues, and characteristics of an effective team • Basis for continued learning and development 	<ul style="list-style-type: none"> • Increase in leadership • Participation in public affairs and economic associations • More involved and influential in ag and non-ag • Participation in civic and community activities • Hold appointments on state boards and commissions • Elected to state producer, educational, and professional offices • Better representatives for agricultural industry to other groups • Increased contact with government officials, media, or others on behalf of agriculture • Utilized the network of individuals gained

Organizational and community leadership programs

“Community leadership programs are the most common approach to leadership development in the United States and traditionally emphasize community education and professional development” (Wituk, Warren, Heiny, Clark, Power, & Meissen, 2003, p.

76). The following is an overview of evaluations of organizational and community leadership programs.

Wituk et al. (2003) conducted an evaluation of a statewide two-year initiative with the Kansas Community Leadership Initiative (KCLI), which targeted program directors and volunteer board members. The KCLI focused on servant leadership and other leadership approaches emphasizing relationships and skills to develop relationships. The research questions focused on insights and lessons learned from experiences, use of leadership skills and concepts within organizations or communities, and challenges and concerns in using the leadership skills. Participants reported an improved appreciation of others and a better understanding of personal leadership approaches. In regards to organizational and community impacts, after participating in the KCLI, participants reported making changes in the community leadership programs and taking a more active role in the facilitation process. Additionally, individuals took a more active role in assisting other groups and organizations in their leadership development endeavors. Finally, respondents stated an increased and better appreciation for the relationships within the community (Wituk et al., 2003).

Sogunro (1997) conducted an evaluation of the Rural Education and Development Association (REDA) in Alberta, Canada. REDA provides leadership training programs to rural organizations that cannot do so due to capital or expertise. This study used both qualitative and quantitative research to evaluate participants' leadership knowledge, leadership skills, and changes in attitudes and behaviors. Sogunro found that participants were able to identify more key leadership skills after participating in the program than before. Respondents also reported positive changes in behaviors on the

job such as listening ability, conducting successful meetings, decision-making, and conflict management. Finally, Sogunro discussed the unanticipated outcomes of the program. While the leadership program was designed to improve their leadership on the job, participants reported more confidence in promoting causes, motivating others, and communicating in their personal and private life as well (Sogunro, 1997).

Fredricks (2003) specifically focused on the networks that were developed by two leadership programs. One program was a statewide leadership program and the other was a countywide program with similar goals. Respondents from the statewide program reported that the leadership program created and maintained networks that were useful in dealing with issues in the state, business, political, and personal arenas. Alumni also reported having used each of the networks (state, business, political and personal) three to five times a year each. The countywide program alumni “somewhat” agreed that the program developed networks in these four areas. Alumni from the countywide program contacted their network of individuals three to five times per year for county and business issues and one to two times per year for political and personal issues. From qualitative interviews with alumni from the state-wide program, Fredricks identified additional themes about the networks: the networks were beneficial because the diversity in backgrounds and that the contact with the networks was usually not planned, but occurred because of their involvement in similar activities.

Eich (2008) reviewed four undergraduate leadership programs in the United States that varied from a leadership course, week-long retreats, and service leadership programs. Sixty-two interviews were conducted with students, administrators, teachers, alumni, and student staff. The purpose of the study was to develop a theory or model of

high quality leadership programs that makes them successful in student development and learning focusing on program attributes, activities the programs used, and student outcomes. Three main clusters of attributes were identified that contribute to student learning and leadership development: “(a) participants engaged in building and sustaining a learning community, (b) student-centered experiential learning experiences, and (c) research-grounded continuous program development” (Eich, 2008, p. 180). Within these three clusters, Eich identified 16 individual attributes and the student outcomes each one leads to which are presented in Table 2-3.

Table 2-3. Sixteen leadership program attributes and outcomes (Eich, 2008)

Program attribute	Outcome
Diverse students	Collaboration Social capital New ideas and perspectives
Experienced practitioners	Clarify and broaden leadership thinking Application of leadership Motivation
Modeling educators	Holistic development Gain courage to be more authentic and congruent leaders
Small groups	Positive relationship development within individuals and within groups Practice collaborate leadership through teams
Supportive culture	Develops courage Expands comfort zones Establishes trust
One-on-one relationships	Learn to give and receive feedback Develop better interpersonal relationships
Leadership practice	Increase self-efficacy Understand leadership can be learned through experience Understand who leaders are and what leadership is Understand organizational leadership, group dynamics, and teamwork
Reflection activities	Develop skills such as time management and problem solving Develop an understanding of themselves, a vision, and a leadership philosophy

Table 2-3. Continued

Application in meetings	Gain a better understanding of their own personality, leadership style, and strengths as well as self-confidence and other skills through experiences
Meaningful discussions	Improve listening and speaking skills
Episodes of difference	Gain new perspectives Understand different ways of leading Become more open-minded through a more thorough understanding of the world
Civic service	Identify passions, interests and strengths Understand and respect others through experiencing and encountering issues Increase their understanding and desire for servant leadership
Discovery retreats	Gain motivation Renew their level of leadership
Flexible design	Build practical leadership skills View leadership through multiple perspectives
Values content	Acquire greater social awareness through servant leadership Understand leadership and how to apply different models Develop values by modeling program values
Systems thinking	Scholarly perspective on leadership applied to leadership practice Leadership development is advanced through program

Russon and Reinelt (2004) conducted a scan of 55 leadership development programs to understand the evaluation process for each program. The leadership programs included fellowship programs, social entrepreneurial programs, community service programs, organizational development programs, community-based, grassroots leadership programs, issue and field-based programs, and individual skill-building programs. A diverse range of outcomes were reported by the programs depending on the focus of change and types of activities used by the program. Russon and Reinelt found that leadership programs tend to evaluate more individual and group leadership development outcomes.

Individual leadership outcomes included changes in knowledge, skills, attitudes and perceptions, changes in behavior, changes in values and beliefs, leadership paths, and relationships. Organizational leadership outcomes included enhancing organizational leadership capacity and providing opportunities for youth, program innovation and expansion, and changes in organizational functioning. Broadening leadership participation and collaboration were both community leadership outcomes. Field leadership outcomes included developing future leaders in a field, replication of leadership programs, connections and networking, and policy knowledge. Examples of systematic impacts given were “changed public discourse on a topic, public policies that benefit families and communities, and institutional cultures and practices that focus on maximizing people’s assets and capacities” (Russon & Reinelt, 2004, p. 128). Table 2-4 provides an overview of the types of outcomes identified by Russon and Reinelt.

Table 2-4. Leadership Outcomes of 55 Programs (Russon & Reinelt, 2004)

Leadership Outcomes	Individual	Organizational	Community	Field	Systematic
	Collaboration and partnership	Collaborations, networks, and partnerships	Collaboration, networks, and partnerships	Leadership development	Culture shifts
	Communication	Development of leadership	Community change	Development of the field	Institutional transformation
	Courage and confidence	Effecting change	Community decision making	Diversity	Policy and policymaking change
	Cultural competence	Leadership and governance	Community leadership	Knowledge development	Collaboration
	Knowledge development	Management	Engagement and participation	Collaboration with other fields or sectors	
Categories and Examples of Outcomes	Leadership in action and demonstrating leadership	Programming	Knowledge development	Collaboration with field	
	Leadership development	Sustainability	Leadership development	Taking action	
	Self-awareness and reflective capacity	Visibility	Public awareness	Visibility of the field	
	Personal development		Resource development		
	Perspective development		Social capital		
	Professional development				
	Skill development				
	Visibility				

Earnest (1996) conducted an evaluation of seven county leadership programs in Ohio using Kouzes' and Posner's (1993) Leadership Practice Inventory as a pre-post assessment with program participants, in-depth interviews with program directors, and focus groups with program alumni. Earnest found that participants improved leadership skills and practices through their participation in the program. Alumni reported benefits of the program to be increased networking, a better understanding and ability to interact with others, increased confidence, and an increased motivation to be actively involved in the community (Earnest, 1996).

The Association of Academic Health Sciences Libraries (AAHSL) created a leadership development program for future library directors in 2002 (Lipscomb, Martin, & Peay, 2009). The program is designed to introduce leadership theory and tools for change, critical issues, develop relationships between participants and mentors, observe others' leadership, and promote diversity through in-person meetings, annual conferences, and web-based courses and discussions. An evaluation of the program was conducted in 2005 using focus groups, interviews with sponsors, and questionnaires with mentors, participants, and supervisors. Participants reported enhanced leadership skills, credibility, and networks. The remainder of the evaluation focused on the process and satisfaction of participants rather than outcomes (Lipscomb et al., 2009).

Summary of leadership program outcomes

The development of networks is a common theme among many of the evaluations of leadership development programs (Abbingtion-Cooper, 2005; Black, 2006; Carter & Rudd, 2000; Dhanakumar et al., 1996; Diem & Nikola, 2005; Earnest, 1996; Eich, 2008; Fredricks, 2003; Langone, 1992; Lipscomb et al., 2009; Russon & Reinelt, 2004; Whent

& Leising, 1992; Wituk et al., 2003). Some leadership programs and organizations specifically target the development of networks (Day, 2000). Networking initiatives should not only develop leaders in knowing what and how, but also assist them in “knowing who in terms of problem-solving resources” (Day, 2000, p. 596). Networking can also challenge individuals in their way of thinking by exposing them to new ways of thinking (Day, 2000).

An increase in leadership skills such as creative thinking, business skills, problem-solving skills, and communication skills, increased participation in organization and the policy process, and improved confidence were also continually stated as outcomes of leadership development programs (Abbington-Cooper, 2005; Black, 2006; Carter & Rudd, 2000; Dhanakumar et al., 1996; Diem & Nikola, 2005; Earnest, 1996; Eich, 2008; Kelsey & Wall, 2003; Langone, 1992; Lipscomb et al., 2009; Russon & Reinelt, 2004; Sogunro, 1997; Whent & Leising, 1992). Other outcomes identified included a basis for continued learning and a better understanding of diverse people and issues.

Theoretical Framework

Agricultural-based leadership development programs are primarily based on the Kellogg Model that was developed through the Kellogg Farmers Study Program (Howell et al., 1982). Explicit leadership program theory is difficult to find for many leadership programs (Russon & Reinelt, 2004). However, Black and Earnest (2009) identified and applied a number of adult learning theories such as social learning theory by Bandura (1986) and adult learning theories of Birkenholz (1999), Caffarella (2002), and Knowles (1984) to leadership development programs. Roberts (2006) experiential learning process provides agricultural-based leadership development programs with model for their facilitation techniques. Finally, the theory of planned behavior (Ajzen, 1985)

provides a useful framework to explore potential influences or outcomes of program alumni to adopt certain leadership behaviors.

Additionally, adult educators must know who and why adults participate in adult education activities to better serve adult learners (Merriam, Caffarella, & Baumgartner, 2007). Adult education should help people grow and mature (Birkenholz, 1999). Participation in adult education opportunities such as agricultural-based leadership development programs is typically a voluntary action; therefore, understanding the reasons for participating, how adults learn, and what conditions will enhance the learning experiences are increasingly important. Seven factors for why adults participate in educational activities include: improvement of verbal and written communication skills, social contact, educational preparation, professional advancement, improving relationships, social stimulation, and cognitive interest (Boshier, 1991). There are also barriers to participation with the two most common barriers being time and money (Merriam et al., 2007). However, there are number of adult learning theories allowing adult educators to better understand serve the needs of their learners.

Experiential Learning

Roberts (2006) developed a model of the experiential learning process (Figure 2-1) based on the prominent theories of the process of experiential learning (Dewey, 1938; Joplin, 1981; Kolb, 1984), which can be applied to various learning environments, audiences, and settings. This model begins with an initial focus of the learner. Once the initial focus is established, an initial experience is followed. Following the experience, the learner should be engaged in a reflective process based on their observations. This reflection process allows the learner to make generalizations, which can then be tested

through experimentation of the phenomenon again. This cycle then continues to create another cycle of the experiential learning process (Roberts, 2006).

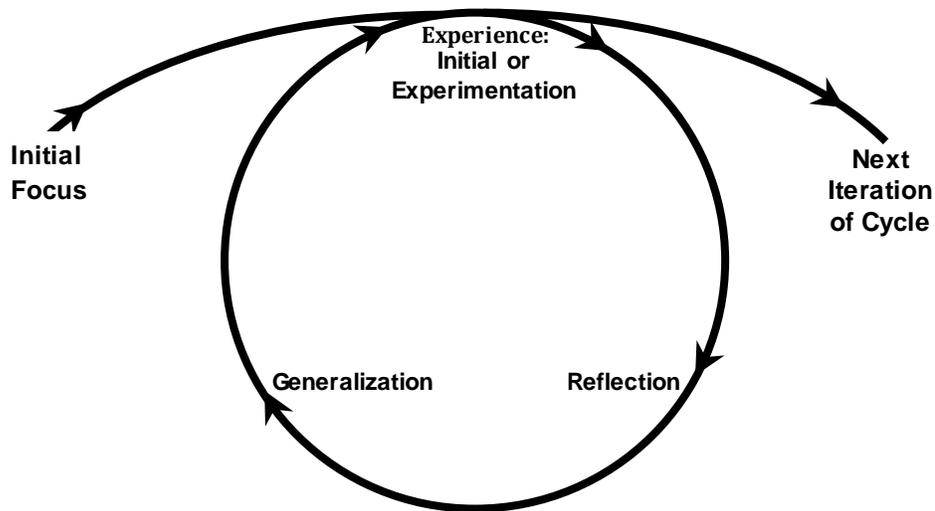


Figure 2-1. A model of the experiential learning process (Roberts, 2006)

Roberts (2006) also developed a model of experiential learning contexts based on the Cone of Experience (Dale, 1946) and the work of Joplin (1981), Steinaker and Bell (1979), and Etling (1993). The context of an experience is defined in four areas: level, duration, intended outcome, and setting. In Dale's Cone of Experience, the level of the experience can be very concrete by actually doing such as a direct, purposeful experience or very abstract through verbal and nonverbal symbols. The duration of an experience can be anywhere from a few seconds to several years (Roberts, 2006). Steinaker and Bell (1979) described the intended outcomes of an experience to range from exposure to dissemination. Finally, the setting of an experience can be formal, non-formal, and informal (Roberts, 2006). Merriam et al. (2007) defined a formal education setting as "highly institutionalized, bureaucratic, curriculum driven, and formally recognized with grades, diplomas or certificates" (p. 29). Nonformal education

is structured as well, but occurs outside the classroom. Informal education is structured, spontaneous, and occurs in various settings (Merriam et al., 2007).

Wituk et al. (2003) conducted a statewide initiative focusing on community leadership program directors and volunteer board members. During the two-year initiative, focus was placed on the experiential learning process. Day (2000) discussed “action learning” as a means for people to learn more effectively through a “continuous process of learning and reflection” (p. 601). This action learning is similar to the experiential learning process and is being used by many organizations opposed to the traditional, lecture-based, classroom training, which is only partially effective in developing leadership according to Day (2000). This same process of learning and reflection is often utilized in agricultural-based leadership development programs.

Adult Learning Theory

Birkenholz (1999) discussed how adult education should help people grow and mature. Merriam et al. (2007) described five primary orientations to adult learning that all take a different approach to a similar end goal of behavior change. The five orientations are: behaviorist, humanist, cognitivist, social learning (social cognitive), and critical reflection (constructivist). An examination of adult learning theories is necessary to understand the relationship with the experiential learning process. Each of the orientations takes a slightly different approach, as do other learning theories such as self-directed, transformational, and experiential learning to a similar end goal: behavior change. The follow discussion is an overview of each approach and the similarities and differences to experiential learning.

Similar to experiential learning, the humanist orientation to adult learning focuses on experience, choice, creativity, and self-realization. Additionally, the educator acts as

a facilitator and takes a needs-based, learner-centered approach (Merriam et al., 2007). Beard and Wilson (2006) suggested the educator of an experience should consider themselves “facilitators” and act as one by not leading the learners to an answer. This orientation takes learners’ needs into consideration through models such as Maslow’s Hierarchy and once reaching each level, individuals will continue to strive for growth because of an intrinsic desire for self-improvement (Birkenholz, 1999). When using the humanist orientation in adult education, there is a general belief that people are inherently good and have an unlimited potential for growth and development (Deschler & Kiely, 1995).

The behaviorist orientation focuses on observable behaviors, the learning environment, contiguity, and reinforcement (Merriam et al., 2007). Experiential learning also focuses on the contexts or learning environments in which experiences take place (Beard & Wilson, 2006). The learning environment or context can be modified depending on the learners or the intended outcomes. Another similar feature of the behaviorist orientation and experiential learning is the application of games and stimulation to guide the learning process (Beard & Wilson, 2006; Merriam et al., 2007).

Social learning also has some similarities and differences to experiential learning. Social learning perceives people to learn best by interacting with others (Merriam et al., 2007), while experiential learning uses some observation, the primary method of learning is through experiencing a phenomenon. However, social learning does encompass observer reflection, which will lead to the learner modifying his or her own behaviors (Birkenholz, 1999). Finally, in the social learning orientation and experiential

learning, mentoring, and internships are valued as ways to enhance the learning process (Merriam et al., 2007).

One of the most closely related adult learning orientations to experiential learning is the cognitive orientation. The cognitive orientation embraces the concept of insight, where participants critically evaluate a problem (reflection) then come to an “ah ha” moment (Merriam et al., 2007). Additionally, previous experiences are an important factor. Both previous experience and new information are modified in the process of learning to create a meaningful learning experience (Ausubel, 1967). This is similar to experiential learning, as Dewey (1938) suggested that educators should take the previous experiences and knowledge of the learners into consideration. Finally, in using the cognitive orientation, discovery learning is valued where students learn actively while the educator serves as a facilitator in the learning process (Bruner, 1965). Experiential learning also focuses on the learners actively experiencing a phenomenon while the educator serves as a facilitator (Beard & Wilson, 2006).

The critical reflection orientation has two key concepts that provide similarities to experiential learning. The first is that through the critical reflection orientation, it is the facilitator’s responsibility to challenge and advance learners (Merriam et al., 2007). Similarly, experiential learning requires the facilitator to use various reflection techniques and methods to further develop and push learners. Finally, critical reflection focuses on the process of becoming critically aware of how and why adults perceive the world the way they do (Merriam et al., 2007). Experiential learning does not require the learning process to reach this level of learning, but provides the opportunity for learners to reach this transformative learning if the facilitator believes the learners are capable

and willing to reach this level. Adult learners all learn differently due to the value and belief systems developed from each unique experience and culture, therefore it is important to understand each of the adult learning orientations and how they can be used within the experiential learning process and agricultural-based leadership development programs.

Theory of Planned Behavior

The theory of planned behavior originated from the theory of reasoned action (Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975) and is one of the most widely utilized social psychology behavioral models used in predicting human behavior (Armitage & Conner, 2001). This theory is a predictive model used to explain and predict behavioral intention in a wide variety of applied contexts (Brain, 2009). Both the theory of reasoned action and the theory of planned behavior were developed to predict and explain human behavior in a specific context (Ajzen, 1991). However, the theory of planned behavior has not been applied to leadership-related studies to predict the adoption of leadership behaviors.

According to the theory of planned behavior, one's behavior is a function of certain salient beliefs related to that behavior (Ajzen, 1991). Ajzen (2002) stated that behavior is guided by three kinds of salient beliefs: behavioral beliefs, normative beliefs and control beliefs. *Behavioral beliefs* are the beliefs about expected outcomes produced from a targeted behavior and the associated evaluations of these outcomes. *Normative beliefs* are the beliefs about normative expectations of important individuals or groups in regards to a targeted behavior. *Control beliefs* are the beliefs concerned with the potential factors that may facilitate or impede the performance of the targeted behavior and the perceived power of those factors (Ajzen, 1991; 2006).

The three salient beliefs correspond with three additional variables of the theory of planned behavior: attitude toward the targeted behavior, subjective norm, and perceived behavioral control. The behavioral beliefs are assumed to produce a favorable or unfavorable *attitude toward the behavior*. Normative beliefs result in *subjective norm* or perceived social pressure, and control beliefs determine *perceived behavioral control*. Attitude toward the behavior, subjective norms, and perceived behavioral control predict the behavioral intention of an individual. Typically, the more favorable the attitude and subjective norm, and the greater perceived control, the greater a person's intention to perform the behavior. The intention is the immediate antecedent of the behavior and a representation of a person's readiness to engage in a behavior (Ajzen, 1991; 2002; 2006). The theory of planned behavior is modeled below (Figure 2-2):

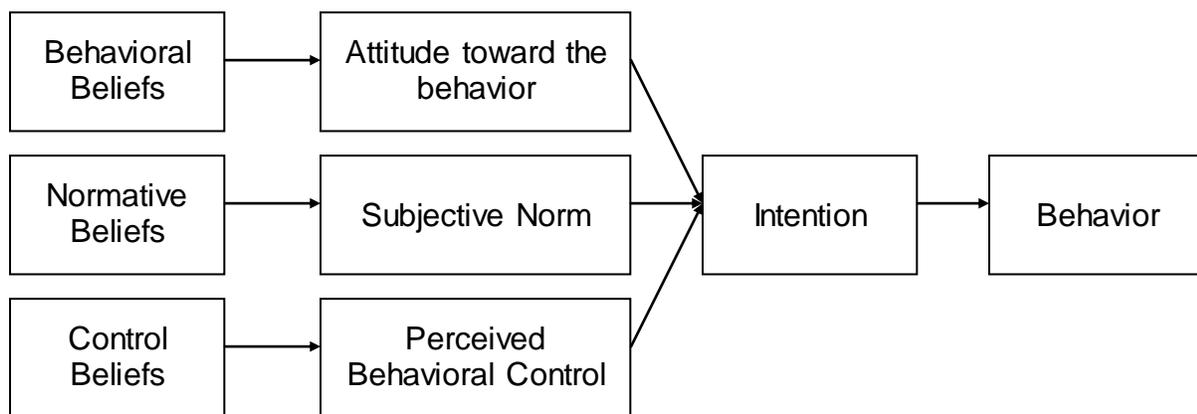


Figure 2-2. The theory of planned behavior (Ajzen, 1991)

Attitude

An attitude is an evaluation of an attribute and a function of beliefs linking that attribute to other characteristics and evaluations of those characteristics (Fishbein & Ajzen, 1975). According to Fishbein and Ajzen, attitudes are formed from the beliefs people hold about an object (Ajzen, 1991). Additionally, an attitude has three components: it is learned, it predisposes actions, and the actions are consistently

favorable or unfavorable towards an object or concept. Therefore, individuals tend to favor behaviors believed to have desirable consequences and form unfavorable attitudes towards behaviors with undesirable consequences (Ajzen, 1991). “The more strongly held an attitude, the more difficult it is to change” an individual’s attitude toward a specific behavior (Pierce, Manfredo, & Vaske, 2001, p. 53). In the theory of planned behavior, an attitude is directed toward engaging in the behavior itself rather than more general attitudes towards objects or concepts. An attitude is a function of the salient, behavioral beliefs one holds about a targeted behavior (Ajzen, 1988). Behavioral beliefs are the perceived outcomes or consequences of engaging in a behavior (Eagly & Chaiken, 1993). For alumni of agricultural-based leadership development programs being exposed to a number of speakers, cultures, behaviors, and ideas may cause attitudes towards engaging in a specific behavior to be adjusted according to the theory of planned behavior. For example, for agricultural-based leadership programs that participate in a national government tour to the states capital, a participant may further develop a more positive or negative attitude toward contacting their individual policy and decision makers.

Subjective norm

Subjective norms are the perceived social pressures and are measured by the underlying normative beliefs (Ajzen, 1991). In the theory of planned behavior, the subjective norms are measured by its underlying normative beliefs (Ajzen). Normative beliefs measure the “likelihood that important referent individuals or groups approve or disapprove of performing a given behavior” (Ajzen, 1991, p. 195). These individuals or groups may be a spouse, family, friends, teacher, doctor, supervisor or coworkers

(Ajzen, 2002). In the case of leadership development programs, these individuals may be directors, fellow alumni, or other leaders within the individual's network.

Perceived behavioral control

The theory of planned behavior differs from the theory of reasoned action because of the added component of perceived behavioral control (Ajzen, 1991). Perceived behavioral control focuses on the perceived ability to perform a particular behavior and stems from Bandura's (1977) research on self-efficacy. More specifically, perceived behavioral control refers to one's perception of the ease or difficulty of engaging in a behavior (Ajzen, 1991). Ajzen (2002) described control beliefs as the perceived presence of factors that may contribute to or impede engaging in a behavior.

Actual behavioral control, which deals with the needed resources, skills, and opportunities to perform the behavior, must be considered to measure perceived behavioral control (Ajzen, 1991). The ability to substitute perceived behavioral control for actual control depends on the level of accuracy of the perceptions. Perceived behavioral control may not be realistic if one has little information about the targeted behavior, requirements or available resources have changed, or new and unfamiliar components have entered into the situation (Ajzen, 1991). Perceived behavioral control adds little to the accuracy of predicting behavior when this is the case (Ajzen, 1985; 1991). In the case of agricultural-based leadership development program alumni, perceived behavioral control may be adjusted based on the level of knowledge and skills provided through the program experience. In referring to the example provided earlier, for a program that visits the state capital, an individual is more likely to have a better understanding of how to contact their policy and decision makers; therefore

according to the theory of planned behavior, this individual would have an increased perceived behavioral control due to the knowledge gained.

Conceptual Model

A conceptual model (Figure 2-3) was created by the researcher to illustrate the relationship between program alumni demographic characteristics, participation in an agricultural-based leadership development program utilizing the experiential learning cycle (Roberts, 2006), attitudes, perceived behavioral control, subjective norms, and behaviors (Ajzen, 1991) as well as how each of these variables fit into Bennett's Hierarchy (Rockwell & Bennet, 1995). As the model shows on the left side, the demographic variables that influence an agricultural-based leadership development program alumni attitudes, subjective norms, perceived behavioral control, and behaviors included age, gender, education, marital status, race/ethnicity, and year of program graduation. Other external variables include the network of individuals in which a program alumni is a part of, their perceptions of what a leadership role or responsibility is, and the participation in an agricultural-based leadership development program, which is guided by the experiential learning cycle of the experience, reflection, and generalization (Roberts, 2006).

Each of the four external variables then influences the short-term outcomes. Knowledge, attitudes, skills, and aspirations are short-term outcomes (Rockwell & Bennett, 1995); therefore, attitudes towards engaging in leadership behaviors, subjective norms, and perceived behavioral control are presented in the short-term outcomes box of the conceptual model. The individuals included in the subjective norms include leadership program alumni, program staff, fellow program class members, family members, political leaders, and organizational leaders. Medium-term outcomes

are behavior changes (Rockwell & Bennett, 1995), therefore the leadership behaviors are have been included in the medium-term outcomes box. The leadership behaviors identified for this study included involvement in policy development, life long learning, leadership roles and responsibilities and utilizing a number of leadership skills such as communication, developing others' leadership skills, delegation, and use of technology. Finally, behavior changes influence the long-term outcomes of social, economic, and environmental changes, which is represented in the final column of the conceptual model.

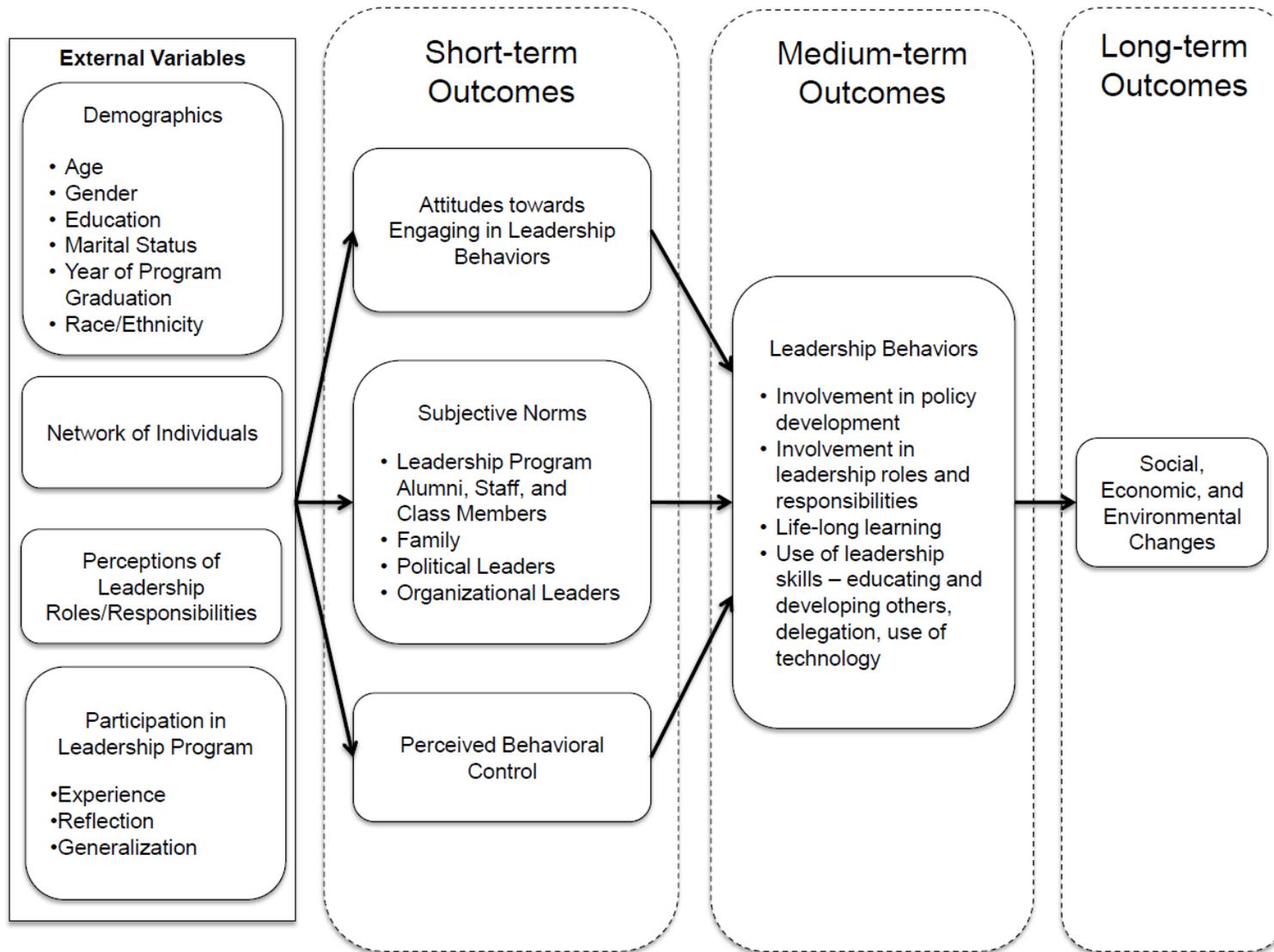


Figure 2-3. Conceptual model: Adapted from theory of planned behavior (Ajzen, 1991), Bennett's Hierarchy (Rockwell & Bennett, 1995), and experiential learning model (Roberts, 2006)

CHAPTER 3 METHODS

Chapter 1 provided an introduction and background of this study on the long-term program impacts of agricultural-based leadership development programs. An overview of the methodology, limitations, assumptions, and definitions of key terms used in this study were outlined in this chapter. A review of the literature was provided in Chapter 2. The literature focuses on leadership development, agricultural-based leadership development programs, the theoretical framework, and evaluating program outcomes and impacts. This chapter explains the methodology used to address each of the research objectives for this study. This chapter also addresses the research design, population, instrumentation development, data collection and analysis.

The purpose of this study was to determine outcomes of agricultural-based leadership programs in order to predict the adoption of leadership behaviors of participants after participating in agricultural-based leadership development programs in the United States. The following research objectives were used to guide the research:

- To describe the intended outcomes and impacts of agricultural leadership development programs as perceived by program directors.
- To describe the current demographics of agricultural leadership development program alumni.
- To describe the outcomes and impacts of agricultural leadership development programs as perceived by program alumni.
- To compare and contrast how the outcomes and impacts of agricultural-based leadership development programs as perceived by the program directors align with those outcomes and impacts as reported by alumni.
- To identify the relationship between selected demographic characteristics, attitudes, subjective norms, and perceived behavioral control, and engagement in certain leadership behaviors.

- To determine the selected demographic characteristics, attitudes, subjective norms, and perceived behavioral controls that influence alumni of agricultural-based leadership development programs to adopt certain leadership behaviors.

Researcher Subjectivity

The subjectivity statement should express the researcher's proximity to that which he or she is examining (Glesne, 1999). By presenting the researcher's experiences, assumptions, and biases, the reader is better able to understand how the data was interpreted by the researcher (Merriam, 1995). This study's subjectivity statement follows.

The topic at hand is closely related to my passion to help the individuals in the agricultural industry continue to grow personally and professionally as well as my own career goals. As part of my graduate school experience, I have had the opportunity to work with the Wedgworth Leadership Institute for Agriculture and Natural Resources (WLIANR) where I solidified my passion for the development of leaders within the agricultural industry.

My interest in leadership development began in high school through my participation in the FFA Organization. At Texas A&M University, I was able to obtain a degree in Agricultural Leadership and Development where I became further interested in teaching and working closely with adults in the agricultural industry. Through my master's thesis research, I discovered the International Association of Programs for Agricultural Leadership (IAPAL) group and realized that working as the director of an agricultural leadership development program was the career path I wanted to pursue.

Through my work with the WLIANR, I was able to travel to the annual IAPAL meetings and realized the struggles of many of the directors: funding for programming and staff support, conducting evaluations, recruitment, and still maintaining quality

programs. This brought me to the desire to determine what the long-term program outcomes and impacts are of these programs in order to provide a research-based fund raising, recruitment, and overall support for the continuation of these programs.

Having participated in the IAPAL meetings, I acknowledge that I know the directors on a personal level that participated in this study. One of these individuals is also my advisor and director of the WLIANR, Dr. Hannah Carter. However, the questions used in this study will not be of a personal nature and will only relate to the leadership programs. I also acknowledge that I have many of my own assumptions of what the outcomes and impact of an agricultural-based leadership development program are, but also know that there is little research to support these assumptions which is why I was interested in conducting this study.

Three Phases of the Study

The research design of this study was a three-part assessment of agricultural-based leadership development program outcomes and impacts utilizing both qualitative and quantitative research methods. The three parts of the study included a qualitative focus group of program directors attending the IAPAL annual conference, a qualitative in-depth interview with the directors of four agricultural leadership development programs, and a quantitative survey instrument developed by the researcher administered to the alumni of the four agricultural leadership development programs.

Both quantitative and qualitative research provides social science researchers with the ability to gain more insight and knowledge about human behavior. Qualitative research seeks to understand and explain phenomena and helps to generate theory (Ary, Jacobs, & Razavieh, 2006; Merriam, 1998). Quantitative research can be used to study relationships and cause and effect through objective measurement and numerical

analysis of data (Ary et al., 2006). This study used both qualitative and quantitative research to determine the outcomes and impacts of agricultural-based leadership development programs in order to predict the adoption of specific leadership behaviors of future participants. The following sections will describe the research design, participants, instruments, and data collection and analysis for each of the three phases of the study.

Phase One

Research design

A qualitative focus group with the program directors attending the IAPAL annual conference was conducted. The focus group was the first part of the study and provided the foundation for the interview guide to be used with the directors of the four selected agricultural-based leadership development programs. Interview questions included the program directors' perceptions of the outcomes and impacts of the programs.

Basic qualitative studies simply strive "to discover and understand a phenomenon, a process, or the perspectives and worldviews of the people involved" (Merriam, 1998, p. 11). These studies typically collect data through interviews, observations, or document analysis. Merriam (1995) identified several roles that qualitative research plays:

clarifying and understanding phenomena and situations when operative variables cannot be identified ahead of time; finding creative and fresh approaches to looking at over-familiar problems; understanding how participants perceive their roles or tasks in an organization; determining the history of a situation; and building theory, hypotheses, or generalizations. (p. 52)

In qualitative research, validation is determined through credibility, transferability, dependability, and confirmability (Ary et al., 2006). However, Merriam (1995) suggested that the rigor of qualitative research should be discussed using the same terms as

quantitative research: internal validity, reliability, and external validity. Internal validity can be addressed through multiple strategies such as triangulation, peer examination, and statement of the researcher's experiences, assumptions and biases (Merriam, 1995), each of which were used in this study. A subjectivity statement was developed to state the researcher's experiences, assumptions, and biases prior to collecting data. The data was triangulated through the focus groups, individual interviews, and surveys of the alumni by obtaining data through multiple sources and data collection methods to further establish the credibility of the study (Denzin, 1978).

Reliability in the social sciences is problematic because "human behavior is never static" (Merriam, 1995, p. 54). For qualitative research, Merriam (1995) suggested it is more important to ask, "whether the results of a study are consistent with the data collected" (p. 56). As with internal validity, there are strategies, which can be used to ensure greater consistency such as triangulation, peer examination, and providing an audit trail were all used in this study.

Finally, external validity can also be known as reader or user generalizability, which is the extent to which the reader or user can apply the findings of a study to other situations. Merriam (1995) stated that it is not up to the researcher to generalize the findings to other settings, but should be up to the reader of the research. External validity can be established through a rich, thick description to provide the reader with enough information to determine how closely the research situation matches his or her own situation. Trustworthiness is then established by how well the study does what it was designed to do (Merriam, 1995). The researcher provided a thorough description

with the use of direct quotes from participants to ensure external validity of the focus group.

Focus groups are conducted to listen and gather information from a special type of group in terms of purpose and size (Krueger & Casey, 2009). “Focus groups can provide insight into complicated topics where opinions or attitudes are conditional or where the area of concern relates to multifaceted behavior or motivation” (Krueger, 1994, p. 45).

Research participants

The population used in this study included the program directors ($N = 42$) affiliated with all 42 IAPAL programs. For the first part of the study, a convenience sample of all program directors attending the 2009 IAPAL annual meeting ($n = 24$) was used to conduct the focus group. Focus groups typically average in size between one and 20 participants (Creswell, 1998). Participants of focus groups are selected because they have a certain set of characteristics in common which are important to the topic (Krueger & Casey, 2009). The focus group comprised of program directors of agricultural and rural leadership development programs internationally with a wide range of experiences ranging from six months to 35 years within the programs. The directors were from programs throughout the U.S., Scotland, New Zealand, and Canada; most were directors of programs within the U.S.

Instrumentation

The first instrument was the focus group structured interview guide found in Appendix A. To reduce bias, this interview guide was developed by the researcher and reviewed by a panel of experts comprised of members of the researcher’s doctoral committee in addition to an expert in evaluation and an expert in qualitative methods.

The interview guide questions sought to determine the intended outcomes and impacts as perceived by the directors of these agricultural-based leadership development programs. These questions were also used to determine what activities/events lead to specific outcomes and when participants and alumni begin to demonstrate certain intended behaviors. Additionally, the questions sought to determine what types of leadership roles and responsibilities alumni were assuming and if alumni were seeking out additional leadership and educational opportunities upon graduation.

Data collection

Prior to the collection of data, a proposal to conduct the study was submitted to the University of Florida Institution Review Board (IRB) for non-medical projects (IRB-02). The proposal was approved (Protocol #2009-U-963). Data collection began once IRB approved the study. Participants were informed of their rights as research participants in a letter explaining the purpose and importance of their participation. The participants then signed a copy of the informed consent letter. The researcher conducted the focus group during the annual IAPAL meeting in Jackson Hole, Wyoming in October of 2009. The focus group was audio and video recorded and later transcribed. A note-taker was also used to further triangulate the data collected. The focus group data was collected through open-ended questions, which allow participants to share personal views and opinions (Krueger & Casey, 2009).

Data analysis

The focus group transcript was imported into Weft QDA software to be analyzed prior to conducting the individual interviews. Analysis of qualitative data involves identifying recurring patterns or themes (Merriam, 1998). The researcher open coded the transcript for possible themes using the constant comparative method of data

analysis developed by Glaser and Strauss (1967). The constant comparative method is widely used in all kinds of qualitative studies (Merriam, 1998).

Merriam (1998) defined qualitative data analysis as “the process of making sense out of the data” (p. 178). Data are analyzed to develop meaning, understanding, or insight, which constitute the findings of a study (Merriam, 1998). The constant comparative method requires the researcher to compare data to identify similarities and differences, which then establish categories of data. Merriam (1998) stated that the researcher, the participants, or the literature can establish the names of the categories. Categories should provide the answers to the research questions, be exhaustive of all data, mutually exclusive, sensitizing, and conceptually congruent (Merriam, 1998).

The themes identified were used in the development of the survey instrument given to the program alumni. Low-inference descriptors, such as direct quotes, were selected to enhance the credibility of the study. The information provided in this data analysis was used in Objectives One and Four: describe the intended impacts and outcomes of agricultural leadership development programs as perceived by program directors and compare and contrast the directors’ perceptions to those outcomes and impacts as reported by the alumni.

Phase Two

Research design

A qualitative semi-structured in-depth interview with the program directors of four agricultural leadership development programs was the second part of the study. Interviews are one of the most widely used methods of qualitative research used for gathering the opinions, beliefs, and feelings (Ary et al., 2006). Interviews can also be used to further verify an observation such as the data that was collected in the focus

group. Similar to the focus group, the researcher provided an audit trail and a rich, thick description to enhance the credibility of the study. The interview data was then compared to the focus group data.

Similar to the focus group, the data collected in these interviews was used to guide the development of the survey instrument given to the alumni of the four programs. The interviews with the four directors provided more in-depth knowledge about the four individual program outcomes and impacts to make the survey instrument more relevant. The four programs were similar in multiple aspects such as program objectives, residing within land-grant universities, and including national and international travel components which will be further described in the next section.

Research participants

For phase two of the study, four agricultural-based leadership development programs were purposefully selected from the larger population of program directors as described in Phase One. The selection process was based on specific characteristics to assure the programs used were similar in program function and structure. The most common form of sampling in qualitative research is purposive sampling based on the criteria of attributes the researcher finds essential for the study (Merriam, 1998). Purposive sampling based on the criteria of attributes is common in qualitative research since generalization from a statistical sense is not the goal (Merriam, 1998).

The researcher began with a directory of the forty-two IAPAL programs and first selected programs within the United States that resided within the state's land-grant institution ($n = 23$). Other characteristics used to identify the four programs included selecting programs that incorporated a national and international study trip and consisted of approximately a two-year time period for each class. The programs

selected have been continuous in existence since their inception. Finally, the researcher compared program objectives of the remaining 16 programs. The four programs selected to be used in this study were the Wedgworth Leadership Institute for Agriculture and Nature Resources (WLIANR), Oklahoma Agricultural Leadership Program (OALP), LEAD New York, and Kansas Agricultural and Rural Leadership (KARL). Therefore, the sample for the in-depth interviews ($n = 4$) were purposefully selected. The following is a description of the four agricultural-based leadership development programs utilized in this study.

Wedgworth Leadership Institute for Agriculture and Natural Resources (WLIANR)

The Florida Leadership Program for Agriculture and Natural Resources began on October 1, 1991 (Carter & Rudd, 2000). The program was later renamed in 2003 to become the Wedgworth Leadership Institute for Agriculture and Natural Resources (WLIANR) after a successful endowment campaign (WLIANR, 2010). This endowment is the primary funding source for the WLIANR. The Institute of Food and Agricultural Science (IFAS) at the University of Florida provides additional funding for program staff, university space, and equipment. At the time of this study, the WLIANR had two staff positions, a program director who had a .75 FTE appointment, an executive secretary and one graduate assistant (WLIANR, 2010).

The target audience for the WLIANR includes individuals who have shown leadership potential involved in industries related to private sector Florida agriculture and natural resources. Participants are selected through a three-stage process: nomination, application, and interview. From this process, up to 30 individuals are chosen to participate in the program as a class (WLIANR, 2010). At the time of this study, the WLIANR had graduated seven classes since its inception with a total of 192

alumni (Carter, personal communication, March 2010). Each class attends 11 seminars over a 22-month period. The first year of the program focuses on the local and state agriculture and natural resource issues. The second year focuses on national and international issues. The WLIANR Logic Model can be seen in Figure 3-1. Each of the seminars incorporates the six objectives of the program:

- To prepare potential leaders to assume greater leadership responsibilities in their organizations, industries, and communities.
- To assemble individual networks composed of class members, alumni, and program resources for the purpose of developing future industry, organizational, civic and political leaders.
- To create strategic alliances and build strong linkages within and across Florida's agriculture and natural resources sectors.
- To analyze complex issues facing individuals interested in areas related to agriculture, natural resources and Florida's communities.
- To apply inner-personal skills so as to develop a better understanding of people – themselves, fellow citizens and their environment as to more effectively work with individuals from diverse backgrounds.
- To create an understanding of social, economic and political systems in which people function and how to work within these systems to effectively bring about change (WLIANR, 2010).

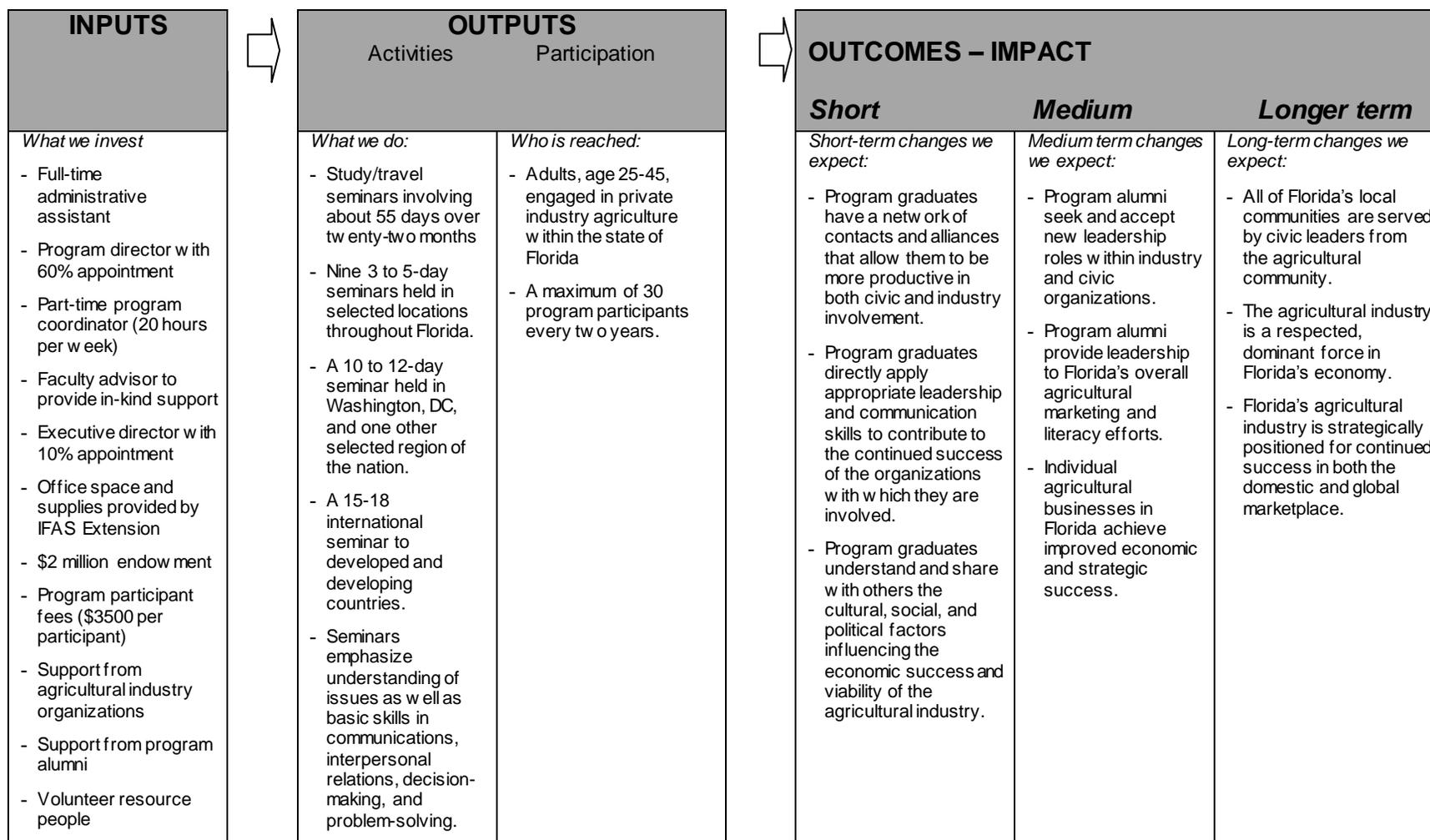


Figure 3-1. Logic Model for Wedgworth Leadership Institute for Agriculture and Natural Resources (Kaufman, 2006)

Kansas Agricultural and Rural Leadership

In 1989, a group of 20 individuals from all segments of Kansas Agriculture agreed to meet to discuss the need and potential for an educational program designed to build leadership capacity for Kansas agriculture. The Kansas Agricultural and Rural Leadership (KARL) program was established in 1990 at Kansas State University (KARL, 2010). Financial support is generated from donors, participant tuition, and Kansas State University. The university provides office space, staff salaries, office supplies, and other day-to-day operations materials. At the time of this study, KARL staff included a full time program director and on part time administrative specialist.

The target audience for this program includes individuals who will be “actively involved as operators of production agricultural units or from agribusiness, related organizations, and rural community leadership roles” (KARL, ¶ 4, 2010). Approximately 50% of these individuals are within production agriculture. Twenty-five percent are from supporting industries and the remaining 25% come from community development, media, and education related areas. Participants are selected through a five stage process: nomination, application, initial screening, interview, and selection. Through this process, up to 30 individuals predominately between the ages of 25 and 55 that have demonstrated leadership ability are selected for a class. At the time of this study, KARL had graduated nine classes since its inception with 270 alumni (Lindquist, personal communication March 2010). KARL is a two-year study, travel and training program with twelve seminars. The first year of the program focuses on leadership skills and styles, and state and federal government. The second year focuses on international trade and issues. The program utilizes the Experiential Learning Cycle as a model for the two year

experience (Figure 3-2). The following six objectives are incorporated into each of the seminars:

- Graduates recognize and appreciate their leadership potential.
- Graduates increase their decision-making and analytical skills.
- Graduates broaden their perspective relative to history, economics, sociology, culture and arts, and will know how those areas relate to the decision-making process.
- Graduates increase their ability to communicate persuasively and effectively.
- Graduates develop a “global” focus as preparation for the enormity of the challenges that a more interdependent and interconnected global economy presents to the agricultural industry and rural communities.
- Graduates will become part of a global network including supporters, previous graduates, and presenters across Kansas and the world (Lindquist, 2010).

WISDOM
Evaluation
Accountability

The Wisdom Cycle
Experiential Learning
Process
Cycle to Change

Experience
"The Activity"

Application

How can this knowledge
be applied?

What does it mean to me?

What will I do differently?

How can I adapt this learning
for my situation?

Process

Sharing
Comparing
Reflecting

What did we see?

What did we do?

How does this
connect to our lives?

Generalization

Drawing Conclusions
"Ah Ha's" - Insights

What did we learn?

What do the experts say?

Figure 3-2. The Wisdom Cycle for the Kansas Agricultural and Rural Leadership program

LEAD New York

LEAD New York was established in 1985 at Cornell University (LEAD New York, 2010). Funding is derived from numerous sources. Approximately 28% is provided by Cornell University to assist in the staff salaries and benefits, office space, and office supplies. Eighteen percent is established through an endowment income. Participant tuition covers about 19% of the funding costs. Major donors contribute about 13% of the budget and annual gifts from general fundraising contribute about 22% of the funding. Program staff includes a full time director and administrative assistant.

The target audience for this program includes individuals age 25 or older directly and indirectly employed and affected by New York's food and agricultural system. There are no minimum education requirements. Additionally, a limited number of out-of-state applicants are considered. Participants are selected through a three stage process: an optional nomination, application, and interview. From this process, up to 30 individuals are selected to participate as a class. At the time of this study, twelve classes had graduated from LEAD New York with 344 alumni (Van De Valk, personal communication, March 2010). The program is a 14 seminar, two-year program incorporating 50 days of seminars, workshops and field travel, in and out of New York (LEAD New York, 2010).

The conceptual framework for this program was recently developed and included as Figure 3-3. The small blue squares represent individual outcome statements, yellow polygons represent key constructs, and ovals represent related constructs (Van De Valk, 2010). The three main related constructs include skills, reflection, and knowledge/awareness. Within the skills construct, this included skills related to communication skills, developing leadership skills, and networking, relationship, and

team building skills. The reflection construct included personal development, challenges and expectations related to the program, and recognizing leadership styles. Finally, the knowledge/awareness construct included broadened knowledge and awareness of food and agricultural systems and political awareness (Van De Valk, 2010). The following objectives guide the seminars:

- To improve participants' leadership skills and behavior, including public speaking, written communication, and effective listening, working with media, marketing and promotion, conflict resolution, argumentation and debate, personality type awareness and self assessment, networking, diversity appreciation, teambuilding and teamwork, meeting management, problem identification, collaborative problem solving, critical thinking, systems thinking, and change management, technological literacy and research skills, time management and organization, and commitment to lifelong learning.
- To strengthen participants' sense of civic responsibility and service through activities that will help participants understand the policy development process at the local, state, federal and international levels, learning how the policy development process works, how it affects participants and how to influence the process. Participants will be challenged and motivated to get involved in the public policy process and community service roles as well as become aware of their "place" in a global society.
- To inform participants of relevant issues facing their industry and community. The issues provide the context in which leadership skill development is practiced and public policy is examined. Issues studied depend on the learning needs of the participants and the relevancy to current industry/community challenges (LEAD New York, 2010).

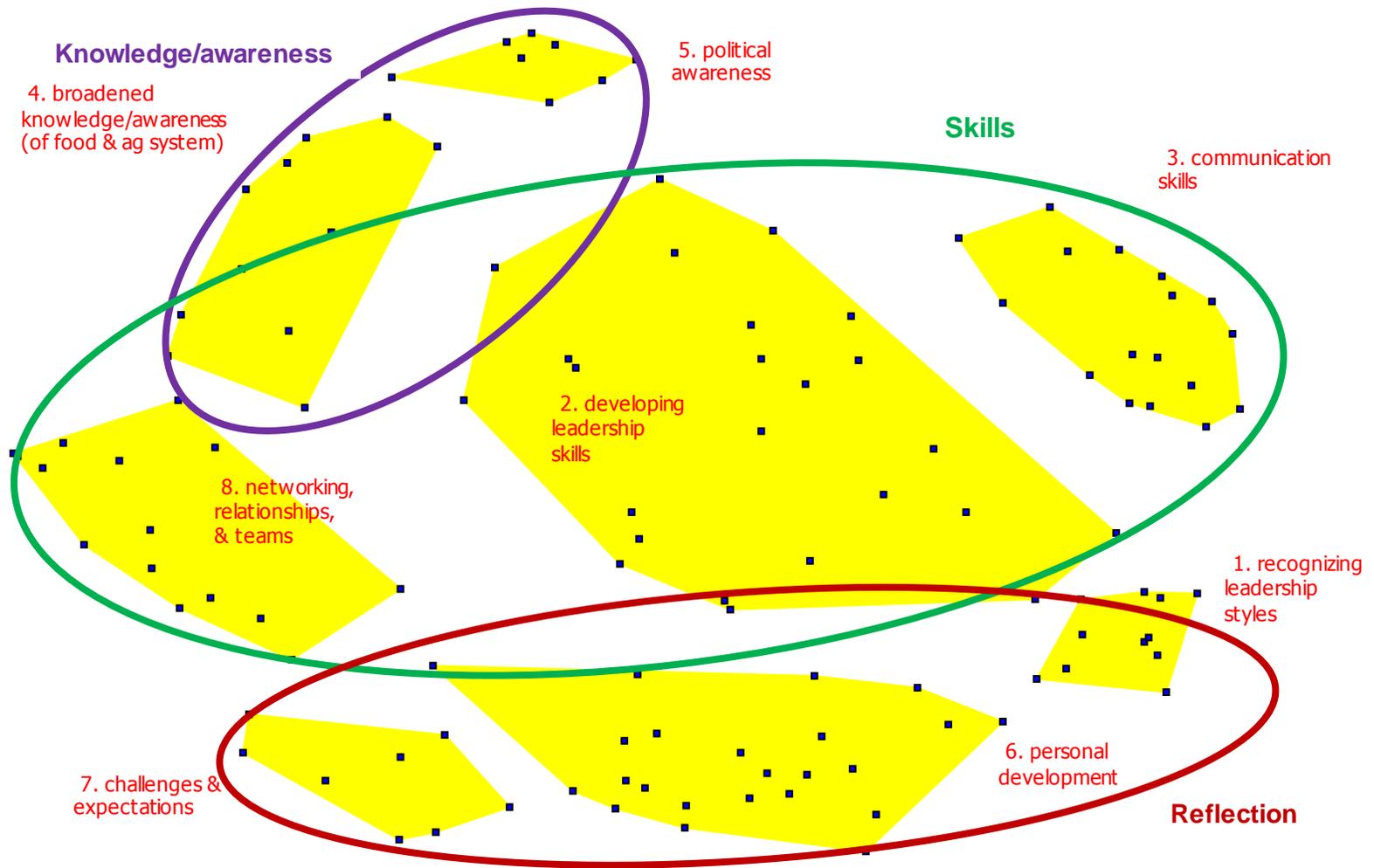


Figure 3-3. Concept Map for the LEAD New York Program (Van de Valk, 2010)

Oklahoma Agricultural Leadership Program

In November of 1980, the W. K. Kellogg Foundation sponsored a meeting to discuss “Leadership Development for Rural America.” Oklahoma was invited to participate in the meeting where the concept of the Agricultural Leadership Program was explained as it was being conducted in five pilot states. The Oklahoma Agricultural Leadership Program (OALP) was then established in 1982 at Oklahoma State University through a grant from the W. K. Kellogg Foundation (OALP, 2010). However, beginning with Class II, the OALP has been privately funded through contributions from individuals and organizations, alumni, participation fees, Oklahoma Legislature, and the Oklahoma State University Cooperative Extension. The Oklahoma Legislature provides approximately \$50,000 annually for most years. In 2003-2004, these funds were not provided however. Staff FTE’s change periodically. At the time of this study, program staff included one .75 FTE program director and one .75 FTE secretary.

The target audience for this program includes men and women typically between 25 to 45 years of age who are engaged in production agriculture or a related agriculture business that have shown a strong commitment to aspire to a leadership role to benefit Oklahoma agriculture. Related agriculture includes United States Department of Agriculture (USDA) employees, cooperative extension, agricultural finance, business, and marketing. Participants are selected through a four stage process: nomination (optional), application, two interviews, and selection. From this process, up to 30 individuals are selected to participate in the program as a class. At the time of this study, fourteen classes had graduated from OALP with a total of 401 alumni (Williams, March 2010, personal communication). Each class attends thirteen seminars over two years (OALP, 2010). At the time of this study, no program logic model or conceptual

framework had been developed. The following three program objectives are incorporated into each of the seminars:

- To assist potential leaders develop a deeper understanding of themselves and of people. This includes personal and group study and interaction, improving skills in communications, and developing a commitment to future leadership roles in Oklahoma agriculture.
- To help potential leaders develop a better understanding of the various systems of economics and government.
- To help program participants increase and utilize their own knowledge and skills in order to solve problems and to explore opportunities for Oklahoma agriculture (Williams, 2010).

Summary of selected programs

Table 3-1 provides an overview of characteristics of the four programs that were selected for the study.

Instrumentation

The second instrument used was an individual interview guide developed by the researcher found in Appendix B. Interviews typically use guides that can be highly structured, semi-structured, or unstructured. The interview guide for this study was semi-structured allowing the researcher to ask the main questions and respond with additional questions as needed. A panel of experts and an expert in evaluation also reviewed this interview guide. The interview questions were similar to the focus group questions, but also included additional questions about networking and specific activities based on the focus group results. The interview guide questions sought to determine intended outcomes and impacts as perceived by the four directors of the programs selected for the study. These questions were used to develop the survey instrument to be sent to the alumni of the four programs.

Table 3-1. Overview of programs selected for phases two and three

	WLIANR	OALP	LEAD NY	KARL
Year Started	1991	1982	1985	1990
Funding Sources	University of Florida Endowment Tuition Donors	Oklahoma Cooperative Extension Legislation Donors	Cornell University Endowment Tuition Foundation Gifts Annual Gifts	Donors Tuition Kansas State University
University	University of Florida	Oklahoma State University	Cornell University	Kansas State University
Employees	One .75 FTE Director One Full-time Secretary One Graduate Assistant	One .75 FTE Director One .75 FTE Secretary	One Full-time Director One Full-time Assistant	One Full-Time Director & CEO One Part-time Administrative Assistant
Selection Process	Nomination Application Interview Selection	Nomination (Optional) Application Individual and Spouse Interviews Selection	Nomination (Optional) Application Interview Selection	Nomination (Optional) Application Initial Screening Interview Selection
Number per Class	Up to 30	Up to 30	Up to 30	Up to 30
Number of Seminars	11 over 22 months	13 over 18-20 months	14 over 24 months	12 over 24 months
Classes Graduated	7	14	12	9
Length of Trips	Approximately 50 days	Approximately 55 days	Approximately 50 days	Approximately 50 days
Number of Alumni	192	401	344	270

Data collection

Interviews are “necessary when we cannot observe behavior, feelings, or how people interpret the world around them” (Merriam, 1998, p. 72). During interviews, it is generally best to ask factual questions that will elicit descriptive information at the beginning and ask for more opinions towards the end of the interview. Finally, the most common way to record the interview data is to tape record the interview (Merriam, 1998), which is how the data was recorded for this study. Additionally, the researcher took notes during each of the interviews.

Four qualitative semi-structured interviews were conducted with each of the four directors for the purposes of this study. The LEAD New York, OALP, and KARL director interviews were conducted over the phone, while the WLIANR director interview was conducted in person at the WLIANR office. Experience in their current positions ranged from nine to 34 years. All of the interviews were conducted in March 2010 within the same week. Each interview was 30 minutes to one hour long. The interviews were audio recorded and transcribed. For this study, member checks were used for the individual interviews. After completing the transcription of each interview, the transcripts were e-mailed to each interviewee to assure they were correct prior to analyzing the data.

Data analysis

The individual interview transcripts were imported into Weft QDA software to be analyzed. The data was compared to the focus group analysis and then utilized to develop the survey instrument. Again, the researcher open coded the transcripts for possible themes using the constant comparative method of data analysis developed by

Glaser and Strauss (1967). Data was compared between individual interviews as well as between the focus group data.

The themes identified through the focus group and individual interviews were used in the development of the survey instrument given to the program alumni. Low-inference descriptors, such as direct quotes, were selected to enhance the credibility of the study. The information provided in this data analysis were also used in Objectives Two and Four: describe the intended impacts and outcomes of agricultural leadership development programs as perceived by program directors and compare and contrast the directors' perceptions to those outcomes and impacts as reported by the alumni.

Phase Three

Research design

The third part of the study was a quantitative survey instrument developed by the researcher and administered to the alumni ($n = 843$) of the four agricultural-based leadership development programs that were purposefully selected in Phase Two. This instrument was used to measure respondent perceptions of program outcomes and impacts as well as alumni attitudes, perceived behavioral control, and subjective norm (Ajzen, 1991). A demographic section was included at the end of the quantitative instrument to collect personal information about the survey respondents. This information was used to address the second objective of the study.

Quantitative research is classified as experimental or non-experimental research. This study used non-experimental survey research. Survey research was used for the quantitative part of this study and is a form of quantitative research which uses interviews or questionnaires to gather information from groups of individuals (Ary et al.,

2006). Surveys allow the researcher to ask questions about peoples' beliefs, attitudes, opinions, behaviors, and characteristics.

Attention must also be given to the validity and reliability of surveys. Ary et al. (2006) and Rossi et al. (2004) describe validity to be the extent to which an instrument measures what it is supposed to measure. The four types of validity include internal, statistical conclusion, construct, and external validity (Ary et al., 2006). Internal validity refers to "the inferences about whether the changes observed in a dependant variable are caused by the independent variables" (Ary et al., 2006, p. 291). Statistical conclusion validity is concerned with errors in statistical conclusions and therefore, the appropriate use of statistics. Construct validity is "the extent to which inferences made from the observed subjects, settings, and operations sampled to the constructs that the samples represented are justified" (Ary et al., 2006, p. 630), which was establish through Phases One and Two. Finally, Ary et al. defined external validity as the "validity of the inferences about whether the findings of the study would generalize to other subjects, settings, and operations" (2006, p. 314). Reliability is the extent to which an instrument is consistent in measuring whatever it measures. Rossi et al. (2004) defined reliability of a measure as the extent to which the same results are produced when using the instrument repeatedly.

Research participants

Participants were purposefully selected as based on a number of program characteristics. The second population ($N = 1,174$) consisted of alumni of the four selected programs discussed in Phase Two. The researcher first selected programs that resided within the state's land grant institution ($n = 23$). From this list, the researcher then identified programs that incorporated a national and international study trip and

consisted of approximately a two-year time period for each class. Finally, the researcher compared program objectives of the remaining 16 programs and selected four to be included in the study: Wedgworth Leadership Institute for Agriculture and Natural Resources (WLIANR), Kansas Agriculture and Rural Leadership (KARL), Oklahoma Agriculture Leadership Program (OALP), and LEAD New York. Of the 1,174 program alumni, 843 (71.8%) had valid working email addresses, which provided the accessible survey sample of $n = 843$ individuals for this study. Coverage error is a concern if a large number of the population is not accessible. However, a majority of the population for this study were accessible. Dillman, Smyth, and Christian (2008) recommend a sample size of 278 with 1,000 individuals in the population frame for this study to achieve a +/- five percent error range. All alumni with valid, working email addresses of the four programs were included in the accessible survey sample ($n = 843$) to assure an accurate representation of all alumni from the four programs in the population ($N = 1,174$). Table 3-2 presents the number of alumni from each class, number of alumni with valid email addresses, and the percentage of alumni with valid email addresses in each class as well as the totals for each program and total population.

Kelsey and Wall (2003) conducted a study with graduates of an agricultural-based leadership development program and received a 43% response rate. Abbingtion-Cooper (2005) utilized a mail survey of graduates of an agricultural-based leadership development program and obtained a 53% response rate.

Instrumentation

The third instrument used in this study was a researcher developed survey instrument, which can be found in Appendix C. The survey instrument addressed three

Table 3-2. Program alumni with valid, working email addresses

Program	Class	Alumni in Each Class	Alumni with Valid Email	% with Valid Email
KARL	I	24	22	91.7
	II	23	14	60.9
	III	25	18	72.0
	IV	27	24	88.9
	V	29	23	79.3
	VI	31	26	83.9
	VII	29	26	89.7
	VIII	30	26	86.7
	IX	30	29	96.7
	Total	248	208	83.9
OALP	I	29	12	41.4
	II	28	8	28.6
	III	29	10	34.5
	IV	25	15	60.0
	V	28	14	50.0
	VI	30	6	20.0
	VII	29	9	31.0
	VIII	30	16	53.3
	IX	28	15	53.6
	X	31	26	83.9
	XI	30	25	83.3
	XII	25	22	88.0
	XIII	29	29	100.0
	XIV	27	23	85.2
	Total	398	230	57.8
LEAD New York	I	30	18	60.0
	II	30	16	53.3
	III	28	16	57.1
	IV	30	20	66.7
	V	31	12	38.7
	VI	28	21	75.0
	VII	26	20	76.9
	VIII	27	21	77.8
	IX	26	18	69.2
	X	30	27	90.0
	XI	27	26	96.3
	XII	30	30	100.0
	Total	343	245	71.4
WLIANR	I	26	20	76.9
	II	26	16	61.5
	III	27	23	85.2
	IV	27	24	88.9
	V	29	27	93.1
	VI	22	22	100.0
	VII	28	28	100.0
	Total	185	160	86.5
Total		1174	843	71.8

behaviors based on the primary themes found in the data from phases one and two: involvement in policy development, leadership roles and responsibilities, and life-long learning. A web-based survey instrument was utilized to reduce the costs of the study. Additionally, a majority of the program alumni had valid, working email addresses on file with the program staff and the program directors believed this form of survey delivery would be effective as email is the primary form of communication used by the program.

The survey was pilot tested beginning June 30, 2010 to ensure validity and reliability. A pilot test allows the researcher to test the instrument to determine if the instrument is measuring what it is supposed to measure (Ary et al., 2006). Subjects from the sample population are given the instrument and provide feedback. For this study, a fifth agricultural-based leadership development program, the Texas Agricultural Lifetime Leadership (TALL) program, was selected which also had similar program attributes to the four primary selected programs. The pilot test closed on July 22, 2010. The TALL program consisted of 231 alumni with valid, working e-mail addresses. The pilot study obtained a response rate of 55.0% ($n = 127$).

The pilot survey consisted of 110 items. Prior to analyzing the data, mean index scale scores were calculated following Francis et al.'s (2004) guidelines for attitudes, perceived behavioral control, subjective norms, and behaviors. Negatively coded items were recoded so that higher numbers reflected a positive attitude, greater perceived behavioral control, greater subjective norms, and behaviors. The mean of the item scores were then calculated to create an overall index mean score for each variable. The researcher analyzed the reliability using factor analysis and Cronbach's alpha for each set of items. Davis (1971) provided a correlational threshold breakdown which

states that correlations between 0.50 and .69 are substantial correlations. Therefore, an a priori level of 0.50 was set and items that obtained a correlation less than 0.50 were eliminated. Cronbach's alpha was then re-calculated for each set of items. All constructs obtained an alpha of 0.63 to 0.88. Based on the factor analysis and Cronbach's alpha, eight items were eliminated. Fifteen additional items were eliminated due to a lack of need for the questions and to reduce the length of the survey.

For the final instrument, Cronbach's alpha for the policy development index scale scores were all 0.71 or higher. The index scale scores for leadership roles were 0.86 or higher. Finally, for the life-long learning index scale scores, Cronbach's alpha was 0.66 or higher. Table 3-3 presents the reliability scores for each index scale for the final instrument.

Table 3-3. Survey instrument reliability index scale scores.

Variable	Cronbach's alpha	Number of items
Policy development		
Attitude	.82	8
Perceived behavioral control	.82	9
Subjective norm	.71	3
Leadership roles		
Attitude	.90	10
Perceived behavioral control	.87	5
Subjective norm	.86	4
Life-long Learning		
Attitude	.73	6
Perceived behavioral control	.66	5
Subjective norm	.74	3

The final instrument included 87 items. Section one of the instrument included 28 likert-like items on a 7-point scale, which addressed respondent attitudes, perceived behavioral control, subjective norms, and behaviors in the policy development process. Section two included 26 items. Twenty-four of these items were likert-like items on a 7-point scale, which addressed respondent attitudes, perceived behavioral control,

subjective norms, and behaviors in leadership roles. One question was a ranking question that asked respondents to rank seven types of organizations in the order in which they were most involved. Finally, one open-ended question allowed respondents to list the top three organizations in which they are most involved. Section three included 17 likert-like items on a 7-point scale which addressed respondent attitudes, perceived behavioral control, subjective norms, and behaviors in life-long learning. Section four included eight likert-like items on a 4-point scale, which addressed behaviors in a number of behaviors identified in the focus groups and interviews. Finally, section five gathered demographic characteristics from the respondents included the leadership program and class in which they were affiliated, current age, gender, race/ethnicity, marital status, and education level.

Data collection

For the alumni members a revised proposal was submitted to IRB-02 and approved. Dillman et al.'s (2008) survey implementation procedures were used for the data collection of the alumni members. This survey procedure consisted of six separate contacts with the alumni. The first was a pre-notice letter (see Appendix D) on August 6, 2010, which explained to the alumni that they would be receiving the survey. The pre-notice letter was developed by the researcher, but modified as deemed necessary by the program director of each program and sent to the alumni by the directors to their respective programs. The second was the Web-based questionnaire mailing (see Appendix E) three days later sent by the researcher using Qualtrics, a web-based survey software system. It included a letter explaining the survey, the participants' rights as a survey subject, and a link to the survey. Four days after the second mailing, a follow-up email (see Appendix F) was sent as a reminder to complete the questionnaire

if he/she had not already done so. Five days later, another reminder (see Appendix G) with the survey link was sent. Another reminder (see Appendix H) to complete the survey was sent on August 23, 2010 without the survey link. This contact also stated that the survey would be closing in two days to encourage individuals to complete the survey. A final contact was sent two days after the fifth contact (see Appendix I) to all of those who had not responded to give a final notice of the closing. It included a letter again explaining the survey, the importance of their response, and the link to the survey instrument. Dillman et al.'s (2008) implementation procedures were used to reduce nonresponse error.

A response rate of 47.7% ($n = 402$) was obtained. Some respondents completed less than half of the survey; therefore these cases were deleted due to the practical application of the data. A comparison of early to late respondents was utilized. Linder, Murphy, and Briers (2001) recommended late respondents "be defined operationally and arbitrarily as the later 50% of respondents" (p. 242). Therefore, this study defined early respondents ($n = 101$) as the first 50% who responded to the survey and late respondents ($n = 101$) as the latter 50% of respondents to the survey instrument. Early respondents were compared to late respondents on the basis of key variables of interest. No significant differences at the .05 level were found between early and late respondents.

Data analysis

The survey data analysis was conducted using SPSS. Demographic information collected from the survey was used to accomplish the second research objective: describe the demographics of current agricultural leadership development program alumni. The independent variables of age, gender, class number and leadership

program, race, marital status, and educational background were analyzed.

Respondents were asked to provide their age, select the gender of male or female, and select the agricultural leadership program and class in which they participated.

Respondents also selected *yes* if they were Hispanic or Latino and *no* if they were not.

Race categories of White/Caucasian, African American, Native American, Asian, and

Other were provided for respondents to select. Marital status was measured by six

categories of single, married without children, married with children, divorced,

separated, and widowed. Divorced, separated, and widowed were combined into one

category for data analysis. Finally, educational background was measured by six

categories of high school, some college, two-year college degree, four-year college

degree, Masters degree, PhD, and Professional degree (DVM, MD, JD). High school

and some college were combined to establish a no college degree category and

respondents with a PhD and professional degree were also combined for the purposes

of the data analysis. Frequencies for each of the demographic variables were

calculated.

For objective three, means and standard deviations of attitudes, perceived

behavioral control, subjective norms, and behavior in policy development, leadership

roles, and life-long learning were calculated for each item and overall scale scores.

Additionally, for items found in section four of the survey instrument, means and

standard deviations were calculated for each item. Results were then compared to the

qualitative data to address objective four.

Correlational statistics were utilized for objective five. Spearman's rho correlation

coefficient was used to determine multicollinearity between the selected demographic

variables and measure possible associations among the demographic variables and the respondents' attitudes, subjective norms, perceived behavioral control and actual behaviors (Agresti & Finlay, 1997). The demographic variables were recoded with a one if the category of was true of the respondent and a zero if the category was untrue of the respondent (see Appendix J) . Pearson's Correlation r was used to measure possible associations among the respondents' attitudes, subjective norms, perceived behavioral control and actual behavior as well as strength of relationships between the variables (Agresti & Finlay, 1997). The magnitudes of correlations were explained using Davis' (1971) thresholds. Correlations between 0.01 and 0.09 are considered negligible, correlations between 0.10 and 0.29 are considered low, correlations between 0.30 and 0.49 are considered moderate, correlations between 0.50 and 0.69 are considered substantial, correlations between 0.70 and 0.99 are considered very high, and a correlation coefficient of 1.00 is considered perfect (Davis, 1971).

Finally, multiple regression was used for objective six to determine the influence the demographic characteristics, attitudes, subjective norms, and perceived behavioral control have on the adoption of certain leadership behaviors. Multiple regression is a method of analyzing the variance of a dependent variable (Agresti & Finlay, 2007). The coding used for the correlational statistics were also used for the multiple regression (see Appendix J). The coefficient of determination is denoted by R-Square (R^2). An R^2 of 0.01 represents a weak relationship, an R^2 of 0.09 represents a moderate relationship, and an R^2 of 0.25 represents a strong relationship (Cohen, 1988). Demographic variables were coded with ones and zeros. The following represents the model used for each behavior:

$$\begin{aligned}
Y(\text{Behavior}) = & \alpha + \beta_1(\text{Attitude}) + \beta_2(\text{Perceived behavioral control}) + \beta_3(\text{Subjective} \\
& \text{norm}) + \beta_4(\text{Age}) + \beta_5(\text{Gender}) + \beta_6(\text{Single}) + \beta_7(\text{Married without children}) + \\
& \beta_8(\text{Married with children}) + \beta_9(\text{Divorced, Separated, or Widowed}) + \beta_{10}(\text{No college} \\
& \text{degree}) + \beta_{11}(\text{Two-year college degree}) + \beta_{12}(\text{Four- year college degree}) + \\
& \beta_{13}(\text{Masters degree}) + \beta_{14}(\text{Doctoral or Professional degree}) + \beta_{15}(\text{Pre – 1990}) + \\
& \beta_{16}(\text{1991 – 1995}) + \beta_{17}(\text{1996 – 2000}) + \beta_{18}(\text{2001 – 2005}) + \beta_{19}(\text{2006 – 2010}).
\end{aligned}$$

All of the variables were included in the full model due to potential hidden effects.

Variables with a p-value below .05 were then removed for the reduced model.

Summary

This chapter described the research methods that were used in this research design conducted on the long-term program impacts and outcomes of agricultural leadership development programs. Chapter 3 also discussed the research design, participants, instrumentation, data collection and analysis for each phase of the study. The research design of this study was a mixed method study utilizing a qualitative focus group and four individual interviews and a quantitative survey instrument. The two populations of this study were the program directors from all IAPAL programs and program alumni of the four selected programs. A summary and description of the analysis was discussed.

Chapter 4 will provide specific information on the results from the focus group, individual interviews, and survey instrument.

CHAPTER 4 RESULTS

The purpose of this study was to determine outcomes of agricultural-based leadership programs in order to predict the adoption of leadership behaviors of participants after participating in agricultural-based leadership development programs in the United States. The objectives of this research were to describe the intended impacts and outcomes of agricultural leadership development programs as perceived by program directors, describe the current demographics of agricultural leadership development program alumni, describe the impacts and outcomes of agricultural leadership development programs as perceived by program alumni, compare and contrast how the outcomes and impacts of agricultural-based leadership development programs as perceived by the program directors align with those outcomes and impacts as reported by alumni, identify the relationship between selected demographic characteristics, attitudes, subjective norms, and the perceived behavioral control and the engagement in certain leadership behaviors, and determine the selected demographic characteristics, attitudes, subjective norms, and perceived behavioral controls that influence alumni of agricultural-based leadership development programs to adopt certain leadership behaviors.

The research study included three phases of different types of data collection, each building upon the previous phase(s). This chapter organizes the findings from all three phases of data collection by the research objectives, rather than through each phase. All 843 alumni from the four selected programs with valid, working email addresses were invited to participate in the web-based survey. With 402 respondents, a response rate of 47.7% was obtained.

Objective One

Objective one: To describe the intended impacts and outcomes of agricultural leadership development programs as perceived by program directors. Data collected from the focus group and interviews with the program directors were used to achieve the first objective of this research.

Short-Term Outcomes

A wide range of short-term outcomes were identified by the directors throughout the focus group and individual interviews. Three main categories of skills were identified: (a) networking, relationship, and team building skills, (b) communication and social skills, and (c) leadership skills. While there are three main categories identified, many of the outcomes overlap into more than one category.

Networking, relationship building, and team building skills

The first category identified through the focus groups and interviews was networking, relationship building, and team building skills. When asked about the networks in an individual interview, Director 4 stated, "That's why this has always fascinated me with this idea of networks being one of the biggest benefits of the program because I don't know if intentionally we set out to do that." This concept of networking was further validated through numerous comments in the focus group when asked about the outcomes of the programs, with Director 5 stating there is "more collaboration among the different commodity groups in our state."

On an individual level, program participants are "being able to work the floor, developing a network. Not being a wallflower, but getting out and meeting people, putting themselves out there," stated Director 3. The programs are "creating networks of leaders" (Director 1) and "engaging more powerful allegiance" (Director 7). Director 1

stated, “We’re creating networks of leaders that can work with each other and draw upon each other.” Finally, Director 1 also stated, “It’s pretty remarkable to see a group of 30 strangers, basically, that come together and 48 hours later, they’re hugging each other and saying good-bye and it’s like they’ve been best friends forever.”

Program directors also identified alumni to have “human relation skills” (Director 1). Director 6 shared a story about one of his alumni members, “As a result of the program he makes better deals with the businesses, his negotiation skills are better, and he has totally different conversations with people than he had before.” These types of skills were also identified as “soft skills” (Director 1) and included an understanding of “how to cultivate and maintain relationships, how to respect differences of opinion, how to participate in team building activities or launch team building activities within an organization” stated Director 1 in an individual interview.

Director 4 believed that “participants are able to get along better with people who don’t think like them, who don’t come from the same industry they come from, and in general, are able to get along better with people they work with and family members.” Many directors mentioned stronger relationships being developed between families of the participants. “I think the program really strengthens some families and you know, builds family ties. We talk about this. And relationships with the people you know, family,” stated Director 3.

Many programs encourage participants to understand how to work with policy makers and Director 4 stated, “I believe a great majority of them are now a little more comfortable and confident in dealing with policy makers. And by policy makers I don’t just necessarily mean US Congressmen or Senators, but at the state and local level.”

This understanding and ability to work with others comes from understanding different personality styles through personality assessments. One specific example provided by Director 11 was about the True Colors assessment:

Well, we do the personality inventory we do is through colors and so, after that, for the whole two years and even after that, they're reading people and talking about people as if, 'Okay, I understand why that person is that way, because I can see they're green or blue or gold,' or whatever it is, and I think that really – instead of being against somebody immediately, might still be against somebody, but they say, 'Well, okay. Now I understand why he or she thinks that way.'

Other examples of activities that developed networks and relationships included wilderness experiences, cultural sharing, and interviewing individuals within their home communities prior to a seminar. Finally, Director 1 explained how he believed the networks begin:

I think I'm a real proponent of the networking aspect of our program. But the answer to how we do that is really, we just get the right people in the room together. So a lot of it goes back to, not so much what we do in our program or the training that we provide, but really goes back before that, it has to do with our recruitment activities, types of applicants that we attract, how we go about selecting our class members, and what we end up with is a class that is very diverse.

When asked about the different types or levels of networks, Director 4 in the individual interview described the class as a primary network which is then expanded through alumni and speakers:

From day one, the first network is their classmates...that's their primary network is this group of usually 30 individuals. As the program progresses, as our two-year program progresses, their networks increase with, number one, the alumni of the program who are active and who participate in different events in the two-year program. Throughout the two-year experience in our group, they are introduced and, again, develop relationships with other [program] alumni which increases their network. And then in addition to that, we like to say we average about 350 resource people that come in and interact and speak to our group throughout the two-year program.

This description was supported by others describing the networks to look like a spider web, with the individual classes being the center and each class member having a branch that is connected to other networks of individuals. Director 2 believed “that, even though you might be a class of 30 that’s involved in the program, you may be contacting a thousand people at a time through shared leadership training.”

Finally, the directors addressed the importance of the networks and relationship building on numerous occasions. As Director 1 stated:

If the only people you ever work with are the same people in your silo, if you will, then those are the only answers to problems you’re ever going to know. But if you begin to develop relationships with people outside of that silo, you’re going to have access to more creative solutions to problems.

Through participation in the programs, “rather than get into the coffee-shop complaint types of groups, they get into the problem-solving groups” (Director 2). This is “recognized by the leadership of those organizations that they want our graduates to be involved because they can deal with the issues that they have to face much more efficiently and more effectively than they had before” (Director 2). The alumni also recognize the importance of the networks as stated by Director 1 in his interview, “I think that our participants...recognize the importance of team building and diversity appreciation...and they’re more conscious about those networking and team building skills.”

Communication and social skills

“Communication in various forms” (Director 4) was continually identified by the program directors in both the focus group and the individual interviews as a “primary” outcome or “first set of skills gained” (Director 2) by participating in an agricultural leadership development program. The participants reported many characteristics and

examples of increased communication skills both verbally and written, better negotiation skills, and “enhanced communication proficiencies” (Director 7). Multiple focus group participants identified alumni as becoming better communicators, better listeners, and better spokespeople for the industry.

Communication skills included running a meeting, thank you letters, asking questions, speaking to others about their job or industry, and being able to formulate an argument and present the issue to others were just a few examples provided by the directors. This also includes media skills and media relations. Communication skills are also developed through putting them in “presiding roles, introducing speakers,” which Director 17 described by stating, “It’s difficult, it’s not fun, but it causes positive change.” Through “enhanced communication proficiencies,” (Director 7) it “increases their confidence in communication” (Director 4).

The social skills reached even the most basic level “by bringing someone in to sort of deal with how to behave in a social setting, and how to eat in a fancy restaurant” stated Director 8 in the focus group. This category was further validated through many other comments in the focus group, with Director 9 from the focus group adding, “etiquette, how to initiate conversations, how to exchange business cards, how to behave in a social gathering, how to put your napkin on a plate and your wine glass and be able to still switch business cards without having greasy chicken wings all over the place.” Director 10 said, “Well, we kind of try to take the redneck out of them honestly.”

Leadership skills

Director 1 specifically identified this category by calling it the “miscellaneous leadership skills” that do not necessarily fall into one of the previous two categories. Director 1 elaborated by saying these “have a lot more to with some cognitive skills, you

know, how to think critically or how to think strategically about issues, how to be able to lead an organization through change or understanding the steps in the process of navigating change.” Confidence, critical thinking, understanding differences in cultures, economies, and issues, globalization, negotiation skills, conflict resolution, time management, and self-awareness were many of the examples provided in regards to leadership skills.

Leadership skills “goes back to some confidence” stated Director 4, “A lot of things I think of are more building, kind of, their leadership confidence” by “not only being in the program, but also doing some traveling and learning and interacting with the resource people they do.” Director 10 shared the story of an alumni member’s improved confidence, “The impact that our program had on at least one of the individuals, prior to applying for the program, he stuttered, and he got the confidence and the coaching skills and overcame the disability that he had.” The networks as previously mentioned, are believed to also increase the confidence of alumni, “by the time they graduate, they realize they’ve got a base of support from this network, and that includes people they’ve met and people they have not met. And I think that is part of what enhances their confidence” (Director 11). Through this confidence, participants begin to feel empowered as a leader, develop a “willingness to be vulnerable as a leader,” (Director 12) understand “how to lead regardless of your position,” (Director 9) and gain the confidence to delegate responsibility to others.

Alumni of the programs are developing a “more positive and proactive approach toward change” stated Director 1 in the focus group. Focus group participants also discussed an increased “sense of accountability” (Director 13). Program alumni realize

a problem is “no longer somebody else’s problem. It’s theirs and to address it,” (Director 13).

Throughout the focus group, there was continuous agreement and support for an increased understanding and awareness of differences and issues. These differences were in cultures, economies, personalities, perspectives, and diversity as well as issues within and outside of agriculture. This awareness and understanding occurs through a process of taking participants “out of their comfort zone on purpose” (Director 7). Director 14 stated, “They realize that we’re playing on the world’s stage, that we’re not on an island.”

A “global focus” (Director 2) or understanding was emphasized by the directors in several comments throughout the focus group and interviews. “Because it’s a progressive training experience, by the time the class members finish with the experience they’ve got a global focus,” stated Director 2 in the individual interview.” The directors believed that because of this global focus and broader understanding “they have a way of looking at issues from several different viewpoints and they have a greater understanding of the importance of compromise in solving problems” (Director 2). Director 2 stated, “Preparation is more easily attained for dealing with the challenges that we see on a global basis...because they have that international experience.” Through the wide-range of topics and viewpoints experienced throughout the program, alumni are more prepared and educated on how to deal with their own issues.

Medium-term Outcomes

Behaviors such as involvement in organizations, continuing education, involvement in the policy development process, and taking on leadership roles and responsibilities were continually identified by the program directors in both the focus

group and interviews. The three main areas identified through the focus group and interviews were: (a) involvement in leadership roles and responsibilities, (b) involvement in the policy development process, and (c) seeking out opportunities for further education.

Leadership roles and responsibilities

The directors of the individual interviews were asked to first define a leadership role or responsibility. Director 3 defined a leader or leadership role as “getting involved, helping direct or focus activities or outcomes.” Director 2 defined a leadership role as:

An activity where you are responsible for a group’s decision making and help steer them into a situation where they can come to a conclusion and solve a problem or deal with an issue. They don’t necessarily have to be the group leader to do that. They can be an active member of the organization and help direct that change that’s going to occur.

The other two directors provided similar definitions for a leader as being “somebody who has to move a group of people, and that could be two people, it could be 200 people” (Director 4) serving in “any position where an individual is influencing others for change” (Director 1). All four directors mentioned that a leadership role or responsibility did not have to be a formal position. This was further emphasized in the focus group by Director 7 stating,

We talk about school boards, supervisor, appointed and elected positions, the important thing is that they’re engaged and responsive leaders in their community and their spirit of professionalism, whatever it might be, but the important thing is that they are much more engaged after the programs.

Other examples of these leadership roles and responsibilities were provided.

These included elective or appointed government positions, organizational and school boards both within and outside of agriculture. Overall, the directors in both the focus

group and interviews felt that alumni are “stronger community leaders” (Director 15) after participating in the leadership program.

When asked at what level or what types of organizations alumni are most involved, Director 4 said “at the local level especially, they’re involved in their communities.” However, many did provide examples of leadership roles within state, commodity, and national organizations. Director 1 stated, “The vast majority of our alumni serve in local leadership roles or organizational leadership roles, and lesser numbers in state level leadership roles, and lesser level serve in national level leadership roles. But they’re present in all those levels.” Director 2 agreed and stated that “It’s pretty much balanced across the board where they’re involved in – I would guess a good third of them are heavily involved in local leadership roles. Another third of them are heavily involved in commodity organizations. And another third are involved in government.”

While many of the programs’ target audience involves those within the agriculture and natural resources, the directors believed that alumni were also serving in leadership roles outside of agriculture and natural resources organizations. This was supported by examples of alumni serving on school boards or within government positions. In the individual interview Director 1 stated, “We see the ones that are involved in our industry, but that doesn’t mean they’re not involved outside our industry and we just don’t see it.”

The directors believed that organizations choose their board members from the alumni of these agricultural-based leadership programs with Director 2 stating that, “Organizations send us their people because they’re getting back better leaders in their organizations.” Overall, the directors continually stated that the alumni of the programs are involved in numerous leadership roles and responsibilities in a wide-range of

organizations. However, as Director 7 stated, “the real measure of our mettle as leadership architects is, are we turning out better people than what we started with? And if we’re not, we’re failing.”

Policy development

Due to the many activities and experiences in the program that are related to the policy development process, directors also identified alumni being involved in the policy development process after graduation as a common theme. Alumni graduate from the programs with a better “understanding of trading partners globally” (Director 9) and “the legislative process,” (Director 11) therefore the directors shared a common belief that they were making “public policy impact” (Director 7). In the focus group, Director 11 shared a story of an activity that often leads to changes in policies for the state:

We put them through a legislative process. They have to write a bill for the state legislature according to the exact guidelines of the state legislature. And then they have to present it and they have to get it out of committee. And so they – and as a result of this activity, a lot of these folks actually go to their own legislatures and get these bills passed.

Many programs have listed increased involvement in the policy development process in the program objectives, which was reinforced by Director 4 in the individual interview by stating, “That’s listed as a goal of our program...I think a great majority of them are involved, but, again, it probably goes back to their own individual industry groups and issues that arise that would impact their industry.”

Alumni are more willing to become involved in policy development as Director 4 stated,

I feel like a great majority of our folks probably have now made a phone call without being prompted by, you know, an e-mail alert or something like that, have made a phone call, gone for a visit, you know, actually said, hey, this is impacting me, what can I do to help, on this policy.

Because participants are more confident and comfortable with policy makers, Director 4 believed they were more willing to go speak to the representatives about an issue that impacted them, “I want to go talk to somebody about it. I want to go provide some expertise on it. Like if they need to talk to a farmer in a certain area, I can be that person.”

Finally, the directors in the individual interviews were asked to share a specific example of alumni being involved in the policy development process. Director 1 shared this story:

Many many many of our alumni lobby on behalf of their own organizations. Just a couple weeks ago, for example, one of our current class members, not even an alumnus, but one of our current class members was testifying before the New York State Assembly regarding a wine-in-grocery-stores bill. Currently, New York State does not allow grocery stores to sell wine. Thirty some odd states around the country do allow that. Of course, New York wineries are interested in seeing that kind of legislation pass because it opens up new markets for their product. So we have a current class member and a couple of my alumni that have very actively lobbied for passage of this legislation. It still hasn't passed yet but it looks like it's got a really good shot this year.

Life-long learning

The third major medium-term outcome identified by the program directors was the continuation of education after alumni graduate from the programs, which is supported by one quote from Director 16 in the focus group, “One thing in [State], I've noticed, is that the alumni are committed to life-long learning.” Alumni continue to seek out additional types of continuing educational opportunities in formal and nonformal settings. Some of these opportunities are for formal degrees, while others are participating in other leadership development programs.

When asked about this idea of instilling a desire for continued life-long learning, all four directors from the individual interviews agreed and provided examples or stories of alumni asking for additional leadership development opportunities. Director 4 stated:

I believe that because of this program they want to seek out additional learning. And they tell us that. We do have pretty good evaluation data saying that they, you know, a great majority of the alumni would love to have a [program name] two. A second leadership program that they could go through and, again, maybe not as rigorous as if it's two years, but they've – they love to be able to get into a group of very highly motivated, highly functioning, highly thinking people and, again, bounce ideas around. They like the idea of having speakers brought in of – speakers that they might not hear, necessarily, in their day-to-day lives, so I believe they try to seek out those opportunities wherever they can.

This was further supported by Director 4 stating, “I do see that because they kind of get in this mindset and they like it and they liked their experience in the program and while they know they can't duplicate it, they would try to – they want to replicate it.” Director 2 described the experience of participating in the program as a “rush” and “when it stops it's an abrupt stop and they start searching for that rush...to get together with friends and learn and try to solve problems and keep up with the issues.” Finally Director 1 stated, “In fact this is one of the outcomes that was identified by my alumni as an important outcome of participation is that our program tends to instill a sense of life-long learning or an appreciation for the importance of continuing education. So many of our graduates do go on to seek out additional professional development opportunities.”

Director 17 in the focus group stated that, “They often pursue more formal education than they would have otherwise.” These formal education opportunities included Master's or higher education programs, Eisenhower fellowships, Center for Creative Leadership and Nuffield. Nonformal opportunities included reading more books, specifically “leadership books, Good to Great, Truthful Conversations, those kind of things where they would have never picked it up before” (Director 1) These also

include participating in commodity board training, employer-based leadership programs, agribusiness seminars, and other similar leadership training programs within their communities and states.

Alumni have also started to create leadership programs within their own businesses and organizations to provide leadership training opportunities for others. This was supported in both the focus group and interviews when asked about continuing education and the concept of becoming life-long learners. Director 4 brought this up in the focus group by stating, “some of our graduates actually start leadership programs.” Director 4 believed this was directly related to their participation in the program by stating:

I honestly think, especially the starting of other programs, I think that could be directly related to this program because when I look at what they're trying to do for, again, either staff in their company or in the industry, they're program model is a lot like the [State Program] which, again, I think is a great thing.

Networks

As mentioned in the short-term outcomes, the development of networks continues to be a reoccurring theme, whether intended or unintended. Therefore, in the individual interviews, the directors were asked about the use of these networks by the alumni and why they are important to the agriculture and natural resources industry. Director 1 used a metaphor to describe the importance of these networks that are developed:

You know, it goes back to that old saying that if the only tool you have is a hammer, then every problem you have starts to look like a nail. You know, and many of the problems that we have in agriculture, they're not all nails. We need different tools to fix those problems. I think a broadened diverse network helps give us those tools to solve those problems.

Alumni are utilizing the networks developed in the program for their personal and professional lives. Director 1 in the interview believed that the “networks become

resources and individual class members learn that they have access to resources that they previously did not have and they just know where to go for help.” This was further emphasized by Director 4 stating “I get many, many stories or phone calls or emails where one class member was faced with an issue or problem...and because of the networks that they’ve begun to establish in the [Program], they know who to call.”

Individuals and organizations within the industry are also utilizing these networks as described by Director 4:

Looking at board involvement at the local and state level. We’ll get calls here in the office, quite a lot, of we’re looking for a representative from southwest [State] to sit on a water board. Who do you know down there? That kind of thing. We’ll kind of use our network down in that area to come up with a name of somebody.

Table 4-1 provides a summary of the focus group and interview results.

Table 4-1. Summary of focus group and interview results

Short-term
Networking, relationship building, and team building skills
More collaboration among different commodity groups
Understanding how to develop personal and professional networks
Understanding how to cultivate and maintain relationships
Human relation skills
Negotiation skills
How to participate in team building activities
How to respect differences of opinion
Develop stronger relationships between families of participants
Understanding of how to work with policy makers
Increased confidence
Understanding different personality styles
Desire to associate with other problem-solving groups
Recognize the importance of team building and networking
Communication and social skills
Improved verbal and non-verbal communication skills
Better listening skills
Better spokespersons for the industry
Ability to run a meeting
Develop better public speaking skills
Understand proper etiquette
Learn how to initiate conversations

Table 4-1. Continued

Leadership skills
How to think critically and strategically
Understanding of differences in cultures, economics, issues, and globalization
Improved time management skills
Increased self-awareness
Increased leadership confidence
Understand how to lead
Willingness to be vulnerable as a leader
Develop more positive and proactive view towards change
Develop a sense of accountability
Establish a global focus

Medium-term

Leadership roles and responsibilities
Serve in elective and appointed government positions
Organizational and school boards
Within and outside of agriculture
Stronger community leaders
Involved in organizations at all levels
Most at community/local level
Several at the state level
Less at the national/international levels
Policy development
Most involved at local level or within industry groups
Contact policy and decision makers without being prompted
More proactive to contact or educate others about issues impacting industry
Serve as resource person for policy makers
Lobby on behalf of own organizations
Life-long learning
Committed to life-long learning
Seek out formal and nonformal educational opportunities
Want to replicate leadership program experiences
Continue formal education through Master's or higher education programs
Read books outside of traditional trade magazines
Participate in other leadership programs for counties, boards, or employer-based
Create leadership programs for others
Networks
Utilize the networks established in the program
Industry utilizes the networks to fill leadership or board positions in organizations

Objective Two

Objective two: To describe the current demographics of agricultural leadership development program alumni. The survey instrument administered to all 843 alumni

members of the four selected programs with a valid, working email address was used to achieve objective two of this study.

Of the 402 alumni members who responded to the survey instrument, 92 (22.9%) were from the KARL program, 111 (27.6%) were from the LEAD New York program, 111 (27.6%) were from the OALP, and 88 (21.9%) were from the WLIANR. As described in chapter 3, KARL has graduated nine classes, LEAD New York has completed 12 classes, OALP has completed 14 classes, and the WLIANR has completed seven classes for a total of 42 classes. Each of the 42 classes were represented by the survey respondents (see Table 4-2).

Table 4-2. Program and class representation

Program	Class	Graduation Year	<i>n</i>	%
KARL	I	1993	11	2.7
	II	1995	2	0.5
	III	1997	7	1.7
	IV	1999	9	2.2
	V	2001	14	3.5
	VI	2003	10	2.5
	VII	2005	13	3.2
	VIII	2007	10	2.5
	IX	2009	16	4.0
	Total		92	22.9
LEAD New York	I	1987	5	1.2
	II	1989	10	2.5
	III	1991	3	0.7
	IV	1993	8	2.0
	V	1995	3	0.7
	VI	1997	5	1.2
	VII	1999	6	1.5
	VIII	2001	6	1.5
	IX	2003	11	2.7
	X	2005	15	3.7
	XI	2007	17	4.2
	XII	2009	22	5.5
	Total		111	27.6

Table 4-2. Continued

OALP	I	1984	8	2.0
	II	1986	6	1.5
	III	1988	3	0.7
	IV	1990	7	1.7
	V	1992	4	1.0
	VI	1994	3	0.7
	VII	1996	4	1.0
	VIII	1998	6	1.5
	IX	2000	7	1.7
	X	2002	11	2.7
	XI	2004	14	3.5
	XII	2006	11	2.7
	XIII	2008	14	3.5
	XIV	2010	13	3.2
Total			111	27.6
WLIANR	I	1994	9	2.2
	II	1996	9	2.2
	III	1998	10	2.5
	IV	2000	10	2.5
	V	2003	16	4.0
	VI	2006	10	2.5
	VII	2009	24	6.0
Total			88	21.9
Total (<i>n</i>)			402	100.0

Note: *N* = 843

The average age of the respondents was 47 years, with a range of ages from 26 years to 66 years (see Table 4-3). Respondents primarily resided in Florida (*n* = 80, 19.9%), Kansas (*n* = 87, 21.6%), New York (*n* = 103, 25.6%), and Oklahoma (*n* = 108, 26.9%). However, individuals also resided in Arkansas, Colorado, Washington, D.C., Georgia, Idaho, Indiana, Massachusetts, Minnesota, New Jersey, Ohio, South Carolina, South Dakota, Texas, Virginia, and Wisconsin. No respondents resided outside of the continental U.S. A majority of the individuals who responded to the survey were male (*n* = 289, 71.9%), with only 27.1% (*n* = 109) being female. Less than 0.7% (*n* = 3) were Hispanic or Latino. Ninety-six percent (*n* = 386) of the respondents were

White/Caucasian, 1.0% ($n = 4$) were Native American, and 0.5% ($n = 2$) reported their Race as Other. A vast majority ($n = 288$, 71.6%) of the respondents were married with children, 10.4% ($n = 42$) were married without children, 6.0% ($n = 24$) were single and had never been married, and 9.7% ($n = 39$) were divorced, separated, or widowed. Less than 14% ($n = 54$) did not have a four-year college degree, as 50% ($n = 201$) had completed a four-year college degree, 29.4% ($n = 118$) had completed a Master's degree, and 5.5% ($n = 22$) had completed a Doctoral or Professional (JD, MD, DVM) degree. Of the respondents, 9.7% ($n = 39$) graduated before 1990, 10.7% ($n = 43$) graduated between 1991 and 1995, 18.2% ($n = 73$) graduated between 1996 and 2000, 27.4% ($n = 110$) graduated between 2001 and 2005, and 34.1% ($n = 137$) graduated between 2006 and 2010 as seen in Table 4-4.

Table 4-3. Alumni members age

Variable	<i>M</i>	<i>SD</i>	Range
Age	46.9	9.01	26 – 66

Note: $N = 843$; $n = 351$

Table 4-4. Demographic characteristics of survey respondents

	<i>f</i>	%
State of Residence		
Florida	80	19.9
Kansas	87	21.6
New York	103	25.6
Oklahoma	108	26.9
Other (AR, CO, DC, GA, ID, IN, MA, MN, NJ, OH, SC, SD, TX, VA, WI)	19	4.7
Gender		
Male	289	71.9
Female	109	27.1
Hispanic/Latino		
Yes	3	0.7
No	389	96.8
Race		
White/Caucasian	386	96.0
Native American	4	1.0
Other	2	0.5

Table 4-4. Continued

Marital Status		
Single, never married	24	6.0
Married without children	42	10.4
Married with children	288	71.6
Divorced/Separated/Widowed	39	9.7
Education		
No college degree	33	8.2
2-year college degree	21	5.2
4-year college degree	201	50.0
Master's degree	118	29.4
Doctoral/Professional degree	22	5.5
Program Graduation Year		
Pre-1990	39	9.7
1991-1995	43	10.7
1996-2000	73	18.2
2001-2005	110	27.4
2006-2010	137	34.1

Note: $N = 843$

Objective Three

Objective three: To describe the impacts and outcomes of agricultural leadership development programs as perceived by program alumni. Data collected from the survey instrument with the program alumni from the four selected programs were used to achieve this objective. Questions were on a Likert scale and asked respondents to rate how much they participated in specific behaviors related to being involved in the policy development process, the leadership and volunteer roles they have taken on, and the amount of continued education they have participated in on a 7-point scale, where 1 = *infrequently* and 7 = *frequently*. Attitude, perceived behavioral control, and subjective norms were also measured on a 7-point scale.

The survey instrument included a section on alumni involvement in the policy development process at all levels (community, state, national or international). The total index mean for policy development behaviors was $M = 3.86$ ($SD = 1.41$), which means on average, alumni were involved in policy development. Table 4-5 presents the mean

scores of each item as well as the index mean for the set of six items. Survey questions also addressed alumni attitudes, perceived behavioral control, and subjective norms towards being involved in the policy development process. The mean index score for attitude was $M = 4.99$ ($SD = 0.92$), perceived behavioral control was $M = 4.23$ ($SD = 0.94$), and subjective norms was $M = 4.05$ ($SD = 1.21$) as presented in Table 4-6.

Table 4-5. Alumni involvement in the policy development process

	<i>M</i>	<i>SD</i>
I participate in the policy development process.	4.43	1.82
I participate in policy development issues that are not related to my business or organization.	3.55	1.86
I contact my policy and decision makers by email.	3.69	2.05
I contact my policy and decision makers by phone.	3.42	1.99
I contact my policy and decision makers when an issue arises.	4.72	1.73
I participate in political campaigns for candidates.	3.36	2.11
Total Index Mean	3.86	1.41

Note: 7-point scale, 1 = *infrequently* and 7 = *frequently*

Table 4-6. Alumni attitudes, perceived behavioral control, and subjective norms towards involvement in the policy development process

	<i>M</i>	<i>SD</i>
Attitude	4.99	0.92
Perceived behavioral control	4.23	0.94
Subjective norms	4.05	1.21

Note: 7-point scale

The second section of the survey instrument asked participants questions about their level of engagement in leadership and volunteer roles at the local, state, commodity or nation and international levels on a 7-point scale, where 1 = *infrequently* and 7 = *frequently*. Table 4-7 presents the item mean score and index mean score ($M = 4.57$, $SD = 1.37$) for the set of five items. The total index score for attitude towards being involved in leadership roles was $M = 5.59$ ($SD = 0.91$), perceived behavioral control was $M = 4.76$ ($SD = 1.16$), and subjective norms was $M = 5.06$ ($SD = 1.17$) (see Table 4-8).

Table 4-7. Alumni involvement in leadership and volunteer roles

Question	<i>M</i>	<i>SD</i>
I have taken on leadership roles within my local organizations.	5.66	1.54
I serve as a volunteer for my local organizations.	5.48	1.60
I have taken on leadership roles within my commodity or state organizations.	4.64	2.00
I serve as a volunteer for my state or commodity organizations.	4.34	2.00
I serve in leadership roles within my national and international organizations.	2.78	1.98
Total Index Mean	4.57	1.37

Note: 7-point scale, 1 = *infrequently* and 7 = *frequently*

Table 4-8. Alumni attitudes, perceived behavioral control, and subjective norms towards involvement in leadership roles

	<i>M</i>	<i>SD</i>
Attitude	5.59	0.91
Perceived behavioral control	4.76	1.16
Subjective norms	5.06	1.17

Note: 7-point scale, 1 = *negative* and 7 = *positive*

Section two also asked respondents to rank the types of organizations from 1 to 7 in which they are most involved with 1 = *most involved* and 7 = *least involved*. The organization categories included: community organizations, local government, commodity organizations, state organizations, state government, national organizations, national government, and other. Table 4-9 presents the mean scores for each category. Alumni reported being most involved in community organizations ($M = 1.93$, $SD = 1.36$) followed by state organizations ($M = 3.17$, $SD = 1.24$), local government ($M = 3.38$, $SD = 1.65$), and commodity organizations ($M = 3.41$, $SD = 1.84$). Alumni were less involved in state government ($M = 4.84$, $SD = 1.18$), national organizations ($M = 5.04$, $SD = 1.55$), and national government ($M = 6.52$, $SD = 1.23$). Other responses mostly consisted of religious or church organizations.

Table 4-9. Alumni ranking of involvement in organizations

Category	Ranking	<i>M</i>	<i>SD</i>
Community organizations	1	1.93	1.36
Local government	3	3.38	1.65
Commodity organizations	4	3.41	1.84
State organizations	2	3.17	1.24
State government	5	4.84	1.18
National organizations	6	5.04	1.55
National government	7	6.52	1.23

Note: *N* = 348

Section three of the survey instrument included questions about alumni involvement in formal, nonformal, and leadership development educational opportunities on a 7-point scale, where 1 = *infrequently* and 7 = *frequently*. Table 4-10 presents the mean item scores and total index mean (*M* = 5.13, *SD* = 1.20) for individuals' engagement levels in life-long learning opportunities. Table 4-11 presents the total index mean scores for alumni attitudes (*M* = 5.90, *SD* = 0.78), perceived behavioral control (*M* = 5.38, *SD* = 0.86), and subjective norms (*M* = 5.24, *SD* = 1.09) towards involvement in life-long learning opportunities.

Table 4-10. Alumni involvement in life-long learning opportunities

Question	<i>M</i>	<i>SD</i>
I seek out formal educational opportunities.	4.11	2.03
I seek out nonformal educational opportunities.	5.96	1.25
I seek out opportunities to further develop my leadership skills and abilities.	5.32	1.49
Total Index Mean	5.13	1.20

Note: 7-point scale, 1 = *infrequently* and 7 = *frequently*

Table 4-11. Alumni attitudes, perceived behavioral control, and subjective norms towards involvement in the life-long learning opportunities

	<i>M</i>	<i>SD</i>
Attitude	5.90	0.78
Perceived behavioral control	5.38	0.86
Subjective norms	5.24	1.09

Note: 7-point scale

The fourth section of the survey instrument addressed additional leadership behaviors identified from the focus group and individual interviews. Table 4-12 shows the means for a set of leadership behaviors in which alumni choose to engage. The survey instrument used a 4-point scale for this section that asked respondents to rate how true each statement, where 1 = *not at all true of me*, 2 = *somewhat true of me*, 3 = *mostly true of me*, and 4 = *completely true of me*. Alumni reported leadership behaviors such as effectively facilitating meetings ($M = 3.27$, $SD = 0.73$), attending organizational conferences and meetings ($M = 3.38$, $SD = 0.68$), educating others about issues within their community, business or organization ($M = 3.07$, $SD = 0.79$), educating others about agriculture and natural resources ($M = 3.25$, $SD = 0.77$), and providing opportunities for other to take on leadership roles ($M = 3.00$, $SD = 0.79$) to be mostly true of themselves. Alumni also reported delegating responsibilities to others to be mostly true of themselves ($M = 2.92$, $SD = 0.79$). The two behaviors reported to be somewhat true were establishing and utilizing relationships with the media ($M = 2.44$, $SD = 1.04$) and utilizing new media technologies ($M = 2.03$, $SD = 0.97$).

Table 4-12. Leadership behaviors of alumni

Question	<i>N</i>	<i>M</i>	<i>SD</i>
I effectively facilitate meetings for my business or organization.	395	3.27	0.73
I delegate responsibilities to others.	396	2.92	0.79
I attend the organizational conferences and meetings for organizations that I am involved in.	396	3.38	0.68
I educate others about local issues within my community, business, or organization.	395	3.07	0.79
I educate others about the agriculture and natural resources industries.	396	3.25	0.77
I provide opportunities for others to take on leadership roles.	394	3.00	0.79
I establish and utilize my relationships with the media.	394	2.44	1.04
I utilize new media technologies.	395	2.03	0.97

Note: 4-point scale, 1 = *Not at all true of me*, 2 = *Somewhat true of me*, 3 = *Mostly true of me*, 4 = *Completely true of me*

Objective Four

Objective four: To compare and contrast how the outcomes and impacts of agricultural-based leadership development programs as perceived by the program directors align with those outcomes and impacts as reported by alumni. The focus group and interview data discussed in objective two was compared to the survey data discussed in objective three to obtain the results for this objective.

A number of similarities were found. The directors reported alumni were more willing and would contact policy and decision makers without being prompted, which was consistent with the survey results. Alumni reported contacting their policy and decision makers fairly frequently ($M = 4.72$, $SD = 1.73$). Directors also believed alumni to be active and involved in the policy development process in a number of ways. Alumni reported being frequently involved in the policy development process ($M = 4.43$, $SD = 1.82$).

In regards to being involved in leadership roles, the directors stated alumni serve in leadership roles within and outside of agriculture. Most are involved at the local or community levels, with fewer being involved at the state levels, and less involved at the national and international levels. This is consistent with the survey data reported by the alumni. The alumni ranked community organizations first as the type of organization they are most involved, followed by state organizations and local government. National organizations and national government were the lowest type of organization in which alumni are involved. Alumni reported frequent involvement in leadership roles ($M = 5.66$, $SD = 1.54$) and volunteer roles ($M = 5.48$, $SD = 1.60$) in local organizations. Additionally, alumni reported infrequent involvement within national and international organizations ($M = 2.78$, $SD = 1.98$).

Finally, the directors believed alumni were committed to life-long learning. They stated that alumni seek out many types of educational opportunities and attempt to recreate their leadership program experiences. This was also consistent with the survey data. Alumni reported mostly being involved in nonformal educational opportunities ($M = 5.96$, $SD = 1.25$) and leadership development opportunities ($M = 5.32$, $SD = 1.49$). Table 4-13 presents the perceptions of the directors and alumni responses.

Table 4-13. Comparison of director and alumni perceptions of outcomes

Results from focus group and interviews	Results from survey
Involvement in policy development	
Most involved at local level or within industry groups	Report fairly frequent involvement in policy development ($M = 3.86$, $SD = 1.41$)
Contact policy and decision makers without being prompted	
More proactive to contact or educate others about issues impacting industry	Have positive attitudes towards being involved in policy development ($M = 4.99$, $SD = 0.92$)
Serve as resource person for policy makers	Have the knowledge and skills necessary to be involved ($M = 4.23$, $SD = 0.94$)
Lobby on behalf of own organizations	Contact policy and decision makers when issues arise ($M = 4.72$, $SD = 1.73$)
Involvement in leadership roles	
Serve in elective and appointed government positions	Report positive attitudes towards serving in leadership roles ($M = 5.59$, $SD = 0.91$)
Organizational and school boards	
Within and outside of agriculture	Believe to have the necessary skills and knowledge to serve in various positions ($M = 4.76$, $SD = 1.16$)
Stronger community leaders	
Involved in organizations at all levels	Per rankings, primarily involved in local and state organizations, followed by local government
Most at community/local level	
Several at the state level	Frequently take on leadership ($M = 5.66$, $SD = 1.54$) and volunteer roles ($M = 5.48$, $SD = 1.60$) within local organizations
Less at the national/international levels	Few serve at national and international levels ($M = 2.78$, $SD = 1.98$)
Involvement in life-long learning	
Committed to life-long learning	Frequently participate in nonformal and leadership development opportunities ($M = 5.32$, $SD = 1.49$)
Seek out formal and nonformal educational opportunities	
Want to replicate leadership program experiences	Seek out formal educational opportunities ($M = 4.11$, $SD = 2.03$)
Continue formal education through Master's or higher education programs	Have positive attitudes towards continuing education ($M = 5.90$, $SD = 0.78$)
Read books outside of traditional trade magazines	
Participate in other leadership programs for counties, boards, or employer-based	Have support and necessary skills and knowledge to participate in life-long learning opportunities ($M = 5.38$, $SD = 0.86$)
Create leadership programs for others	

Objective Five

Objective five: To identify the relationship between selected demographic characteristics, attitudes, subjective norms, and the perceived behavioral control and the engagement in certain leadership behaviors. The selected demographic variables were class graduation year, age, gender, marital status, and education. Survey instrument data from the alumni were used to obtain the results for objective five. The magnitudes of the correlations were presented and discussed using the correlation magnitudes suggested by Davis (1971). Table 4-14 presents the describing magnitudes for interpreting correlations.

Table 4-14. Magnitudes for interpreting correlations (Davis, 1971)

<i>R</i>	Description
1.00	Perfect
0.70 – 0.99	Very High
0.50 – 0.69	Substantial
0.30 – 0.49	Moderate
0.10 – 0.29	Low
0.01 – 0.09	Negligible

Pearson correlations were used to describe the relationships between the dependent variables. Table 4-15 presents the correlations for the attitude, perceived behavioral control, subjective norm, and alumni behaviors related to the policy development process. A very high correlation was found between attitude and actual behavior ($r = .70$). Substantial correlations were found between attitude and perceived behavioral control ($r = .68$) and behavior and perceived behavioral control ($r = .66$). Moderate correlations were found between attitude and perceived behavioral control ($r = .40$), subjective norm and perceived behavioral control ($r = .38$), and subjective norm and behavior ($r = .44$).

Table 4-15. Relationships between behaviors in policy development and attitudes, perceived behavioral control, and subjective norm

Variable	Attitude	Perceived behavioral control	Subjective norm	Behavior
Attitude	--	.68	.40	.70
Perceived behavioral control		--	.38	.66
Subjective norm			--	.44
Behavior				--

As presented in Table 4-16 a very high correlation was found between attitude and behaviors ($r = .71$) related to serving in leadership and volunteer roles within organizations at the community, state, national and international levels. Substantial correlations were found between attitude and perceived behavioral control ($r = .61$) and perceived behavioral control and behavior ($r = .56$). A moderate correlation was found between attitude and subjective norm ($r = .46$), perceived behavioral control and subjective norm ($r = .30$), and subjective norm and behavior ($r = .48$).

Table 4-16. Relationships between behaviors in leadership roles and attitudes, perceived behavioral control, and subjective norm

Variable	Attitude	Perceived behavioral control	Subjective norm	Behavior
Attitude	--	.61	.46	.71
Perceived behavioral control		--	.30	.56
Subjective norm			--	.48
Behavior				--

Table 4-17 presents the correlations between alumni attitudes, perceived behavioral control, subjective norm, and behaviors related to engagement in life-long learning opportunities. A substantial correlation was found between attitude and subjective norm ($r = .50$), attitude and behavior ($r = .63$), and subjective norm and behavior ($r = .53$). Moderate correlations were found between attitude and perceived behavioral control ($r = .40$) and perceived behavioral control and behavior ($r = .42$). A

low correlation was found between perceived behavioral control and subjective norm ($r = .27$).

Table 4-17. Relationships between behaviors in life-long learning and attitudes, perceived behavioral control, and subjective norm

Variable	Attitude	Perceived behavioral control	Subjective norm	Behavior
Attitude	--	.40	.50	.63
Perceived Behavioral Control		--	.27	.42
Subjective Norm			--	.53
Behavior				--

Spearman's rho was used to determine multicollinearity between the demographic variables and the relationships between selected independent variables and the dependent variables. There were no significant relationships between demographic variables (see Table 4-18). As presented in Table 4-19, all of the correlations between variables were low or negligible correlations.

Table 4-18. Correlations between demographic variables

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	--	-.05	-.17	-.18	.16	.09	.08	.02	-.05	-.02	.02	.36	.28	.14	-.05	-.49
2		--	-.16	.16	-.23	.05	.07	-.07	-.01	-.02	.05	-.17	-.03	-.05	.12	.06
3			--	-.09	-.42	-.09	.00	.03	-.05	.04	-.01	-.05	-.02	-.04	.01	.06
4				--	-.57	-.12	-.02	-.08	.03	.02	-.01	-.12	-.04	-.08	.00	.17
5					--	-.55	.00	.04	.02	-.02	-.04	.12	-.03	.05	.01	-.11
6						--	.02	.00	-.01	-.03	.07	-.03	.11	.04	-.03	-.06
7							--	-.07	-.31	-.20	-.07	-.04	-.05	-.05	.04	.05
8								--	-.24	-.12	-.06	-.04	.06	-.05	-.02	.05
9									--	-.66	-.25	.04	-.01	.11	-.05	-.06
10										--	-.16	.03	.04	-.09	.04	.00
11											--	-.04	-.05	.06	.00	.01
12												--	-.11	-.15	-.20	-.24
13													--	-.16	-.21	-.25
14														--	-.29	-.34
15															--	-.44
16																--

Var.	Variable	Var.	Variable	Var.	Variable
1	Age	7	No college degree	13	1991 – 1995
2	Gender	8	Two-year college degree	14	1996 – 2000
3	Single, never married	9	Four-year college degree	15	2001 – 2005
4	Married without children	10	Masters degree	16	2006 – 2010
5	Married with children	11	Doctoral or Professional degree		
6	Divorced, separated or widowed	12	Pre-1990		

Table 4-19. Relationships between theory of planned behavior variables and demographic variables

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Policy Development																
Attitude	.07	-.10	.00	-.09	.04	.03	.10	.09	-.12	.00	.05	-.01	.02	-.02	-.07	.08
Perceived behavioral control	.05	-.09	.03	-.04	.00	.00	.13	.09	-.08	-.05	.03	-.05	.00	-.03	.01	.05
Subjective norm	.08	-.04	.05	-.06	-.03	.06	.13	.01	-.18	.07	.08	-.05	-.03	.05	.02	-.01
Behavior	.15	-.11	-.05	-.09	.08	.01	.11	.06	-.09	-.04	.08	.00	.06	.06	-.06	-.03
Leadership Roles																
Attitude	-.12	.07	.08	-.01	-.02	-.03	.06	.06	-.07	-.03	.09	-.04	-.08	.00	-.06	.13
Perceived behavioral control	-.07	.00	.09	.01	-.03	-.03	.05	.07	-.02	-.08	.08	-.08	-.02	-.08	.04	.09
Subjective norm	-.06	.07	.10	.03	-.07	-.01	.03	-.09	-.08	.07	.08	-.04	-.11	.06	-.03	.08
Behavior	.03	.03	.06	-.02	-.02	.00	.05	.06	-.06	-.06	.12	-.01	.03	.05	-.07	.01
Life-Long Learning																
Attitude	-.06	.12	.06	.01	-.08	.06	-.04	.01	-.19	.13	.19	-.05	-.09	-.03	-.07	.17
Perceived behavioral control	.05	.01	.04	.01	-.04	.01	.01	-.03	-.16	.11	.14	.00	-.02	-.07	-.03	.10
Subjective norm	.00	.09	.05	.01	-.07	.05	-.01	-.07	-.17	.13	.18	-.04	-.14	.02	.03	.08
Behavior	-.05	.12	.04	.01	-.04	.02	.05	-.10	-.17	.10	.20	-.06	-.06	-.04	-.04	.15

Objective Six

Objective six: To determine the selected demographic characteristics, attitudes, subjective norms, and perceived behavioral controls that influence alumni of agricultural-based leadership development programs to adopt certain leadership behaviors. The selected demographics included graduation year, age, gender, marital status, and education. Multiple regression of the survey instrument data was utilized to complete objective six.

For involvement in the policy development process, the constant represents alumni members with the following demographic characteristics: male, married with children, has a four-year college degree, and graduated from the agricultural leadership development program between 2006 and 2010. For the full model, the adjusted R^2 was 0.55 therefore the variables of interest explained 55% of the variation in alumni engagement in policy development behaviors (see Table 4-20). There was no change in the adjusted R^2 for the reduced model, which only included attitude, perceived behavioral control, and subjective norms as the predictor variables for alumni behaviors in policy development. Table 4-21 shows the variables and regression coefficients for the involvement in policy development model. For the full model, the alumni attitude ($b = .64, p = .00$), perceived behavioral control ($b = .47, p = .00$), and subjective norms ($b = .18, p = .00$) contributed significantly to alumni engaging in behaviors related to the policy development process. Personal characteristics did not have a significant impact and were therefore removed from the reduced model. For the reduced model, the alumni attitude ($b = .66, p = .00$), perceived behavioral control ($b = .46, p = .00$), and subjective norms ($b = .18, p = .00$) contributed significantly to alumni engagement in behaviors related to the policy development process.

Table 4-20. Regression model and fit statistics for involvement in policy development

Model		Sum of squares	df	Mean square	F	p
Full	Regression	393.65	16	24.60	27.27	.00
	Residual	295.91	328	.90		
	Total	689.56	344			
Reduced	Regression	382.33	3	127.44	141.45	.00
	Residual	307.23	341	.90		
	Total	689.56				
Model fit statistics		R	R ²	Adj. R ²	SE	
Full		.76	.57	.55	.95	
Reduced		.75	.55	.55	.95	

Table 4-21. Regression of variables on involvement in policy development

Variable	Full model		Reduced model	
	b	p	b	p
(Constant)	-2.36	--	-2.11	--
Attitude	.64	.00 *	.66	.00 *
Perceived behavioral control	.47	.00 *	.46	.00 *
Subjective norm	.18	.00 *	.18	.00 *
Age	.01	.50		
Female	-.04	.78		
Marital Status				
Single	-.36	.11		
Married without children	-.12	.48		
Married with children	--	--		
Divorced, separated, or widowed	-.12	.53		
Education				
No college degree	.06	.75		
Two-year college degree	.08	.76		
Four-year college degree	--	--		
Masters degree	.00	.98		
Doctoral degree	.13	.57		
Program Graduation Year				
Pre 1990	.16	.48		
1991 – 1995	.24	.25		
1996 – 2000	.24	.15		
2001 – 2005	.02	.90		
2006 – 2010	--	--		

Note: * denotes $p \leq .05$, Attitude, perceived behavioral control, and subjective norm on a scale of 1-7, 1 = more negative or low, 7 = more positive or high

The second behavior was involvement in leadership roles and responsibilities. The constant for this model represents alumni members that are male, married with children, have a four-year college degree, and graduated from an agricultural leadership development program between 2006 and 2010. The adjusted R^2 for the full model was .58 therefore the selected variables explained 58% of the variation in alumni participation in leadership and volunteer roles within their organizations (see Table 4-22). The adjusted R^2 for the reduced model was .57; therefore the alumni attitude, perceived behavioral control, subjective norms, and graduation year explained 57% of the variation in participation in leadership roles.

Table 4-22. Regression model and fit statistics for involvement in leadership roles

Model		Sum of squares	df	Mean square	F	p
Full	Regression	363.00	16	22.69	28.45	.00
	Residual	261.58	328	.80		
	Total	624.57	344			
Reduced	Regression	354.06	5	70.81	88.74	.00
	Residual	270.52	339	.80		
	Total	624.57				
Model fit statistics		R	R ²	Adj. R ²	SE	
Full		.76	.58	.56	.89	
Reduced		.75	.57	.56	.89	

For the reduced model, alumni attitude ($b = .73, p = .00$), perceived behavioral control ($b = .27, p = .00$), and subjective norm ($b = .20, p = .00$) contributed significantly to the engagement in behaviors related to participating in leadership and volunteer roles model. Agricultural leadership development program graduation year was the only demographic characteristic to significantly contribute to the model. Those alumni who graduated between 1991 and 1995 ($b = .49, p = .00$) and between 1996 and 2000 ($b =$

.36, $p = .01$) reported higher levels of involvement in leadership roles. Table 4-23 presents the variables and regression coefficients for the models.

Table 4-23. Regression of variables on involvement in leadership roles

Variable	Full model		Reduced model	
	<i>b</i>	<i>p</i>	<i>b</i>	<i>p</i>
(Constant)	-2.37	--	-1.96	--
Attitude	.75	.00 *	.73	.00 *
Perceived behavioral control	.27	.00 *	.27	.00 *
Subjective norm	.19	.00 *	.20	.00 *
Age	.01	.44		
Female	-.13	.27		
Marital Status				
Single	.12	.59		
Married without children	.08	.62		
Married with children	--	--		
Divorced, separated, or widowed	.05	.76		
Education				
No college degree	.09	.61		
Two-year college degree	.33	.16		
Four-year college degree	--	--		
Masters degree	-.01	.91		
Doctoral degree	.16	.47		
Program Graduation Year				
Pre 1990	.36	.09		
1991 – 1995	.52	.01 *	.49	.00 *
1996 – 2000	.44	.01 *	.36	.01 *
2001 – 2005	.10	.46		
2006 – 2010	--	--		

Note: * denotes $p \leq .05$, Attitude, perceived behavioral control, and subjective norm on a scale of 1-7, 1 = more negative or low, 7 = more positive or high

For involvement in life-life learning opportunities, the constant represents alumni members that are male, married with children, hold a four-year degree and graduated from an agricultural leadership development program between 2006 and 2010. The selected variables for the full model explained 53% of the variation in alumni participation in educational opportunities with an adjusted R^2 of .53 (see Table 4-24). However, the selected variables for the reduced model explained 51% of the variation in alumni participation with an adjusted R^2 of .51.

Table 4-24. Regression model and fit statistics for involvement in life-long learning

Model		Sum of squares	df	Mean square	F	p
Full	Regression	260.58	16	16.29	22.87	.00
	Residual	233.55	328	.71		
	Total	494.13	344			
Reduced	Regression	251.44	4	62.86	88.07	.00
	Residual	242.69	340	.71		
	Total	494.13				

Model fit statistics		R	R ²	Adj. R ²	SE
Full		.73	.53	.50	.84
Reduced		.71	.51	.50	.84

For the reduced model, alumni attitude ($b = .65, p = .00$), perceived behavioral control ($b = .26, p = .00$), and subjective norm ($b = .30, p = .00$) contributed significantly to the participation level of alumni in educational opportunities model. Education level also contributed significantly to the model. Those alumni with a two-year college degree ($b = -.47, p = .03$) reported lower levels of participation in educational opportunities.

Table 4-25 presents the variables and regression coefficients for the two models.

Table 4-25. Regression of variables on engagement in educational opportunities

Variable	Full model		Reduced model	
	b	p	b	p
(Constant)	-.99	--	-1.69	--
Attitude	.61	.00 *	.65	.00 *
Perceived behavioral control	.27	.00 *	.26	.00 *
Subjective norm	.31	.00 *	.30	.00 *
Age	-.01	.08		
Female	.13	.24		
Marital Status				
Single	-.11	.58		
Married without children	-.21	.17		
Married with children	--	--		
Divorced, separated, or widowed	-.14	.41		
Education				
No college degree	.27	.12		
Two-year college degree	-.46	.04 *	-.47	.03 *
Four-year college degree	--	--		
Masters degree	.04	.70		
Doctoral degree	.26	.23		
Program Graduation Year				
Pre 1990	-.09	.67		
1991 – 1995	.16	.40		
1996 – 2000	-.01	.96		
2001 – 2005	-.15	.24		
2006 – 2010	--	--		

Note: * denotes $p \leq .05$, Attitude, perceived behavioral control, and subjective norm on a scale of 1-7, 1 = more negative or low, 7 = more positive or high

Summary

This chapter presented the findings of this study, organized by objectives. The research objectives were: (a) describe the intended impacts and outcomes of agricultural leadership development programs as perceived by program directors, (b) describe the current demographics of agricultural leadership development program alumni, (c) describe the impacts and outcomes of agricultural leadership development programs as perceived by program alumni, (d) compare and contrast how the outcomes and impacts of agricultural-based leadership development programs as perceived by the program directors align with those outcomes and impacts as reported by alumni, (e) identify the relationship between selected demographic characteristics, attitudes, subjective norms, and the perceived behavioral control and the engagement in certain leadership behaviors, and (f) determine the selected demographic characteristics, attitudes, subjective norms, and perceived behavioral controls that influence alumni of agricultural-based leadership development programs to adopt certain leadership behaviors.

The next chapter will discuss the conclusions and recommendations that were drawn from this study.

CHAPTER 5 SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

This chapter summarizes this study and discusses the conclusions, implications, and recommendations that have been drawn from this study. The first section of the chapter provides an overview of the study, including the purpose and objectives, methodologies, and findings. The remainder of the chapter discusses the conclusions from the findings, implications of the findings, and recommendations for practice and future research for agricultural-based leadership development programs.

The problem that was addressed by this study was to better understand the outcomes and impacts of agricultural-based leadership development programs. The literature review showed a number of short-term outcomes, fewer medium-term outcomes, and no long-term outcomes of agricultural-based leadership development programs.

The purpose of this study was to determine outcomes of agricultural-based leadership programs in order to predict the adoption of leadership behaviors of participants after participating in agricultural-based leadership development programs in the United States. The following research objectives were used to guide the research: (a) describe the intended outcomes and impacts of agricultural leadership development programs as perceived by program directors, (b) describe the current demographics of agricultural leadership development program alumni, (c) describe the outcomes and impacts of agricultural leadership development programs as perceived by program alumni, (d) compare and contrast how the outcomes and impacts of agricultural-based leadership development programs as perceived by the program directors align with those outcomes and impacts as reported by alumni, (e) identify the relationship between

selected demographic characteristics, attitudes, subjective norms, perceived behavioral control, and engagement in certain leadership behaviors, and (f) determine the selected demographic characteristics, attitudes, subjective norms, and perceived behavioral controls that influence alumni of agricultural-based leadership development programs to adopt certain leadership behaviors.

This study utilized a focus group of agricultural leadership development program directors, four individual interviews with directors from four selected agricultural leadership development programs, and a survey instrument with alumni of the four selected agricultural leadership development programs to collect data. The focus group and individual interviews were guided with a semi-structured interview guide, which asked a number of questions regarding the intended outcomes and impacts as perceived by the program directors. The survey instrument assessed the program alumni attitudes, perceived behavioral control, subjective norms, and behaviors in regards to involvement in the policy development process, participation in leadership roles and responsibilities, and engagement in life-long learning opportunities. Demographics were also obtained through the survey instrument.

The population used in this study included the program directors ($N = 42$) and program alumni ($N = 1,174$) affiliated with the four selected programs. Three subsets of this population were then used. For the first part of the study, a convenience sample of all program directors attending the 2009 IAPAL annual meeting ($n = 24$) was used to conduct the focus group. Part two of the study utilized four directors that were purposefully selected to participate in the individual interviews. Finally, part three of the study used the alumni with valid, working email addresses ($n = 843$) from the four

selected programs, Oklahoma Agriculture Leadership Program (OALP), LEAD New York, Kansas Agriculture and Rural Leadership (KARL), and Wedgworth Leadership Institute for Agriculture and Natural Resources (WLIANR) with valid, working e-mail addresses. Responses were obtained from 402 of the 843 alumni members, for an overall response rate of 47.7%.

Summary of Findings

Objective One

Objective one: To describe the intended impacts and outcomes of agricultural leadership development programs as perceived by program directors. Numerous outcomes were identified in the data from the focus group and individual interviews. Short-term outcomes included three major themes: (a) networking, relationship, and team building skills, (b) communication and social skills, and (c) leadership skills. The medium-term outcomes identified were: (a) involvement in leadership roles and responsibilities, (b) involvement in the policy development process, (c) engagement in life-long learning opportunities, and (d) alumni use of networks.

Networking, relationship, and team building skills emerged in the focus group and interviews as an outcome of agricultural-based leadership development programs. The directors believed that the programs “are creating networks of leaders” (Director 1) and “engaging a more powerful allegiance” (Director 7). Once these networks are developed for the class members, they continue to want to “get into the problem-solving groups” (Director 2) and begin to “recognize the importance of team building and diversity” (Director 1). The directors also stated relationships are strengthened through participation in the programs.

Communication skills, both verbal and nonverbal, were a consistent outcome identified by the directors. Numerous examples were provided such as negotiation skills, listening skills, writing thank you letters, introducing speakers during program sessions, media relation skills, and asking questions. Social skills were also included in this category of skills. These included proper etiquette, how to initiate conversations, how to exchange business cards, and how to interact with others in a social or business setting.

The third category of short-term outcomes identified was leadership skills, which includes a wide-range of cognitive skills. Directors believed alumni have an increased level of confidence, better critical thinking skills, more understanding of different cultures, economies, and issues, as well as more self-awareness and time management skills after participating in an agricultural leadership program. As Director 12 stated, alumni develop a “willingness to be vulnerable as a leader” because of this increased level of confidence and improved overall leadership skills.

The directors of the individual interviews defined a leadership role or responsibility as any position or activity in which an individual is responsible for influencing others for change. The directors in the focus group reinforced this idea that a leadership role does not have to be a titled position as Director 7 said, “the important thing is that they are much more engaged after the programs.” Overall, directors stated that alumni are involved in a number of organizations both within and outside of agriculture and natural resources and at the community, state, and national levels. The directors also shared that agricultural businesses, organizations, and industry groups choose their

organizational board members because they are alumni of an agricultural leadership development program.

Alumni involvement in policy development also emerged as a medium-term outcome or behavior. Most involvement in policy is within the organizations or industry groups that alumni are currently involved in, which was stated by Director 1, “Many, many, many of our alumni lobby on behalf of their own organizations.” This was a shared belief by Director 1 who said, “I think a great majority of them are involved, but again, it probably goes back to their own individual industry groups and issues that arise that would impact their industry.” Overall, the directors felt that the alumni were more comfortable and willing to participate in the policy development process.

“The alumni are committed to life-long learning,” (Director 17) was a commonly shared belief by the directors in both the focus group and individual interviews. Alumni tend to seek out additional educational opportunities to re-create their agriculture leadership program experience once it is over. The programs “instill a sense of life-long learning or an appreciation for the importance of continuing education” (Director 1) in the alumni. This education may include formal education such as a master’s degree, nonformal education such as reading books outside of their traditional trade magazines. This importance for continuing education is often seen as many alumni develop their own leadership programs for their organization or business.

The final medium-term outcome identified was the use of the networks developed through the agricultural leadership development programs. These networks are important to the agriculture and natural resources industries because alumni use the relationships and expertise of fellow alumni to better work with issues within their own

businesses and organizations. The networks “become resources and individual class members learn that they have access to resources that they previously did not have and they just know where to go for help” (Director 1) when an issue arises. Additionally, organizations look to the program alumni to fill leadership roles within their organizations.

Objective Two

Objective two: To describe the current demographics of agricultural leadership development program alumni. Ninety-two (22.9%) of the respondents were KARL alumni, 111 (27.6%) of the respondents were LEAD New York alumni, 111 (27.6%) of the respondents were OALP alumni, and 88 (21.9%) of the respondents were WLIANR alumni. All of the classes from each program were represented. A majority of the respondents ($n = 137$, 34.1%) graduated between 2006 and 2010. One-hundred and ten (27.4%) graduated between 2001 and 2005, 73 (18.2%) graduated between 1996 and 2000, 43 (10.7%) graduated between 1991 and 1995, and 39 (9.7%) graduated before 1990.

The age of the respondents ranged from 26 years to 66 years, with an average age of 46.9 years. One-hundred eight (26.9%) of the respondents currently reside in Oklahoma, 103 (25.6%) of the respondents reside in New York, 87 (21.6%) of the respondents reside in Kansas, 80 (19.9%) of the respondents reside in Florida, and 19 (4.7%) reside in other states within the continental U.S. Two-hundred eighty-nine (71.9%) of the respondents were male and 109 (27.1%) were female. Only three (0.7%) of the respondents reported being Hispanic or Latino. In regards to race, 96% ($n = 386$) were White/Caucasian, 1% ($n = 4$) were Native American, and 0.5% ($n = 2$) reported their race as Other.

In regards to marital status, 24 (6.0%) were single and had never been married, 42 (10.4%) were married without children, and 288 (71.6%) were married with children, and 39 (9.7%) were divorced, separated, or widowed. Education levels were also obtained. Thirty-three (8.2%) had no college degree and 21 (5.2%) had a two-year college degree. Half of the respondents ($n = 201$) had a four-year college degree, 29.4% ($n = 118$) had a Master's degree, and 5.5% ($n = 22$) had a Doctoral or Professional degree.

Objective Three

Objective three: To describe the impacts and outcomes of agricultural leadership development programs as perceived by program alumni. Three behaviors were identified through the focus group and interview results and measured on the survey instrument for objective three: involvement in the policy development process, leadership role and responsibilities, and life-long learning opportunities.

On a scale of 1 to 7, where 1 = *infrequently* and 7 = *frequently*, the overall mean for alumni being involved in the policy development process was 3.86 ($SD = 1.41$). However, on the statement, "I participate in the policy development process" alumni reported a mean of 4.43 ($SD = 1.82$), which is higher than the index mean of 3.86 ($SD = 1.41$). Alumni are more likely to contact policy and decision makers when an issue arises ($M = 4.72$, $SD = 1.73$). Alumni do not regularly participant in political campaigns ($M = 3.36$, $SD = 2.11$) or issues that are not related to their businesses and organizations ($M = 3.55$, $SD = 1.86$). Additionally, alumni reported positive attitudes towards being involved in the policy development process ($M = 4.99$, $SD = 0.92$) as well has high total mean scores for perceived behavioral control ($M = 4.23$, $SD = 0.94$) and subjective norms ($M = 4.05$, $SD = 1.21$).

Alumni participate more in leadership ($M = 5.66$, $SD = 1.54$) and volunteer ($M = 5.48$, $SD = 1.60$) roles within their community organizations than within state and commodity organization ($M = 4.34$, $SD = 2.00$). Alumni also reported infrequent participation in leadership roles within national and international organizations ($M = 2.78$, $SD = 1.98$). Overall, alumni reported participating in leadership roles and responsibilities somewhat frequently ($M = 4.57$, $SD = 1.37$), but most participate at the local level. Alumni attitudes towards being involved in leadership and volunteer roles on a scale of 1 to 7, where 1 = more negative and 7 = more positive, were mostly positive ($M = 5.59$, $SD = 0.91$). Subjective norms were also high ($M = 5.06$, $SD = 1.17$) followed by alumni perceived behavioral control ($M = 4.76$, $SD = 1.16$).

The amount of participation in leadership roles and responsibilities decreases at each level. This was further supported through the organizational rankings where 1 = *most involved* and 7 = *least involved*. Alumni reported participating in community organizations the most ($M = 1.93$, $SD = 1.36$). Alumni ranked state organizations ($M = 3.17$, $SD = 1.24$) and local government ($M = 3.38$, $SD = 1.65$) as the next type of organizations they are most involved, followed by commodity organizations ($M = 3.41$, $SD = 1.84$). Alumni are the least involved in state government ($M = 4.84$, $SD = 1.18$), national organizations ($M = 5.04$, $SD = 1.55$), and national government ($M = 6.52$, $SD = 1.23$). Some alumni added church and religious organizations in the Other category.

Similar to participating in leadership roles, alumni also reported engaging in educational opportunities frequently ($M = 5.13$, $SD = 1.20$). Most participate in nonformal educational opportunities ($M = 5.96$, $SD = 1.25$) and those focused on developing leadership skills and abilities ($M = 5.32$, $SD = 1.49$). Fewer participate in

formal educational opportunities, but alumni do still participate ($M = 4.11$, $SD = 2.03$). Alumni also had positive attitudes towards being involved in life-long learning opportunities ($M = 5.90$, $SD = 0.78$). Perceived behavioral control ($M = 5.38$, $SD = 0.86$) and subjective norm ($M = 5.24$, $SD = 1.09$) towards participating in life-long learning opportunities were high.

A fourth section of the survey asked about a number of leadership behaviors such as facilitating meetings, delegating, attending organizational conferences, and educating others. Scores were on a scale of 1 to 4, where 1 = *not at all true of me* and 4 = *completely true of me*. Alumni reported attending organizational conferences and meetings for their organizations to be mostly true ($M = 3.38$, $SD = 0.68$). Respondents also reported being able to effectively facilitate meetings ($M = 3.27$, $SD = 0.73$). In regards to educating others about issues within their organizations or about the agricultural and natural resources industries, alumni reported that this was too was mostly true. Alumni also reported that they provide opportunities for others to take on leadership roles ($M = 3.00$, $SD = 0.79$). Items with lower scores included establishing and utilizing relationships with the media ($M = 2.44$, $SD = 1.04$) and utilizing new media technologies ($M = 2.03$, $SD = 0.97$). Alumni reported that both statements were only somewhat true.

Objective Four

Objective four: To compare and contrast how the outcomes and impacts of agricultural-based leadership development programs as perceived by the program directors align with those outcomes and impacts as reported by alumni. The results from objective one and three were compared. Comparisons of only the three behaviors identified and assessed on the survey were utilized, as the alumni were not questioned

on the many other outcomes identified by the directors. There were no differences between the outcomes as perceived by the directors and the outcomes reported by the alumni. Therefore, the results from the director focus group and individual interviews were comparable to the alumni survey results in regards to the three behaviors. The directors stated that alumni were willing and do contact their policy and decision makers. On the survey, alumni reported contacting their policy and decision makers frequently ($M = 4.72$, $SD = 1.73$). Alumni also reported on being involved in the policy development process ($M = 4.43$, $SD = 1.82$), which is consistent with what the directors stated in the focus group and interviews.

Directors believed alumni to mostly be involved in leadership roles within the local and community organizations, which was comparable to the alumni rankings of the organizations as community organizations were ranked number one and alumni reported being involved frequently in leadership roles ($M = 5.56$, $SD = 1.54$) and volunteer roles ($M = 5.48$, $SD = 1.60$). Alumni also reported a mean index score of 5.13 ($SD = 1.20$) for being involved in life-long learning opportunities. This is consistent with the directors believing alumni participate in a wide-range of life-long opportunities in a number of settings.

Objective Five

Objective five: To identify the relationship between selected demographic characteristics, attitudes, subjective norms, and the perceived behavioral control and the engagement in certain leadership behaviors. The relationships were measured using Pearson's r and Spearman's rho correlation coefficients.

The first behavior addressed was alumni involvement in the policy development process. Very high, positive correlations ($r = .70$) were found between alumni attitude

and behavior. Substantial positive correlations were also found between alumni attitudes and perceived behavioral control ($r = .68$) as well as perceived behavioral control and behavior ($r = .66$). Positive, moderate correlations were found between the alumni attitudes and subjective norms ($r = .44$), perceived behavioral control and subjective norms ($r = .38$), and subjective norms and behavior ($r = .40$). In regards to the demographic variables, age, gender, marital status, and education, correlational analysis found only low or negligible correlations ($r \leq .29$) between alumni attitudes, perceived behavioral control, subjective norms, and behavior in the policy development process. Therefore, attitude had the strongest relationship with alumni involvement in the policy development process, followed by perceived behavioral control, and subjective norms.

Correlations between independent variables and alumni involvement in leadership roles and responsibilities were also analyzed. A very high, positive correlation was found between alumni attitudes and behavior ($r = .71$). Substantial positive correlations were found between attitude and perceived behavioral control ($r = .61$) as well as perceived behavioral control and behavior ($r = .56$). Finally, a moderate, positive correlation was found between attitude and subjective norm ($r = .46$), perceived behavioral control and subjective norm ($r = .30$), and subjective norm and behavior ($r = .48$). Therefore, there are strong relationships between the three predicting variables found in the theory of planned behavior, attitudes, perceived behavioral control, and subjective norms, as suggested by Ajzen (1991). Low and negligible correlations were found between the demographic variables and alumni attitudes, perceived behavioral control, subjective norms, and behavior related to involvement in leadership roles.

The third behavior addressed was engagement in life-long learning opportunities. Positive, substantial correlations were found between alumni attitudes and subjective norms ($r = .50$), attitudes and behavior ($r = .63$), and subjective norms and behavior ($r = .53$). Moderate positive correlations were found between attitude and perceived behavioral control ($r = .40$) and perceived behavioral control and behavior ($r = .42$). A low, positive correlation was found between perceived behavioral control and subjective norm ($r = .27$). Therefore, alumni attitudes, subjective norms, and perceived behavioral control have a strong relationship with alumni engagement in life-long learning opportunities as well. Low and negligible correlations were found between the demographic variables and alumni attitude, perceived behavioral control, subjective norm, and behaviors related to engagement in life-long learning opportunities.

Objective Six

Objective six: To determine the selected demographic characteristics, attitudes, subjective norms, and perceived behavioral controls that influence alumni of agricultural-based leadership development programs to adopt certain leadership behaviors. Multiple regression was used to determine the influences of certain variables on alumni behaviors.

For the first behavior, attitude, perceived behavioral control, and subjective norm, had a positive effect on alumni involvement in the policy development process in the full model. No demographic variables had a significant effect on alumni behavior in policy development. Attitude, perceived behavioral control, and subjective norm were included in the reduced model. Attitude towards being involved in the policy development process had the most effect ($b = .66, p = .00$), followed by perceived behavioral control ($b = .46, p = .00$). Subjective norm ($b = .18, p = .00$) had the least amount of effect on

alumni involvement in the policy development process of the three independent variables.

In the full model, the independent variables that have a significant impact on involvement in leadership roles and responsibilities are alumni attitude, perceived behavioral control, subjective norm, and program graduation year. After removing the other independent variables for the reduced model, attitude ($b = .73, p = .00$) towards being involved in leadership roles had the strongest effect on alumni behavior. Perceived behavioral control ($b = .27, p = .00$) and subjective norm ($b = .20, p = .00$) also have a positive significant effect on alumni behavior. Program graduation year, specifically those that graduated between 1991 to 1995 ($b = .49, p = .00$) and 1996 to 2000 ($b = .36, p = .01$), were the only demographic variables to have a significant effect on alumni involvement in leadership roles within organizations.

The final behavior, engagement in life-long learning opportunities, was significantly affected by alumni attitude, perceived behavioral control, subjective norm, and education in the full model. For the reduced model, attitude ($b = .65, p = .00$) had the most significant effect on alumni engagement in life-long learning opportunities. Perceived behavioral control ($b = .26, p = .00$) and subjective norm ($b = .30, p = .00$) also had a significant effect on alumni behavior. Alumni that have a two-year college degree ($b = -.47, p = .03$) are less likely to engage in life-long learning opportunities. No other demographic variables had a significant effect on alumni engagement in life-long learning opportunities.

For all three behaviors measured, alumni attitude had the most significant effect on alumni engagement in each of the three behaviors. Perceived behavioral control and

subjective norm also had significant positive effects on alumni for all three behaviors. Of the demographic variables, age and gender did not have a significant effect on any of the three alumni behaviors, while education level and program graduation year did have significant effects on alumni engagement in the three leadership behaviors.

Conclusions

A number of conclusions were drawn based upon the findings of the study. In regards to the demographics of the respondents, more males have participated in the four selected agricultural leadership development programs than females. Additionally, there is little diversity in regards to race as a majority of the respondents were White/Caucasian. While education is not a requirement for participation in any of the four agricultural leadership development programs, a majority of the alumni have a four-year college degree or higher. Finally, over half of the alumni are married with children.

Alumni gain a number of skills through their participation in the programs. These skills typically include networking, relationship, and team building skills, communication and social skills, and other leadership skills. Through the participation in the program and the development of these skills, alumni develop an increased confidence in their leadership abilities, which allows them to then engage in a number of behaviors. The three primary behaviors identified include involvement in policy, leadership roles, and continuing education, where they implement and use the skills learned through the program.

In regards to participation in leadership roles and responsibilities, most alumni are involved at the local or community level. Fewer alumni are involved at the state level and even less at the national and international levels. Alumni of agricultural leadership development programs continue to seek out additional educational opportunities after

participating in the program. Most of these educational opportunities are nonformal, such as extension programs, reading more books, or agribusiness seminars. Alumni also participate in opportunities, which allow them to further develop their leadership skills and abilities, such as community leadership programs, commodity board training, or other similar leadership programs. Some alumni take their agriculture leadership program experiences and then develop similar leadership programs for their own businesses and organizations. A number of other leadership behaviors alumni engage in include effectively facilitating meetings, educating others about issues, educating others about the agriculture and natural resources industry, and delegating responsibilities to others. Overall, there was consistency between the outcomes identified by the directors and the outcomes reported by the alumni.

Alumni attitudes, perceived behavioral control, and subjective norms have a significant relationship with engagement in the three behaviors measured. Attitude showed to have the strongest relationship with alumni involvement in the policy development process, leadership roles, and life-long learning. None of the selected demographics show a significant relationship with alumni engagement in any of the three behaviors; therefore, individual demographic characteristics are not important in determining alumni behaviors after participating in one of the four selected agricultural leadership development programs.

Similar to the relationships, attitude, perceived behavioral control, and subjective norm have the most effect on alumni involvement in policy development, leadership roles, and life-long learning. Attitude towards all three behaviors had the strongest effect on an alumni member's decision to engage in each of the three behaviors. As alumni

attitudes become more positive, their participation in policy, leadership roles, and educational opportunities also increase. Therefore, it can be concluded that attitude towards certain leadership behaviors is the most influential in predicting alumni engagement in policy development, leadership roles, and life-long learning. Perceived behavioral control and subjective norm have a similar positive effect as attitude on alumni behaviors. As alumni perceived behavioral control and subjective norms increase, their participation in policy development, leadership roles, and educational opportunities also increase.

For alumni involvement in the policy development process, none of the selected demographic characteristics had a significant effect on alumni behavior. For alumni involvement in leadership roles, alumni that graduated from an agricultural leadership development program 10 to 20 years ago are more likely to be engaged in leadership roles than those who graduated over 20 years ago or those that graduated less than 10 years ago. Therefore, it can be concluded that alumni that graduated less than 10 years ago have not taken on leadership roles and responsibilities, but will increase their participation 10 to 20 years after graduating from their respective agricultural leadership development program. Alumni that graduated over 20 years ago, have served in leadership roles, but decrease their involvement over time. For alumni involvement in life-long learning opportunities, alumni that have a two-year college degree are less likely to participate in life-long learning opportunities than those alumni with a four-year college degree.

Discussions and Implications

With 1,174 alumni having graduated from the four agricultural leadership development programs, only 843 (71.8%) had valid working email addresses. Even

though email is the primary form of communication between program directors and program alumni, there is a large number ($n = 331$, 28.2%) of alumni who are not included in program updates, news, and day-to-day communication in regards to their respective agricultural leadership development program. This eliminates a number of opportunities for program directors to reach alumni about fund raising, recruitment, and continued program improvements. Additionally, alumni without a valid working email address on file with the program director are further disconnected from other alumni, thus negating networking opportunities.

The results of this study showed there was little diversity in demographic characteristics, such as age, gender, and education, and few minorities represented in the data, even though all 42 of the classes from the four programs were represented. The lack of diversity of demographic characteristics suggests that the selection process for each of the four programs targets a select group of individuals that are similar. The four selected programs target individuals who are involved in the agricultural and natural resources industries that have shown leadership potential, a strong commitment to the industry, and who will be actively engaged in leadership roles (KARL, 2010; LEAD New York, 2010; OALP, 2010; WLIANR, 2010). Individuals in agricultural leadership development programs are selected to participate because they are up and coming leaders or because their organizations want them to participate in order to become more effective within the organization, business, or industry. Others that have been nominated may choose to self-select themselves out of the application process due to other commitments, a lack of interest, cultural beliefs, or other personal beliefs.

Regarding the directors' perceptions of outcomes and impacts, they identified a wide-range of skills, knowledge, and behaviors that alumni develop and implement throughout and after their program experiences. These skills or short-term outcomes, included communication skills, networking and relationship building skills, as well as a wide range of other leadership skills, which are consistent with previous research on agricultural leadership development programs (Carter & Rudd, 2000; Howell et al., 1982; Whent & Leising, 1992).

Many of these skills are consistent with Day's (2000) characteristics of leader development and leadership development. Agricultural-based leadership development programs do place emphasis on many leader development targets such as developing intrapersonal skills, self-awareness, self-regulation, and self-motivation (Day, 2000). However, agricultural-based leadership development programs also focus on leadership development, which includes developing interpersonal skills, social awareness, and social skills (Day, 2000). Social awareness includes political awareness, empathy, and service orientation, all of which were identified in the results of this study. Social skills include building bonds, team orientation, becoming a change catalyst, and conflict management (Day, 2000), which were also identified as outcomes in this study.

Behaviors or medium-term outcomes identified included involvement in policy development, leadership roles, and life-long learning. Abbington-Cooper (2005) also identified that alumni take on leadership roles and responsibilities after completing their leadership program experiences. Kelsey and Wall (2003) determined that agricultural leadership programs do not produce community leaders. However, this research shows that alumni are most involved within community organizations per the alumni and

directors. Alumni also have positive attitudes and high levels of perceived behavioral control and subjective norms.

Alumni are most involved within organizations at the community level. This may be due to access, convenience, peer pressure, and the personal and organizational benefit. Community organizations are more accessible to individuals compared to state, national, or international organizations. There are numerous leadership and volunteer opportunities available for alumni to engage in within their own communities. Community organizations are also more convenient for alumni to participate in, due to the simple reason of geography.

Consistent with Ajzen's (1991) theory of planned behavior and the concept of subjective norms, individuals typically participate in leadership and volunteer roles because their peers have asked them to or their peers are also engaged in the organization. Community organizations are where most individuals' peers are involved; therefore alumni are participating in the community organizations as well. By participating in community organizations, alumni are also able to see the immediate benefit to themselves and their business or organization. However, in state, national, and international organizations, the benefits may be more difficult for the alumni to identify. Being able to see the immediate benefits of participating in community organizations develops the alumni members' attitudes to be more positive towards engaging in the behavior because they are able to see positive outcomes.

Alumni involvement in policy development has been demonstrated in other agriculture leadership program research (Carter & Rudd, 2000), which is consistent with the findings of this study. While no long term outcomes were identified, it can be implied

that because alumni are involved in the policy development process, this has long-term impacts on social, economic, and environmental systems. Of the three behaviors, attitudes, perceived behavioral control, and subjective norm, mean scores were the lowest for involvement in policy development. Behaviors with higher attitude, perceived behavioral control, and subjective norm scores indicated higher levels of engagement in each of the behaviors, which is consistent with the theory of planned behavior (Ajzen, 1991). According to the directors, most of this involvement is within local government or within industry groups when an issue arises that will have an impact on their sector of the industry. Alumni are more likely to be involved in organizations that they believe will have an added benefit to them and their sector of the industry.

The directors' statements of continuing education being important to alumni were consistent with alumni responses on the survey. Alumni engage in educational opportunities that are formal, nonformal, or focus on further leadership development. This implies that alumni value continuing their education to further develop themselves as leaders within their families, businesses, and organizations. Again, agricultural leadership development programs target individuals who have shown the potential to continue to develop as leaders, which includes further developing themselves and others through additional educational opportunities. Alumni also participate in educating others about issues within their communities and the agriculture and natural resources industries.

Directors mentioned conducting media training for program participants. However, the level of alumni actually establishing and utilizing their relationships with the media was lower compared to other behaviors such as attending organizational conferences

and meetings, facilitating meetings, and educating others on issues. Similarly, alumni do not use new media technologies often. This suggests alumni may not have positive attitudes, the necessary knowledge and skills needed, the support or pressure from others to engage in these behaviors (Ajzen, 1991) or alumni are not required to engage in this behavior. Many organizations within in the agricultural industry may have public relations or communications directors that work with the media; therefore alumni are not finding themselves to be put in situations where they are required to work with the media. Finally, alumni reported not utilizing new media technologies such as blogs or podcasts implying alumni do not have positive attitudes, the necessary skills and knowledge, or support and pressure from others to use new technologies. Increased knowledge and skills, positive attitudes, and social pressure will increase alumni use of new technologies (Ajzen, 1991).

Russon and Reinelt (2004) provided an overview of the outcomes of 55 leadership programs. Table 5-1 provides the table developed by Russon and Reinelt along with a comparison to the outcomes of agricultural-based leadership development programs. Agricultural leadership development programs provide a number of outcomes that are similar to other types of leadership programs. However, agricultural leadership development programs may be more capable of developing and impacting the leader, organizations, and communities because they provide experiences that encourage collaboration, networking, and partnerships amongst individuals within organizations and communities, personal communication skills, effect change within the leader, organization, and communities, create community leadership, and provide personal perspective, professional, knowledge, and skill development opportunities.

Table 5-1. Comparison of agricultural-based leadership development programs to Russon and Reinelt's (2004) scan of 55 leadership programs

Leadership Outcomes	Individual	Organizational	Community	Field	Systematic	Agriculture
Categories and Examples of Outcomes	Collaboration and partnership	Collaborations, networks, and partnerships	Collaboration, networks, and partnerships	Leadership development	Culture shifts	Collaborations, networks, and partnerships
	Communication	Development of leadership	Community change	Development of the field	Institutional transformation	Communication
	Courage and confidence	Effecting change	Community decision making	Diversity	Policy and policymaking change	Confidence
	Cultural competence	Leadership and governance	Community leadership	Knowledge development	Collaboration	Effecting change
	Knowledge development	Management	Engagement and participation	Collaboration with other fields or sectors		Policy and policymaking change
	Leadership in action and demonstrating leadership	Programming	Knowledge development	Collaboration with field		Leadership development
	Leadership development	Sustainability	Leadership development	Taking action		Knowledge development
	Self-awareness and reflective capacity	Visibility	Public awareness	Visibility of the field		Engagement and participation
	Personal development		Resource development			Community leadership
	Perspective development		Social capital			Personal development
Professional development					Perspective development	
Skill development					Professional development	
Visibility					Skill development	
					Social capital	
					Cultural competence	
					Collaboration with other fields or sectors	
					Taking action	

With all of the demographic variables having low or negligible relationships with alumni behaviors, attitudes, perceived behavioral control, and subjective norms, one would assume attitudes, perceived behavioral control, and subjective norms are not as important. However, demographics and diversity are key in establishing more collaboration, social capital or networking opportunities, and new ideas and perspectives (Eich, 2008). While demographic characteristics may have little to no significant effect on alumni behaviors, it may have an effect on the overall program experience and further establishes the networks, which were identified as an outcome by the program directors.

The multiple linear regression modeling results of this study suggests that the demographics of program participants are not as important in determining their level of engagement in policy, leadership roles, or life-long learning. Alumni are more likely to engage in these behaviors if they (a) have a positive attitude about the behavior, (b) felt they had the proper knowledge and skills needed to be effective, and (c) felt influential others would positively support their involvement in the behavior, which are all consistent with the theory of planned behavior (Ajzen, 1991). Attitude is the strongest influencer of engagement for all three behaviors. This implies agricultural leadership development programs are able to influence alumni behaviors when directors focus on developing positive attitudes, increasing alumni knowledge and skills in regards to serving in leadership and volunteer roles, and assisting in establishing an increased level of support from alumni businesses, organizations, families, and other peers.

Alumni that graduated 10 to 20 years ago are more likely to engage in leadership and volunteer roles than those who graduated over 20 years ago or alumni who

graduated less than 10 years ago. The four agricultural leadership development programs are intensive, two-year travel and study programs that require a large amount of time and focus on the part of the participants. This implies that after graduating from an agricultural leadership development program, alumni decrease their level of involvement in leadership and volunteer roles for a few years in order to refocus and identify where they can be most effective. Based on the results of this study, alumni then increase their participation in leadership and volunteer roles within 10 to 20 years after graduation.

Recommendations

Recommendations for practice and future research are provided as a result of measuring the outcomes of agricultural based leadership development programs as perceived by the program directors and alumni as well as the attitudes, perceived behavioral control, and subjective norms of the alumni.

Recommendations for Practice

Based on the results of this study, there are several recommendations for practice for agricultural leadership development programs. A large number of alumni did not have valid, working email address on file. This eliminates a large number of alumni from the immediate communication channel used by the program directors. Therefore, program directors and staff should establish a stronger database of alumni contact information. One recommendation is to establish an online database for each of the programs should for alumni to update their contact information online without having to continually contact the program director or program staff each time an email or physical address changes. Security and privacy issues may be an issue, therefore measures, such as a private log-in, should be taken to ensure alumni contact information is only

accessible to the program directors, staff, and other alumni. For programs concerned with this issue or that do not have the finances necessary for an online database, program directors and staff should make attempts to contact alumni through the postal service encouraging alumni to update their contact information.

In regards to the demographics, the average respondent was predominately a white/Caucasian, male, married with children, held a four-year college degree, and graduated within the past ten years. Based on the demographics, directors should target and recruit more diverse audiences such as race, gender, and education levels. Eich (2008) found that high quality leadership programs consist of diverse students, which leads to collaboration, social capital or networking, and new ideas and perspectives. More diverse participants will expand the networks and thought processes of the participants, therefore enhancing the quality of the participant experiences over the course of the agricultural leadership development program. Additionally, the program director will have access to different groups of alumni within the agricultural and natural resources industries to further diversify the programming over the two-year program experience.

Demographics should not be utilized as part of the selection criteria for an individual participant because the impact on the individual participants is not influenced by their personal demographic characteristics. Age is important for maturity, experience, and commitment; therefore, agricultural leadership development programs should continue to maintain a minimum age requirement. Otherwise, gender, race, and marital status have little to no effect on the individual level of involvement in policy, leadership roles, or life-long learning and should therefore not be a concern in selecting individual

participants other than for diversity of thought for the group as this was identified as important for developing the networks. Diversity in participants within a class or cohort does have an impact on the outcomes of the program overall, due to the differences in perspectives, knowledge of the industry or issues, previous experiences, and cultures that each individual participant brings with them. For example, a Hispanic, female, from South Florida involved in vegetable production will have different perspectives, knowledge, previous experiences, and cultures compared to a White, male, from the Florida Panhandle involved in the timber industry. By including individuals from different backgrounds and sectors of the agricultural and natural resources industries in the program, these individuals expand their personal and professional networks as well as better understand the differences between themselves, how to work with individuals who are different from themselves, and expands the networks within the agricultural and natural resources industries. Education level should continue to not be a requirement in selecting participants since this only had a significant effect on alumni engagement in life-long learning opportunities within two categories of education level, some college and professional degrees.

As attitude was the construct that most influenced an alumni to engage in all three behaviors, directors of these programs should focus programming on influencing participant attitudes to become more positive towards being involved in policy, taking on leadership roles and responsibilities within organizations, and continuing their education both formally and nonformally. Positive attitudes can be accomplished by continuing to provide participants with a wide-range of speakers, experiences, and the time to reflect upon those experiences. Reflection allows participants to develop an understanding of

themselves and the experience (Eich, 2008; Roberts, 2006). Specifically, within policy development, field trips, speakers, and visits to the offices of policy and decision makers will enhance one's attitude as they realize it may not be as difficult to work with these individuals.

Agricultural leadership development programming should also focus on developing increased knowledge and awareness, an understanding of how to utilize the skills and knowledge gained, and practicing targeted leadership behaviors. Alumni gain a number of skills and have positive attitudes towards utilizing the skills and knowledge gained from the program. However, more opportunity to practice utilizing the skills and knowledge are needed to further increase alumni perceived behavioral control. For example, program directors should provide program participants more opportunities to serve in leadership roles while participating in the leadership program such as coordinating the day's events and introducing speakers. Participants should also be provided the opportunity to assist in choosing the seminar curriculum and content, national and international trip destinations, and other program logistics that will best meet their needs. This may further enhance their abilities as a leader within their own businesses, organizations, and industries.

Eich (2008) suggested quality leadership programs provide opportunities for leadership practice in order to increase self-efficacy, understand who leaders are and what leadership is, understand organizational leadership, group dynamics, and teamwork, and develop skills such as time management. Providing opportunities for participants to engage in leadership roles within the program experience will also develop more positive attitudes towards serving in other leadership roles within their

own organizations. As participants increase their personal confidence, their attitude towards that behavior will become more positive.

Program participants should have responsibilities prior to and after each seminar as well. Prior to each seminar, program participants should conduct research on the topics of the seminar. Each participant should be assigned a topic and be in charge of providing a briefing to their fellow class members. After each seminar, program participants should be required to continue their reflection process on an individual basis through journaling or writing newsletters for others to read. Additionally, program directors should encourage participants to seek out opportunities to share their experiences with individuals within the participant's business, organizations, and local community. This will increase the participant's confidence and ability to speak to others as well as increase the awareness of others about the agricultural leadership development program and the agricultural and natural resources industries, therefore increasing the level of support from participant peers or subjective norms per Ajzen (1991).

Agriculture leadership programming should also continue to develop participants' knowledge and skills as one's perceived behavioral control had a significant effect one's engagement in each of the behaviors. Many agricultural leadership development programs provide skills training such as public speaking; yet it is typically the responsibility of the participant to then apply those skills outside of the program experience. Agriculture leadership programming should provide more opportunities to allow participants to practice their communication skills, leadership skills, and networking skills. Communication skills can be practiced through introducing speakers

and leading discussions and reflections for their fellow classmates. Taking participants to events or meetings to socialize and share their leadership program experiences with others that are not involved in the leadership program can develop networking and communication skills. By utilizing these skills in a more controlled environment with the support of other participants and the program director and staff, participants may feel more comfortable in applying these skills outside of the program in their personal and professional lives.

Alumni reported low engagement levels in establishing and utilizing their relationships with the media. Program directors should reassess the value of conducting activities such as media training. If media training is important for the leaders within the agriculture industries, more emphasis should be placed on this training session as well as more time for participants to practice this behavior. However, if the organizations and industry already have individuals, such as a communications director, in place that work with the media, media training is not as important for the agricultural leadership development programs to focus their efforts on. While the topic is important, the amount of time spent on media training can be reduced and utilized for other topics of interest.

Alumni also reported their use of new media technologies to be somewhat limited. With the amount of technology being utilized by society, agricultural leadership programs need to assist program participants in adopting technology and understanding how to best utilize technology in their personal and professional lives. This should begin with understanding how properly utilize email, blogs, and social media such as Facebook and Twitter. Many large agricultural industry groups are utilizing social networking to communicate with their stakeholders and the public. Agricultural

leadership development program directors and participants should also utilize these online tools to increase communication between program stakeholders and increase program awareness to others that may have an interest in the program.

Leadership development programs exist within other contexts outside of the agricultural and natural resources industries (Earnest, 1996; Fredricks, 2003; Russon & Reinelt, 2004; Sogunro, 1997; Wituk et al., 2003). However, many of these programs have not been in existence as long as agricultural leadership development programs. Additionally, other industries such as healthcare, education, or business do not have a leadership program model similar to the Kellogg Model utilized by the agricultural leadership development programs. Other industries should adopt a similar leadership development program model to develop leaders throughout their industries. The industries can identify the desired leadership behaviors and focus leadership development programming utilizing the theory of planned behavior and experiential learning process (Ajzen, 1991; Roberts, 2006).

Finally, if agricultural leadership development programs want to continue to be successful, program directors must evaluate and compare their programs utilizing the seven criteria developed by Shelton (2010): (a) vision/mission, (b) involvement and participation, (c) measurement and accountability, (d) design, content, and curriculum, (e) presenters, presentations, and delivery, (f) take-home value, and (g) outreach. This study addressed part of the third criteria, measurement and accountability. However, there is still much to be done to assure agricultural-based leadership development programs are serving the agricultural and natural resources industries as the top leadership development programs in the United States.

Recommendations for Future Research

Research with other agriculture leadership programs is essential to further assess the outcomes of these programs as well as the influencing factors of these outcomes. There are a number of additional studies and follow-up research that should be conducted to further assess agricultural leadership development program outcomes.

In regards to demographics, there were few respondents from the minority groups. Therefore, follow-up qualitative research should be targeted towards the less represented groups in this study, such as alumni who are not white/Caucasian, male, married with children, and do not have a four-year degree, to better understand what they gain from participating in the programs as well as how they are utilizing those skills. This will provide a more thorough understanding of the needs for all of the target audiences participating in agricultural based leadership development programs. Those individuals that graduated prior to 2001 should also be targeted to better understand how they utilized their agricultural leadership development program experience. This research should be expanded to other agricultural leadership development programs in the United States to provide access to a larger population.

Follow-up interviews should be conducted with survey respondents from each of the four programs. Individuals should be selected based upon their level of engagement in each of the three behaviors. Alumni with both high and low levels of engagement should be targeted to gain a better understanding of why some individuals choose to engage in policy development, leadership roles and responsibilities, and continuing their education.

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. The directors provided some insight into this phenomenon, but more research with the alumni of the program should be conducted. Qualitative research is recommended to address this issue to gain more insight into the ways in which the networks are used and to understand the more long-term effects this has on the industry. The program directors can be utilized to provide contacts to the individual alumni members to further share how the networks have impacted them and their industry. Additionally, the directors can provide further detail about how the networks have impacted the agricultural leadership development program as well.

Research is needed to better understand more of the medium and long-term outcomes of agricultural based leadership programs. This study only focused on three of the behaviors identified by the program directors. However, there are a number of others behaviors and long-term outcomes to be addressed that were discussed in the qualitative section of this study. Directors stated a number of examples of how alumni are utilizing their networks, are involved in policy development, or serve in leadership roles. This qualitative data should be used to follow-up with alumni through interviews and better understand the social, economic, and environmental impacts of the alumni behaviors. Additionally, understanding what influences alumni to engage in these behaviors is important, therefore continuing to use the theory of planned behavior in the assessment of these behaviors is needed.

Lastly, research needs to be conducted with a comparison group to determine the differences in those that participate in agricultural leadership development programs and those that do not similar to the study conducted on the Nebraska Leadership Education/Action Development Program (Gallup Leadership Institute, 2005). The theory of planned behavior can be used to determine if non-participants engage in certain targeted leadership behaviors and if attitudes, perceived behavioral control, and subjective norms have the same effect on non-participants engagement in leadership behaviors.

APPENDIX A FOCUS GROUP INTERVIEW GUIDE

Good evening everyone! Thank you for joining me today. As you know, we are here today to discuss the program impacts of the agricultural-based leadership programs that each of you direct. I have asked each of you here today to participate because you are the experts and individuals who create the programming for your programs. Are there any questions before we begin?

- What are the overall impacts and outcomes of your agricultural leadership programs?
- Becoming a little more focused on individual participants, what specific changes have you seen in participants as they progress through your program?
- Now let's move to what happens to the individuals after they complete the program. What types of organizations do your graduates assume leadership roles in? What impact did your program have on them moving into this role?
- Typically, how long after graduation or completing the program do you believe that it takes for participants to fully demonstrate and apply what they learned in the program through leadership roles?
- What other types of leadership development programs or educational activities do you see your alumni participating in?

APPENDIX B
DIRECTOR SEMI-STRUCTURED INTERVIEW GUIDE

- During the focus group in Wyoming there were several activities/experiences mentioned that lead to various skills and behaviors, so now let's focus more specifically on what these activities and seminars are doing for the participants. Tell me what are the specific skills that you as a director feel the participants are learning and developing while a part of the program?
- Now let's move to what happens to the individuals after they graduate from the program. First off, what do you consider to be a leadership role or responsibility?
- Networks of individuals have been identified as a major outcome of agriculture leadership programs. Can you first talk about how these networks of individuals are built?
- It is clear that these networks and leadership skills gained from the program have made an impact on the individuals, but how has the alumni network in your state helped your program? How have they made an impact on the policy development within the agriculture and natural resources?
- After participants graduate from the program, what other types of leadership development programs or educational activities do you see the alumni participating in?

APPENDIX C
WEB-BASED SURVEY INSTRUMENT



Outcomes and Impacts of Agricultural Leadership Development Programs

Thank you for taking the time to complete the following survey!

While answering the following questions, please answer them in regards to your behaviors, opinions and thoughts since you completed your agricultural leadership development program experience.

Each section will have a set of directions. Please read each set of directions to help you best answer the questions.

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Section 1: This first section will ask questions about your opinions of participating in the policy development process.

For the purposes of this study, your participation in the policy development process may be at any levels such as community, state, national or international levels.

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Please answer the following statements by clicking on the circle(s) that best match your opinions for each set of word choices.

For me to be involved in the policy development process is

enjoyable	<input type="radio"/>	unenjoyable						
worthless	<input type="radio"/>	valuable						
easy	<input type="radio"/>	difficult						

I participate in the policy development process.

infrequently	<input type="radio"/>	frequently						
--------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	------------

Most people who are important to me participate in the policy development process.

completely false	<input type="radio"/>	completely true						
------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------

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For me, participating in policy development issues that are not related to my business or organization is

enjoyable	<input type="radio"/>	unenjoyable						
unhelpful	<input type="radio"/>	helpful						
easy	<input type="radio"/>	difficult						

For me, participating in policy development issues that are only related to my business or organization is

enjoyable	<input type="radio"/>	unenjoyable						
unhelpful	<input type="radio"/>	helpful						
easy	<input type="radio"/>	difficult						

I participate in policy development issues that are not related to my business or organization.

infrequently	<input type="radio"/>	frequently						
--------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	------------

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For me contacting my policy and decision makers (legislators, county commissioners, etc.) about an issue is

enjoyable	<input type="radio"/>	unenjoyable						
a waste of my time	<input type="radio"/>	well worth my time						
easy	<input type="radio"/>	difficult						

I contact my policy and decision makers by email.

infrequently | | frequently

I contact my policy and decision makers by phone.

infrequently | | frequently

The individuals whose opinions I value contact their policy and decision makers regularly.

completely false | | completely true

I contact my policy and decision makers when an issue arises.

infrequently | | frequently



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If I wanted to I could make an impact on the policy development process.

definitely false | | definitely true

How much control do you believe you have in influencing policies at the local level?

no control | | complete control

How much control do you believe you have in influencing policies within your state?

no control | | complete control

How much control do you believe you have in influencing policies within the U.S.?

no control | | complete control



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For me participating in political campaigns for candidates is

valuable | | worthless

unpleasant | | pleasant

easy | | difficult

I participate in political campaigns for candidates.

infrequently | | frequently

Most people who are important to me participate in political campaigns.

completely false | | completely true



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Section 2: This section will ask questions about participating in organizations as a leader or volunteer. Types of organizations may include community, state, national, civic, governmental, educational, or agricultural organizations.

For the purposes of this study, a leadership role is defined as a titled position within an organization. This does not have to be a paid position. This may include serving in an organizational office, serving as a committee chair, or other similar leadership roles.

A volunteer is defined as one whom does not have a titled position within the organization, but serves in a different leadership capacity. This may include serving on a committee, assisting in the organization of a meeting or conference, or other similar volunteer roles.



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Please answer the following statements by clicking on the circle(s) that best match your opinions for each set of word choices.

For me, serving in a leadership role for my local organizations is

unenjoyable	<input type="radio"/>	enjoyable						
valuable	<input type="radio"/>	worthless						
easy	<input type="radio"/>	difficult						

I have taken on leadership roles within my local organizations.

infrequently	<input type="radio"/>	frequently						
--------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	------------

The individuals whose opinions I value serve in various leadership roles in their local organizations.

completely false	<input type="radio"/>	completely true						
------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------



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For me, serving as a volunteer for my local organizations is

unenjoyable	<input type="radio"/>	enjoyable						
valuable	<input type="radio"/>	worthless						
easy	<input type="radio"/>	difficult						

I serve as a volunteer for my local organizations.

infrequently	<input type="radio"/>	frequently						
--------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	------------

The individuals whose opinions I value serve as volunteers within their local organizations.

completely false	<input type="radio"/>	completely true						
------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------



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For me serving in a leadership role within my commodity or state organizations is

unenjoyable	<input type="radio"/>	enjoyable						
valuable	<input type="radio"/>	worthless						
easy	<input type="radio"/>	difficult						

I have taken on leadership roles within my commodity or state organizations.

infrequently	<input type="radio"/>	frequently						
--------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	------------

Most people who are important to me serve as leaders in their commodity or state organizations.

completely false	<input type="radio"/>	completely true						
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For me, serving as a volunteer for my state or commodity organizations is

unenjoyable	<input type="radio"/>	enjoyable						
valuable	<input type="radio"/>	worthless						
easy	<input type="radio"/>	difficult						

I serve as a volunteer for my state or commodity organizations.

infrequently	<input type="radio"/>	frequently						
--------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	------------

Most people who are important to me serve as volunteers within their commodity or state organizations.

completely false	<input type="radio"/>	completely true						
------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------



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For me, serving in a leadership role within a national or international organization is

unenjoyable	<input type="radio"/>	enjoyable						
valuable	<input type="radio"/>	worthless						
easy	<input type="radio"/>	difficult						

I serve in leadership roles within national and international organizations.

infrequently	<input type="radio"/>	frequently						
--------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	------------



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Please rank the following types of organizations in which you are most involved.

To move each item, left click and drag each item up and down in the order you see most fit. The numbers 1-8 will appear on the right hand side of each answer choice.

Community organizations

Local government

Commodity organizations

State organizations

State government

National organizations

National government

Other

Please name the top three organizations in which you are most involved. This may include political, educational, commodity, professional, or personal organizations at your local, county, state, national or international level.

Organization #1

Organization #2

Organization #3



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Section 3: This section will ask questions about continuing your education and leadership development. Please answer the following statements by clicking on the circle(s) that best match your opinions.

For me, continuing my formal education (ie. college courses, graduate school, etc.) is

unenjoyable	<input type="radio"/>	enjoyable						
valuable	<input type="radio"/>	worthless						
easy	<input type="radio"/>	difficult						

I seek out formal educational (ie. college courses, seminars, graduate school, etc.) opportunities.

infrequently	<input type="radio"/>	frequently						
--------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	------------

The individuals whose opinions I value have continued their formal education (ie. college courses, graduate school, etc.).

completely false	<input type="radio"/>	completely true						
------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------



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For me, continuing my education informally (ie. attending extension programs, commodity group seminars, reading books, seeking out information online, etc.) is

unenjoyable	<input type="radio"/>	enjoyable						
valuable	<input type="radio"/>	worthless						
easy	<input type="radio"/>	difficult						

I seek out nonformal educational (ie. extension programs, commodity group seminars, reading books, seeking out information online, etc.) opportunities.

infrequently	<input type="radio"/>	frequently						
--------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	------------

The individuals whose opinions I value have continued their education informally (ie. attending extension programs, commodity group seminars, reading books, seeking out information online, etc.).

completely false	<input type="radio"/>	completely true						
------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------

It is mostly up to me whether or not I continue my education informally (ie. attending extension programs, commodity group seminars, reading books, seeking out information online, etc.).

strongly disagree	<input type="radio"/>	strongly agree						
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For me, seeking out opportunities to further develop my leadership skills and abilities is

unenjoyable	<input type="radio"/>	enjoyable						
valuable	<input type="radio"/>	worthless						
easy	<input type="radio"/>	difficult						

I seek out opportunities to further develop my leadership skills and abilities.

infrequently	<input type="radio"/>	frequently						
--------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	------------

Most individuals who are important to me seek out opportunities to continue to developing their own leadership skills and abilities.

completely false	<input type="radio"/>	completely true						
------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------

It is mostly up to me whether or not I seek out opportunities to further develop my leadership skills and abilities.

strongly disagree	<input type="radio"/>	strongly agree						
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Section 4: This section asks about various activities or behaviors that you may engage in.

Please answer the following statements by clicking on the circles that best match your opinions.

	Not at all true of me	Somewhat true of me	Mostly true of me	Completely true of me
I effectively facilitate meetings for my business or organization.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I delegate responsibilities to others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I attend the organizational conferences and meetings for organizations that I am involved in.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I educate others about local issues within my community, business, or organization.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I educate others about the agriculture and natural resources industries.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I provide opportunities for others to take on leadership roles.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I establish and utilize my relationships with the media.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I utilize new media technologies (ie. Podcasts, blogs, etc.).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>





Section 5: The final section asks a few general questions about you.

Please select the agricultural leadership program and class you participated in.

Leadership Program
Class #

In what state do you currently reside?



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What was your age as of June 1, 2010?

What is your gender?

- Male
- Female



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Are you Hispanic or Latino?

- Yes
- No

What is your race?

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



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What is your current marital status?

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



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What is the highest level of education you have completed?

- Less than High School
- High School / GED
- Some College
- 2-year College Degree
- 4-year College Degree
- Master's Degree
- Doctoral Degree
- Professional Degree (JD, MD, DVM)



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Thank you for taking the time to complete this survey! Your participation is greatly appreciated and your responses have been recorded.

Please feel free to contact me if you have any additional comments and/or questions about this survey at rotel20@ufl.edu. Your feedback is greatly appreciated!



APPENDIX D
INITIAL CONTACT EMAIL FROM DIRECTORS

August 6, 2010

Dear LEAD New York Alumni,

Rochelle Strickland, a PhD student at the University of Florida is conducting her research on the outcomes and impacts of agricultural leadership programs. Rochelle has worked closely with the Florida program for the past three years and has a deep interest in the future and success of these programs. As was the case with my own doctoral research, I believe that through her research we will gain valuable insight about our leadership development efforts, which in turn will provide direct benefits to the LEAD New York Program.

I have participated in the first two stages of her dissertation research and am asking each of you to participate in her study as well by completing the survey that she will be sending to you early next week. Responding to the survey should be very simple by clicking on the link that she 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 Rochelle, please feel free to contact her at (████) █████-████ or █████@ufl.edu. Your responses are greatly appreciated!

Sincerely,

████

████████████████████

Director, LEAD New York

APPENDIX E
FIRST EMAIL CONTACT WITH SURVEY LINK

August 9, 2010

Dear LEAD New York Alumni,

I am writing to ask for your help in understanding the outcomes and impacts of state agricultural leadership development programs such as the LEAD New York program. As Larry mentioned last week, I am currently a PhD student at the University of Florida. My doctoral research is on agricultural leadership development programs as I have a deep interest in the future and success of these programs. We are continually working towards making these programs better, and the best way we have of learning about the outcomes is by asking alumni like you to share your thoughts and opinions. Larry and I are excited about this study and look forward to hearing what you have to say.

We are hoping that you will be able to complete the questionnaire on the Internet so that we can summarize results more quickly and accurately. Completing the survey is easy: just click on the link or enter the web page address in your Internet browser and begin the survey.

Follow this link to the Survey:

<Survey Link>

Follow the link to opt out of future emails:

<Survey Opt Out>

The questions should take about 20 minutes to complete. 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 telephone at (Office) ■■■-■■■-■■■ ext ■■■, (Cell) ■■■-■■■-■■■ or by email at ■■■@ufl.edu.

This study has been reviewed and approved by the University of Florida Institutional Review board. If you have questions about your rights as a participant in this study, you may contact them by telephone at 352-392-0433.

By taking a few minutes to share what you have been doing since your leadership program experience you will be helping us out a great deal. I hope you enjoy completing the questionnaire and look forward to receiving your responses.

Many Thanks,

Rochelle Strickland
Doctoral Candidate

APPENDIX F
FIRST EMAIL REMINDER

August 13, 2010

Good morning LEAD New York Alumni!

Earlier this week, I sent you a survey about the outcomes and impacts of agricultural leadership programs. Your responses to this survey are greatly appreciated and important to continue to make these programs better. I just spent the past two days in Virginia presenting the first two phases of my research to stakeholders as they are trying to begin their own program. Many expressed interest in hearing the results from the alumni survey portion of the study as well. Therefore, I hope that you will take the time to complete it and provide your responses for the betterment and future of these programs as a whole.

If you did not receive the survey, please let me know and I will be happy to resend you the link. 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.

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 [REDACTED]@ufl.edu.

All my best,

Rochelle Strickland
Doctoral Candidate

APPENDIX G
SECOND EMAIL REMINDER

August 18, 2010

Good morning LEAD New York Alumni,

I know you are all very busy individuals, but wanted to take a quick minute to remind you to please take the survey on ag leadership program outcomes. Through this research, we are hoping to gain a better understanding of the longer term outcomes such as how you are using the knowledge and/or skills you may have gained through the program.

The survey will be closing next Wednesday (8/25). Myself and [REDACTED] would greatly appreciate your time in completing the survey! The survey should take about 20 minutes to complete and all of your answers will remain confidential. If you have already started the survey, you will be able to continue where you left off.

Follow this link to the Survey:

<Survey Link>

Follow the link to opt out of future emails:
\${!://OptOutLink}

Thank you for your patience and time! Please feel free to contact me if you have any comments or questions about the survey or research project at [REDACTED]@ufl.edu.

Sincere thanks,
Rochelle

APPENDIX H
THIRD EMAIL REMINDER

August 23, 2010

Dear LEAD New York Alumni,

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

If you still have not received the link, please let me know and I'll be happy to forward your individual link to you.

If you already started the survey, you will be able to continue where you left off. The survey will take between 10-20 minutes to complete.

All my best,
Rochelle

APPENDIX I
FINAL EMAIL REMINDER

August 25, 2010

Dear LEAD New York Alumni,

This is the final reminder to take the survey on outcomes of agricultural leadership programs. I know many of you are busy and travel quite a bit, but your responses are very important and greatly appreciated. The results of this study will be presented and utilized by many programs not only within New York and Florida, but other states and countries such as Texas, Oklahoma, Kansas, Scotland, and Spain.

The survey will be closing today. Please take 10-20 minutes to complete the survey by clicking on the link below. Remember, if you have already started the survey, you will be able to continue where you left off. And as always, your responses will remain completely confidential.

Follow this link to the Survey:

<Survey Link>

Thank you again for your time and patience! If you have any comments or questions, I would love to hear from you at [REDACTED]@ufl.edu.

All my best,
Rochelle

APPENDIX J
 CODES FOR VARIABLES USED IN CORRELATIONAL AND MULTIPLE
 REGRESSION ANALYSIS

Variable	Code	
Gender	Male = 1	Female = 0
Single, never married	Yes = 1	No = 0
Married without children	Yes = 1	No = 0
Married with children	Yes = 1	No = 0
Divorced, separated, or widowed	Yes = 1	No = 0
No college degree	Yes = 1	No = 0
Two-year college degree	Yes = 1	No = 0
Four-year college degree	Yes = 1	No = 0
Masters degree	Yes = 1	No = 0
Doctoral or Professional degree	Yes = 1	No = 0
Pre-1990	Yes = 1	No = 0
1991 – 1995	Yes = 1	No = 0
1996 – 2000	Yes = 1	No = 0
2001 – 2005	Yes = 1	No = 0
2006 – 2010	Yes = 1	No = 0
Attitude	1 – 7, 1 = more negative, 7 = more positive	
Perceived behavioral control	1 – 7, 1 = low, 7 = high	
Subjective norm	1 – 7, 1 = low, 7 = high	
Behavior	1 – 7, 1 = low, 7 = high	

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BIOGRAPHICAL SKETCH

Rochelle Strickland was born and raised in Texas. She grew up in the small town of Stephenville known for its dairy farms and cowboys. She graduated with her bachelor's degree in agriculture leadership and development from Texas A&M University in December of 2006. Upon graduation, Rochelle moved to Florida to begin her master's degree in agricultural leadership at the University of Florida. Her thesis research focused on the relationship between emotional intelligence and leadership styles of leaders within Florida agriculture. In addition to her research and studies, Rochelle has served as the Program Coordinator for the Wedgworth Leadership Institute for Agriculture and Natural Resources. After obtaining her master's degree, Rochelle began pursuing her Ph.D. in the same program. As a Ph.D. student, Rochelle served as the lead instructor for an undergraduate oral communication class.