EVALUATING THE EFFECTIVENESS OF AN OHIO STATEWIDE AGRICULTURAL LEADERSHIP PROGRAM

DISSETATION

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By

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ABSTRACT

Statewide agricultural leadership programs were founded in 1983 by the W. K. Kellogg Foundation. These programs now extended to 32 states and three countries, lay claim to thousands of alumni, and receive an immense amount of stakeholder support. Millions of dollars have been invested in these statewide agricultural leadership programs; however, little evaluation evidence exists that documents the outcomes of these programs with the program participants.

This study attempts to evaluate outcomes of a statewide agricultural leadership program in Ohio by determining the affects of the program on participants after they graduate. The study explored three levels of outcomes on the individual, organizational and community level using the EvaluLEAD framework developed by Grove, Kibel and Haas (2005).

The research employed a descriptive survey design. An original web-based instrument was developed to collect the data from a census population of 262 alumni. The instrument was found to be highly reliable and valid and effectively measured the outcomes of this leadership program.
The findings of this study are based on an alumni response rate of 75% (n=196). Conclusions from the study indicate that statewide agricultural leadership program alumni report several positive outcomes on the individual and organizational levels as a result of the program. On the community level, one positive level existed. Low outcome levels were reported by alumni on one organizational level and several community levels.

The result of this study provides the first examination of the impact of a statewide agricultural leadership program at the post-program evaluation level utilizing a comprehensive instrument developed to gain insight into alumni outcomes and program achievements.
Dedicated to Mom and Dad; Rick, Laura, Heather and Richie
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TABLE OF CONTENTS

ABSTRACT ........................................................................................................................................... ii

ACKNOWLEDGMENTS .............................................................................................................. v

VITA ............................................................................................................................................. vi

List of Tables ................................................................................................................................ xi
List of Figures .......................................................................................................................... xiii

CHAPTER 1 ........................................................................................................................................ 1

INTRODUCTION ......................................................................................................................... 1
  Significance of the Study ........................................................................................................ 5
  Problem Statement ............................................................................................................... 6
  Research Questions ............................................................................................................. 7
  Limitations of the Study ..................................................................................................... 7
  Basic Assumptions ............................................................................................................. 8
  Definitions ............................................................................................................................ 8

CHAPTER 2 ........................................................................................................................................ 10

REVIEW OF RELATED LITERATURE ........................................................................... 10
  Social Learning Theory ..................................................................................................... 10
    Observational Learning and Modeling ........................................................................ 13
    Reciprocal Determinism ............................................................................................... 16
    Self-efficacy .................................................................................................................... 17
  Social Learning Theory As Applied to Adult Learning ................................................ 19
  The Motivation for Adult Learning .................................................................................... 22
  Theories of Leadership ...................................................................................................... 23
    Transformational and Transactional Leadership .............................................................. 24
    Self-confidence ................................................................................................................ 25
    Leadership in Group Settings ........................................................................................ 26
    Rost’s Model of Leadership ............................................................................................. 27
List of Tables

Table 2.1 Carter's Cube (McNamara, 1999a) ................................................................. 31
Table 3.1 Demographic Variables .................................................................................. 66
Table 4.1 Focus Group Characteristics ....................................................................... 74
Table 4.2 Individual Level Concepts of Focus Groups ................................................. 76
Table 4.3 Organizational Level Concepts of Focus Groups ......................................... 80
Table 4.4 Societal/Community Level Concepts of Focus Groups ............................... 82
Table 4.5 Cronbach’s Alpha Reliability Analysis ....................................................... 86
Table 4.6 Importance of Continuing the LEAD Program .......................................... 88
Table 4.7 Occupations Reported by Respondents ...................................................... 89
Table 4.8 Level of Organizational Involvement ......................................................... 90
Table 4.9 Governmental Positions Held ...................................................................... 91
Table 4.10 Level of Change Reported by Program Participants ................................. 92
Table 4.11 Areas that Decreased or Worsened .......................................................... 93
Table 4.12 Respondent Demographic Characteristics by Category, Frequency and Percent ................................................................. 94
Table 4.13 Alumni Class Respondent Breakdown ....................................................... 95
Table 4.14 Individual Outcomes Ordered by μ ............................................................ 97
Table 4.15 My Growth ............................................................................................... 98
Table 4.16 Self-Confidence ....................................................................................... 99
Table 4.17 Power to Make a Difference ................................................................... 100
Table 4.18 Meet People ............................................................................................ 101
Table 4.19 Value of Time ......................................................................................... 102
Table 4.20 Business Skills ....................................................................................... 103
Table 4.21 Creative Thinking ................................................................................... 104
Table 4.22 Community Involvement ....................................................................... 105
Table 4.23 Value of My Family ................................................................................ 106
Table 4.24 Life Changing Events .......................................................................... 107
Table 4.25 Control ................................................................................................... 108
Table 4.26 Changed by LEAD Experience ............................................................... 109
Table 4.27 Description of Personal Change .............................................................. 110
Table 4.28 Organization Outcomes Ordered by μ .................................................... 111
Table 4.29 Network of Contacts ............................................................................. 112
Table 4.30 Networking Skills ................................................................................... 113
Table 4.31 Facilitate Change ................................................................. 114
Table 4.32 Respond to Problems .......................................................... 115
Table 4.33 Problem-solving ................................................................. 116
Table 4.34 Decision Making Skills ......................................................... 117
Table 4.35 Use of Time ...................................................................... 118
Table 4.36 Confidence to Compete ........................................................ 119
Table 4.37 Professional Organizations .................................................. 120
Table 4.38 Use of Resources ............................................................... 121
Table 4.39 Change Career .................................................................. 122
Table 4.40 Community Outcomes Sorted by µ ..................................... 124
Table 4.41 Cultural Differences ............................................................ 125
Table 4.42 Value of My Time ............................................................... 126
Table 4.43 Local Organizations ............................................................ 127
Table 4.44 Community Organizations ................................................ 128
Table 4.45 Reduced Commitment ........................................................ 129
Table 4.46 State Level ...................................................................... 130
Table 4.47 National Level ................................................................. 131
Table 4.48 Other Countries ............................................................... 132
Table 4.49 Community Involvement of Respondents ......................... 134
Table 4.50 Individual Model Multiple Regression ................................. 135
Table 4.51 ANOVA for Individual Level ............................................... 136
Table 4.52 Individual Level Coefficients ............................................. 136
Table 4.53 Organization Model Multiple Regression .............................. 137
Table 4.54 ANOVA Organization Model ............................................. 137
Table 4.55 Organization Outcomes Coefficients ................................. 138
Table 4.56 Community Model Regression ....................................... 138
Table 4.57 ANOVA Community Model ............................................. 139
Table 4.58 Community Model Coefficients ....................................... 139
Table 4.59 Stepwise Community Model ............................................. 139
Table 4.60 Excluded Variables for Stepwise ....................................... 140
List of Figures

Figure 2.1 Conceptual Model of the three factors that influence behavior (based on Bandura, 1986) ................................................................. 14
Figure 2.2 Conception of the Rost (1993) Model of Leadership ................................................................. 28
Figure 2.3 Theoretical Model of Leadership Programs ................................................................................. 32
Figure 2.4 EvaluLEAD Framework (Grove & PLP Team 2001) ................................................................ 46
Figure 2.5 EvaluLEAD Conceptual Model ................................................................................................. 53
Figure 4.1 My Growth .............................................................................................................................. 98
Figure 4.2 Self-confidence ......................................................................................................................... 99
Figure 4.3 Power to Make a Difference .................................................................................................. 100
Figure 4.4 Meet People ............................................................................................................................ 101
Figure 4.5 Value of Time .......................................................................................................................... 102
Figure 4.6 Business Skills ........................................................................................................................ 103
Figure 4.7 Creative Thinking ..................................................................................................................... 104
Figure 4.8 Community Involvement ....................................................................................................... 105
Figure 4.9 Value of My Family ................................................................................................................. 106
Figure 4.10 Life Changing Events ............................................................................................................ 107
Figure 4.11 Control .................................................................................................................................... 108
Figure 4.12 Changed by LEAD Experience .............................................................................................. 109
Figure 4.13 Network of Contacts ............................................................................................................ 112
Figure 4.14 Networking Skills .................................................................................................................. 113
Figure 4.15 Facilitate Change ................................................................................................................... 114
Figure 4.16 Respond to Problems ........................................................................................................... 115
Figure 4.17 Problem-Solving ................................................................................................................... 116
Figure 4.18 Decision Making Skills ......................................................................................................... 117
Figure 4.19 Use of Time ............................................................................................................................ 118
Figure 4.20 Confidence to Compete ......................................................................................................... 119
Figure 4.21 Professional Organizations .................................................................................................. 120
Figure 4.22 Use of Resources .................................................................................................................. 121
Figure 4.23 Change Career ....................................................................................................................... 122
Figure 4.24 Cultural Differences ............................................................................................................... 125
Figure 4.25 Value of My Time .................................................................................................................. 126
Figure 4.26 Local Organizations .............................................................................................................. 127
Figure 4.27 Community Organizations .................................................................................................. 128
Figure 4.28 Reduced Commitment ......................................................................................................... 129
Figure 4.29 State Level ................................................................................................... 130
Figure 4.30 National Level ............................................................................................. 131
Figure 4.31 Other Countries ........................................................................................... 132
CHAPTER 1

INTRODUCTION

The purpose of this study is to investigate the outcomes of a statewide agricultural leadership program. Chapter one outlines the background and significance of the problem. Following these topics, the statement of the problem and the five research questions are identified as well as the study’s purpose, limitations of the study, assumptions, procedures and definition of terms.

Statewide agricultural leadership programs have a long history in the United States. In 1965, the Kellogg Farmers Study Program began at Michigan State University to provide young agricultural and rural leaders a broader view of society and of the world (W.K. Kellogg [WKKF], 2001). These early beginnings evolved into the creation of Rural Leadership Development Programs in many parts of the country beginning in 1983 with a grant from the W.K. Kellogg Foundation (Russon & Reinelt, 2004).

After all of these years of leadership development little exists in the literature that documents statewide agricultural leadership programs outcomes. A review of the literature finds that seven state agricultural leadership programs have conducted evaluations of their programs with alumni and far fewer have published their findings. This is surprising, since the majority of these programs operate from, or were founded by,
land-grant universities (WKKF, 2001). The Cooperative Extension system, which also operates from land-grant universities, has a long history in the rural leadership development arena; however, there is not much understanding about the knowledge and skills that result in leadership effectiveness (Dhanakumar, Rossing & Campbell, 1996). Since the year 2000, WKKF reports that over 7,200 participants have graduated from agricultural leadership development programs and that over $111 million has been spent on the support of these programs. The W. K. Kellogg foundation reports investing over $5.3 million in these programs (WKKF, 2000). The sizable investment of resources argues for the implementation of an evaluation process to document leadership program outcomes and the benefits to those participants that have graduated from the programs. The importance of ascertaining if leadership program alumni view the program as having significance in their individual and professional development not only will serve to add to the knowledge base of leadership program evaluation, but will provide important information to stakeholders, funders and decision makers.

Since 1985, Ohio has conducted a statewide agricultural leadership development program. Ohio’s program was not funded by the original grant from the W.K. Kellogg Foundation, but from The Ohio State University College of Agriculture and other agricultural investments. The program functions by identifying and recruiting 25 to 30 individuals, who are involved in farming, agricultural or environmental involvement, and have exhibited leadership in their communities. The program is geared towards instruction in leadership and in the current issues facing America, and the consuming public. The program delivery is through 12 study institutes that are hands-on and
participant-based. The study institutes are conducted in various locations on a state, national, and international level. Today, the institutes in Ohio focus upon: leadership, media training, state and national political processes, agricultural issues, environmental issues, renewable resource education, food safety, food security and social issues. The program aims to form pro-active individuals who will make a difference within their communities and in society.

Each participant pays a tuition fee to participate, which at the present time is $4,500. The remaining program costs are funded by the university, grants and private donations. A Policy and Development Committee makes recommendations to the program staff. The program employs two full-time OSU staff members - a Director and a Program Coordinator.

The original program objectives were written in 1984 by Ohio State University Professors Duvick, Erven, Barrick and Rask. These objectives outlined the beginnings of the program:

1) to increase participant's understanding of the social, economic and political systems in which people function,
2) to increase participant's self-awareness of their leadership potential,
3) to develop participant's leadership skills,
4) to use group action procedures to help participants recognize, and
5) analyze, and develop solutions to fundamental agricultural problems.
Sixteen years later, an unpublished strategic planning exercise with the program’s policy and development committee emphasized the following program goals:

1) To attract, identify and develop a diversity of leaders who have the talent and desires to further develop their leadership skills to make an impact on agriculture, agribusiness and the community.
2) To concentrate on improving leadership skills; increasing knowledge about key issues and policies in agriculture and society in general; and expanding personal horizons.
3) The Ohio LEAD Program seeks to balance personal growth with altruism by developing a sense of responsibility to give back, in future leadership action: time, money and personal development.

In 2002, a vision and mission statement developed by the Ohio LEAD Program’s marketing committee sought to create an identity for the program.

Our vision: Leaders for Ohio’s Food and Environmental Systems

Our Mission: To develop a diversity of leaders, through education, service and expanding horizons, who make a positive impact on food, agriculture, environment and community.

Finally, in November of 2005, the following goals and objectives were identified by the Ohio LEAD program’s marketing committee.

Participant’s will:

- Develop and enhance leadership capacities;
- Evaluate issues, diversity and challenges of urban and rural communities;
- Increase understanding of important global issues and their impact on communities;
- Inspire vision and action within organizations, communities, and the political arena;
- Expand personal and professional networks;
- Build self-confidence; and
- Examine personal ideas, assumptions, beliefs and values.
Significance of the Study

The W.K. Kellogg Foundation funded the establishment of agricultural leadership programs in 18 states beginning in 1981. Now, 32 states have agricultural leadership programs (Bill Pope, personal communication, November 2005). It is estimated that millions of dollars from public and private sources are used to fund these programs (Pope, 2003). Additionally, many stakeholders are involved with the programs, and provide financial and in-kind support, while counting on the programs to be effective.

Little has been done to determine the effectiveness of statewide agricultural leadership programs or to quantify program outcomes and long-term effectiveness. The programs work in a variety of manners to prepare leaders to assume positions of community leadership at local, state, and national levels to develop those characteristics that enhance leadership ability. The programs strive in varying degrees to instruct their participants about current social, political and agricultural issues, while also training them in communication skills. However, what do we know about the effectiveness of these statewide leadership programs and what are the program outcomes? An even more complex question is how do we effectively measure statewide agricultural leadership program outcomes?

Grove and PLP Team (2002) state that leadership development programs present unique evaluation challenges because the data is derived from a highly personalized developmental process.
Grove & PLP Team (2002) asserts that the personalized nature of these programs cause the outcomes to be difficult to capture, because satisfaction-level data is the type of data that is most often gathered.

**Problem Statement**

Participants self-report that their agricultural leadership program experiences are life-altering and the programs often report that they are effective. Little has been done, however, to determine actual effects of these leadership programs on the individual, organization, society and community levels. Much less has been accomplished in developing a form of measurement to identify agricultural leadership program outcomes. Since its inception in 1985, data has not been gathered on the effectiveness of the Ohio program. Therefore, for the edification of those who support and sponsor this statewide agricultural leadership program, as well as the alumni, the time has come to develop an effective evaluation mechanism to assist in determining program outcomes.

**Purpose of the Study**

The purpose of Ohio’s Leadership, Education and Development (LEAD) program is to prepare emerging, adult leaders to assume positions of responsibility within their communities, and organizations and to succeed in their businesses. The literature indicates the positive nature of statewide agricultural leadership programs (WKKF, 2001; Dhanakumar et al., 1996; Diem & Nikola, 2005). However, quantification and measurement instruments are lacking. Even after 21 years of operation, the outcomes of
the Ohio LEAD program are still a mystery. The purpose of this research study is to determine the outcomes of this statewide agricultural leadership program on an individual, organizational and societal level.

**Research Questions**

The EvaluLEAD Framework (Grove, Kibel & Haas, 2005) will be used as a guideline to measure leadership outcomes across the three levels of leadership development, namely that of individual, business/organization and societal/community.

The research questions investigated in the study are:

1) What are the results of the statewide agricultural leadership development program at the individual level?

2) What are results of the statewide agricultural leadership development program at the organizational level?

3) What are results of the statewide agricultural leadership development program that occur at the societal/community level?

4) Is there a statistically significant relationship between the socio-demographic characteristics of the participants and their involvement in leadership practices?

5) Can an effective instrument be developed to evaluate statewide agricultural leadership programs?

**Limitations of the Study**

The population for this study was limited to a cohort census of LEAD Program alumni. Therefore, the results of the study are limited to the accessible population of LEAD Program alumni and cannot be generalized to all alumni of the program. The results are also limited to the memory of the alumni who participated in the study.
Basic Assumptions

The researcher assumed that the Ohio LEAD Alumni who participated in the focus group sessions provided honest and truthful responses to the discussion questions. It is also assumed that the participants’ perceptions of, and experiences in, leadership development activities were provided honestly and truthfully.

Definitions

Leadership – “Leadership is an influence relationship among leaders and followers who intend real change that reflects their mutual purpose" Rost (1993, p. 102).

Statewide agricultural leadership program - Leadership development aimed at the personal growth of the participant while enhancing business skills, global awareness and community contribution in the food, agricultural or environmental sectors of a state.

EvaluLEAD – A framework developed to assist in the exploration and development of the complex results of leadership development programs where participant’s performance and experiences are brought together and evaluated through several different lenses (Grove et al., 2005).

Individual outcomes - The individual domain is where most of the direct benefits of leadership development occur and where the most program-associated results might be expected (Grove et al., 2005).

Organizational outcomes - Program associated results that occurs within the organizations where the program participants work or in outside organizations where the participants have contact (Grove et al., 2005).
Societal/community outcomes - The societal/community level of outcomes is the community where the program participants have influence either individually, or directly or indirectly through the organizations with which they work, or are affiliated. Grove et al. (2005) calls the mission or “reason for being” for most leadership development programs is to influence this domain (Grove et al., 2005, p. 9).
CHAPTER 2

REVIEW OF RELATED LITERATURE

This chapter reviews the literature that relates to social learning theory, leadership theory and the relevance to leadership program evaluation. Social learning theory and adult learning are linked and relevant to leadership programs. Exploration of the framework that relates to the study’s model is explored in the context of leadership program evaluation and leadership program outcomes.

Social Learning Theory

“If you really want to help people, you provide them with the competencies, build a strong self-belief, and create opportunities for them to exercise those competencies” (Bandura, 1977, p. 16).

Social Learning Theory (SLT), or observational learning, was first identified by Albert Bandura (1977, 1986). He was the first theorist to develop the concept of “imitation” as modeling behavior, where people learn from one another by observing behaviors and imitating them (Bandura, 1977). Bandura focused upon the fact that a person’s response to a behavior is regulated through thinking (cognitive) processes. Bandura felt that a person’s thought processes affected their behavior when coupled with the social experiences to which they are exposed. These observations and experiences...
are then drawn upon to establish new patterns of behavior that often go beyond those of
the exposed levels (Bandura, 1986).

The primary concepts of Bandura’s social learning theory (1977) are:

1) Observation of the behaviors of others and the outcomes of those behaviors
   through third person reinforcement helps people to learn.

2) Learning may not result in a behavior change.

3) A person’s environment can reinforce learning. If another person is observed
   modeling a behavior, this can reinforce the behavior.

4) Thoughts play a role in learning, along with the expectation about the outcomes
   of future behaviors. The person then becomes their own agent of change. (p. viii)

Bandura (1986, p. 5) theorized that the “symbolic environment” to which a person is
exposed has a major impact on the attitudes, beliefs and competencies of an individual
and could teach the behavior to others. This symbolic environment could be comprised
of other people or even the mass media. Furthermore, a “social facilitation function”
occurs where “social guides” are learned. Bandura (1986) found that there may be a
time lapse between the cause and effect of the learning experience.

Effective behavioral treatments were those that provided competencies, built a strong
self-belief in oneself and created opportunities for people to apply their expertise
(Bandura, 1986, 2000). Bandura found that self-efficacy was strongest in people who
were empowered with a strong sense of confidence. Self-confidence in task-specific
abilities has been determined to be an important causal variable for improving one’s
performance (McCormick, Tanguma & Lopez-Forment, 2001). McCormick et al. (2001) cites a 28% performance improvement if a person is confident in their performance of a task. McCormick et al. reports that self efficacious individuals were motivated, persistent, goal-directed, resilient, and clear thinkers under pressure. These researchers point out that self-confidence is an essential characteristic for effective leadership and that leadership self-efficacy was influenced by a person’s self-confidence.

Regarding self-efficacy, Bandura (1986) discusses the variables of influence being personal performance accomplishments, exposure to models, positive feedback and encouragement, positive emotional and physical feelings (Bandura, 1986). Finally, McGowan (1986) emphasizes that performance accomplishment had the most influence on efficacy, because it centered on the experiences of personal mastery.

Women are found by McCormick et al. (2001) to have lower self-confidence than men and, as a result, may tend to take on few challenging leadership roles. McCormick et al. also find that men and women tend to interpret their performances in different ways. Men are more efficacious in enhancing interpretation, while women attribute their success in ways that constrained efficacy growth (McCormick et al., 2001).

Group settings can change an individual’s motivation, attitudes and behavior (Choi, Price, & Vinokur (2003). Choi et al. (2003) noted that differences among group members (such as social diversity) allow for more and diverse information and viewpoints, richer discussion and more complex analysis. Furthermore, group leaders influence individual member’s growth and achievement by allowing members to freely share their ideas and experiences (Choi et al., 2003).
Social learning theory indicates a relationship between thinking, behavior and environmental factors (Bandura, 1986). Based upon this environment, Bandura hypothesizes that a person’s behavior will change toward the positive or negative after viewing the behavior of a model. One area where social learning theory is applied and observed is in the healthcare field where it is used to change behaviors. The Resource Center for Adolescent Pregnancy Prevention [ReCAPP], (2005) explains that applied social learning theory should result in: 1) the observation and imitating of the behavior of others; 2) the observation of positive behaviors being modeled and put into practice; 3) the increase of a person’s capability and confidence to implement new skills; 4) the increase in positive attitudes about implementing new skills; and, 5) the support from their environment in order to use the newly acquired skills.

**Observational Learning and Modeling**

Observational learning theory involves the concept that learning occurs by observing the behaviors of others and the outcomes of those behaviors. The observation of how others act, serves as a guide or model for a person’s later behaviors (Bandura, 1977).

There are four conditions which Bandura (1977) identifies for successful modeling behaviors: 1) **Attention**: the person pays attention to the behavior and observes it in the environment; 2) **Retention**: The person must remember the behavior. Bandura (1977) referred to these memories as symbols; 3) **Behavior Production**: The behavior must be copied and changed into action; and 4) **Motivation**: The person must be motivated to
perform what they have learned. Positive expectations can reinforce a person’s willingness to perform and adapt the modeled behavior.

Figure 1 outlines Bandura’s (1986) three factors that produce behavior: 1) the thoughts of the person, which includes their knowledge, expectations and attitudes; 2) the experience of the person in their community and culture; and, 3) the person’s actions where behavior is put into practice, skills learned and self-efficacy achieved.

![Conceptual Model of the three factors that influence behavior](image)

**Figure 2.1** Conceptual Model of the three factors that influence behavior (based on Bandura, 1986)
Bandura (2000) believes that theories must accurately identify the motivators for human behavior and the factors responsible for change. He states that learning would be laborious, if people had to depend upon the effects of their own actions to inform them as to what to do. Since the observation of others can help people learn from example, Bandura (1986) thinks that needless errors are eliminated because people learn by observing and then thinking about actions before performing them. In social learning theory, modeling behaviors assist the individual’s learning through exposure to guides, a process Bandura calls informative learning. Additionally, a person can learn the behavior, but may wait until a later time to display the behavior. Bandura explains that this is because people have to think about the different scenarios to avoid mistakes. It is important to note, however, that Bandura considers observational learning to be less reliable if there was a long period of time between watching and performing the behavior.

Bandura (1986) believes people change because they are shown the skills needed to be effective in their efforts to bring about change. Bandura notes that, by empowering people with creative mechanisms, they can exercise influence in areas of their life. People could be empowered with the ability to exercise influence in areas of their life through social experience and modeling. This modeling, by observing others, helps to develop the belief that a person can perform what they observe someone like a mentor doing (McGowan, 1986). “Through modeling we can transmit skills, attitudes, values, and emotional proclivities” (Bandura, 1986, p. 5).

Modeling encourages people to adopt positive behaviors or discourages behaviors through negative consequences (Bandura, 1986). Furthermore, a “social facilitation
function” occurs where “social guides” are learned that may inhibit certain actions even though no new actions are being exhibited (Bandura, 1986, p. 5). Bandura believes most people have contact with only a small sector of their environment. The resulting perceptions of their social reality are heavily influenced by the various experiences of what they see, hear and read in the mass media. Therefore, it is difficult to express in words, what is directly communicated to people through pictures in the media.

Modeling can create innovative behavior that goes beyond what people have seen and heard. Models are not limited to people, they can be such things as books (things read), audio-visual (things seen), demonstrations (things touched), or instructions (things heard) (Gibson, 2004).

Reciprocal Determinism

Bandura (1986) coined the term “reciprocal determinism” to show the mutual action between the factors of behavior, thoughts, and environmental influences. These areas all interact in the person, but at different levels and in different strengths. Bandura notes that personal preferences and the environment can modify behaviors, which results in a two-way link. He further notes that it takes time for these factors to exert their influence, they do not “spring forth all at once” (p. 25). These time lags occur as behaviors are called upon and a person’s preferences are altered.

Furthermore, Bandura (1986) believes that social environments can exert pressure to change social practices that improve life situations. He points out that people serve as “partial authors” of their past experiences. They have a tendency to fill in their
expectations based on the history of their experiences. This guides a person’s actions based upon the outcomes they expect actions to produce. Modeling, instruction and social persuasion also work to develop and modify a person’s beliefs, expectations and thinking (Bandura, 1986). Physical characteristics such as age, size, race, sex and physical attractiveness also play a role in the outcomes of reactions from social environments. Bandura (1977, 1986) believes that people are both a product and producer of their environment. The way that people behave then determines the outcomes they experience. Conversely, a person’s behavior is modified by the environment to which they are exposed.

Self-efficacy

Self-efficacy or self-confidence in learning is another concept of Bandura’s (1986) and indicates a personal belief in oneself towards carrying out an observed behavior. The information acquired through observational learning is internalized and used in a person’s future actions. Bandura (1986) validates the behavioral experiences that are most effective are the ones that built a strong self-belief and create opportunities for people to successfully apply their expertise, which further enhances self-efficacy. Bandura reasons that psychological well-being is affected by self-efficacy because people with a low sense of efficacy are more vulnerable to stress and depression when they encounter failure (Evans, 1989). He feels that a “robust sense of self-efficacy is required for personal well-being and achievement” (Evans, p. 55). Bandura (1986) contends that even in the face of failure, people with a strong sense of self-efficacy and a strong belief in their actions,
eventually come through. This resiliency, Bandura reasons, becomes an important mental health protection.

Bandura (2000) notes that a person’s positive belief in their ability to be successful, indicates high self-efficacy. Such a person will put forth more effort and show more persistence towards a goal because they believe in their success. Bandura and Evans (1989) present the argument that positive social support can assist in overcoming low self-efficacy and increase self-confidence. These positive outcomes can occur through modeling and social persuasion. Bandura (1986) emphasizes that an individual’s self-efficacy can be reinforced by offering verbal support and encouragement. Furthermore, Bandura notes that adults in the working world will have formed an opinion of their self-efficacy based upon their previous successes and failures.

Bandura (2000) indicates that people select who they choose to interact with based upon their learned preferences and the environment in which they are involved. If expectancy of outcome influences a person’s behavior, those individuals in an agricultural leadership program may have the expectancy of greatness. This expectation is pondered by a person in their thoughts and then transformed into self-action.

Self-efficacy is developed from factors such as a person’s history of achievement, observation of other’s success and failures, the social comparison one’s own performance to the performance of others-especially peers, persuasion of others, and one’s own physiological state (Brown, 1999). A self-motivated person is likely to work harder and give up less easily than a person who has low self-efficacy. Feedback as a form of goal monitoring is important at this stage because it allows the individual to adjust their goals.
and their effort towards attainment of their goals. Brown (1999) mentions self-motivation is also influenced by the amount of time necessary for goal attainment with goals achieved within a shorter span of time inspiring the individual. Observation of a behavior is a strong influencer and its value is much greater than verbal instruction. A person internalizes a behavior based upon the degree to which the model is like oneself, the value of the activity and the perception of personal control over the behavior (Brown, 1999).

Observation and internalization is followed by self-reflection which allows one to analyze their experience, think about their reactions and to alter their actions if necessary. Brown (1999) points out that this type of self-reflection greatly affects the perceptions of one’s own abilities and characteristics which ultimately guides behaviors. Brown (1999) states that self-reflection determines what a person tries to achieve and how much effort he/she will put into his/her performance.

**Social Learning Theory As Applied to Adult Learning**

Birkenholz (1999) calls attention to the difference between adults and adolescents in their learning. He states one distinction being that adults often participate in learning activities on a voluntary basis, which makes them more motivated to learn. Birkenholz (1999) confirms the level of maturity and the life experiences of the adult learner influences their level of learning. “Adults learn through observation, and upon reflection, will imitate or modify their behavior accordingly” (Birkenholz, 1999, p.26). Gibson (2004) states that social learning theory is very evident in adult learning and emphasizes
the area of Bandura’s theory (1997) related to adult learning: attention, retention, performance and motivation, reciprocal determinism, self-regulation, and self-efficacy.

According to Gibson (2004), the areas of observational learning, reciprocal determinism, self-regulation and self efficacy work together to help adults learn. Observational learning models the behaviors and the accompanying potential outcomes to adult learners. Reciprocal determinism occurs when the social context of learning intertwines with the environment, the expected behavior and the person. Self regulation is the learner’s anticipated reactions, or the anticipated self-outcomes, which are balanced between knowledge and action. Finally, self-efficacy is the belief in one’s success and the motivating factor for a person to pursue learning due to his/her belief in a positive future outcome.

Birkenholz identified social learning theory as being applicable to adult learning. Birkenholz’s (1999) description of adult learning principles are:

1) *Learning is change*. Adults may not show changes in behavior that are immediately observable and measurable. Changes could occur in thoughts and attitudes as a result of a learning experience resulting in a change in behavior at a later time. Learning is an individual process and will vary among the participants.

2) *Adults must want to learn*. If adults are required to learn their potential for learning decreases. Moreover, those that are highly motivated and elect to participate are usually more successful in learning. Therefore, it is important to cultivate the desire for information within the participant.
3) *Adults learn by doing.* Direct participation and encouragement to engage in the learning processes is important. Birkenholz notes that some adults may have low self-esteem and lack confidence in their abilities. Activities that guarantee success in the early stages of the learning experience will help them to overcome these barriers. Adults do better when they are self-directed in learning and should be free to direct themselves with instructors acting as facilitators of the learning process (Lieb, 1991).

4) *Learning should focus on realistic problems.* The more immediate the personal application to the learning experience being presented the better. Be aware that the participant may question the learning experience and then dismiss the experience as having nothing to do with them. Additionally Lieb (1991) states, adults are goal-oriented and should be informed how this learning experience will help them attain their goals.

5) *Experiences influence outcomes.* Previous positive experiences enhance outcomes while negative experiences inhibit outcomes. Therefore, some experiences have to be “unlearned” and some adults exhibit this ability more quickly than others.

6) *Adults learn best in informal environments.* The experience of drawing up guidelines and behavior policies empowers participants and helps them to be more self-directed. Rigid rules often remind participants of their youth and can restrict learning. Snack breaks are also important and can lead to informal questions and group interaction.

7) *Use variety in teaching adults.* Adults need to be involved in the experience of learning and the more senses of seeing, hearing, feeling, tasting and touching involved the more information that will be retained.
8) Adults want guidance, not grades. Each participant is an individual and each evaluates his/her achievements and performance a different way. Lieb (1991) notes that adults are practical and will focus on aspects of the learning experience that they find most useful to their situations. Suggestions for performance should be tactful and non-threatening. Self-evaluation is a better method for measuring achievement because each will have a different desired outcome. Encouragement and support is needed to overcome self-doubt and the signs of discouragement should be recognized.

The Motivation for Adult Learning

What motivates adult learners? Lieb (1991) notes that adults are motivated by social relationships and the need for associations and friendships. These motivating factors may occur on several levels: 1) to fulfill expectations for oneself or others; 2) to improve one’s ability to serve their community; or 3) for professional advancement.

Lieb (1991) mentions that other motivational factors are to relieve boredom or break routines and to learn and to seek knowledge. Jaussi and Dionne (2004) report people are more satisfied when their experience is different and interesting. Then participants report a more enjoyable experience, which enhances their mood and satisfaction. Conversely, Lieb (1991) notes that the barriers to adult learning are lack of time, money, confidence, scheduling problems and problems with child care. To overcome these barriers, Lieb suggests that educators must show adult learners the relationship between participation and positive outcomes.
Theories of Leadership

The theory and practice of leadership, as applied to leadership development programs, is one that is currently being discussed by leadership development practitioners, researchers, and others who have come together to form the Leadership Learning Community (LLC, 2006). Ospina and Schall (2001), in a paper contributed to the ongoing discussion of leadership theory, state that leadership studies have shifted from the study of leadership as behavior to the study of leadership as relationship. Ospina and Schall point to Bass’s (1985) transformational leadership theory and the Rost (1993) industrial paradigm as one method of approaching leadership theory.

“While providing important contributions to practical fields such as leadership development, the traditional literature on leadership has not yielded terribly innovative insights that would affect or challenge the basic assumptions of leadership in America.” (Ospina & Schall, p.3)

Ospina and Schall (2001) go on to state that the approach to leadership is collective and emerges as people engage one another in group settings. The leader that then emerges in the process is the result of the individual’s or the group’s behaviors. Ospina and Schall (2001) state that “leadership, when combined with behavior, can be called a constructionist approach.” (p. 3)

Constructionist leadership allows for the examination of leadership over time and not just a moment in time. According to Ospina and Schall (2001), constructionist leadership is engaged with the environment, contains social aspects, and is context dependent and constrained by the physical and the material. Therefore, transformational leadership
theory, the Rost (1993) industrial paradigm, self-efficacy in leadership and group leadership are important to review when discussing leadership development programs.

**Transformational and Transactional Leadership**

Burns and Sorenson (2001) point out that leadership studies must include the understanding of the difference between transactional and transformational leadership.

“[Transactional leadership] is used in our businesses, clubs, even families -- negotiating, mediating, compromising, and adjusting. [Transformational leadership] is the kind of leadership especially called for in great national or even personal crises -- when we must transform our society or ourselves as measured by the great values of liberty or equality or happiness” (Burns & Sorenson, 2001, p. 1).

Burns (1978, p. 4) indicates transactional leadership occurs when leaders approach followers to exchange “one thing for another”. On the other hand, transformational leadership occurs when a leader pays attention to “followers, seeks to satisfy their higher needs, and engages the follower”

Within the organization, transactional leaders emphasize work standards, assignments, task oriented goals and employee compliance – along with rewards and punishments to influence employee performance (Mandell & Pherwani, 2003). On the other hand, transformational leaders achieve higher levels of success in the workplace than transactional leaders. Employees also rated transformational leaders more effective than transactional leaders (Mandell & Pherwani).

A transformational leader brings about positive change, articulates a vision of the future that can be shared with peers and employees, intellectually stimulates
subordinates, and pays attention to a person’s individual differences (Lowe, Kroeck, & Sivasubramaniam, 1996). Transformational leadership focuses on vision, charisma and inspiration, but adds other components such as individualized consideration and intellectual stimulation (Bass, 1985). Transformational leaders heighten the needs, value, preferences, and aspirations of their followers (Nicholson, 2003). This type of leader inspires followers to commit to the leader’s mission and makes sacrifices in the interest of the group (Shamir, House & Arthur, 1993). A transformational leader seeks to generate intellectual stimulation, gives individualized consideration and inspires motivation (Bass, 1985).

In fact, Mandell and Pherwani (2003) state that motivation is the key characteristic that defines transformational leaders. However, motivation is also linked to feedback, which can result in enhanced task enjoyment, improved performance and self-confidence (Puca & Schmalt, 1999; McCormick et al., 2001).

**Self-confidence**

Self-confidence is an essential characteristic for effective leadership (McGowan, 1986). A positive relationship between transformational leadership behaviors and self-efficacy have been noted by researchers (Nicholson, 2003). Self-efficacious or self-confident individuals are found by McCormick et al. (2001) to be motivated, persistent, goal-directed, resilient, and clear thinkers under pressure. An individual’s efficacy beliefs are enhanced when individuals are motivated to put effort into the pursuit of goals, persist in the face of adversity, rebound from setbacks, and exercise control over
the events of their lives (Nicholson, 2003). Leaders self-actualize and become self-efficacious as they realize their own potential and the need to rise to that potential (Popper & Mayseless, 2003).

**Leadership in Group Settings**

Kan and Parry (2004) argue that leadership should be considered as a social influence process that occurs in engagement and interaction with others and cannot occur without a group. The researchers point out that as the group moves towards some endpoint, or accomplishing a task, leadership occurs. Kan and Parry (2004) describe this type of leadership process as having five basic tenets: connected to the notion of change, influencing others, occurring within a group, being in relationships to others, and achieving goals. Like Bandura’s (1986) notion of modeling behavior, group settings and the leadership groups produces can also change an individuals’ motivation, attitudes and behavior (Choi, Price, & Vinokur, 2003).

Differences among group members (such as social diversity) allows for more and diverse information and viewpoints, richer discussion and more complex analysis. Furthermore, group leaders influence individual member’s growth and achievement by allowing them to freely share their ideas and experiences (Choi, et al, 2003). Avolio, Gardner, Walumbwa, Luthans and May (2004) argue an individual’s group membership has emotional value and significance and is a function of social identity.

This social identity refers to how individuals feel pride in belonging to a group and see membership with the group as an important aspect of their identity (Avolio et al.,
Van Knippenberg, Van Knippenberg, Cremers and Hogg (2004) depict how social interactions and social structures provide a person’s identities. A person’s identity then becomes tied to a particular social context and role relationship which affects the way we perceive ourselves and how we feel, think and behave (Van Knippenberg et al., 2004). This social identification with the group, according to Van Knippenberg et al. (2004) results in a psychological “merging” of self and group that leads to identification with members of that group. Chen and Bliese (2002) found that at higher organizational levels, collective efficacy is more strongly associated with leadership, because leaders are more focused on enhancing group performance than that of individual team members. This concept of motivation towards a goal or end point then also becomes connected to Bass’s (1998) theory of transformational leadership.

**Rost’s Model of Leadership**

Joseph Rost (1993), in his book *Leadership for the Twenty-first Century*, asserts that theories of leadership have been,

management oriented, personalistic, in focusing only on the leader, goal-achievement-dominated, self-interested and individualistic in outlook, male-oriented, utilitarian and materialistic in ethical perspective, rationalistic, technocratic, linear technocratic, linear, quantitative and scientific in language and methodology. (p.27)
Rost (1993) states that such theories have dominated the twentieth century and calls these theories the “industrial paradigm” of leadership (p. 102). Rost (1993) seeks to critique the efforts of leadership scholars and practitioners and move leadership studies away from this industrial paradigm to a new model which he labels the “post industrial paradigm.” Rost (1993, p. 102) defines the post-industrial concept of leadership as “an influence relationship among leaders and followers who intend real changes that reflect their mutual purposes.” Burns and Sorenson (2001, p. 1) state that the Rost (1993) definition of leadership is “one of the best definitions of leadership.”

Figure 2.2  Conception of the Rost (1993) Model of Leadership

The researcher’s conception of Rost’s (1993) model in Figure 2.2 identifies leadership as having four elements: 1) a relationship based on influence, 2) leaders and followers in relationship, 3) real changes occurring, 4) with a mutual purpose.
Each element interconnects and works within one another. Rost (1993) calls these elements “influence relationships” and they are comprised of power resources such as personality, purpose, status, message content, interpersonal and group skills, give and take relationships, gender, race, and religion (p. 102).

The Rost (1993) model demonstrates the common purpose developed in relationship, and the intended need for change. Rost (1993) explains that in the model, leaders and followers give evidence of their intention in action or words and influence relationships can be multidirectional, vertical, horizontal, diagonal or circular and are non-coercive in nature. Rost (1993) intends for real change to occur within the relationship, which are purposeful and future oriented. Rost (1993) states change may be produced in the leadership relationship, but is not essential to it. Conversely, relationships may not produce results. Finally, he emphasizes that the areas of mutual purpose are more flexible and holistic than goals and are less able to be quantified.

_Carter’s Cube™_

As Rost (1993) noticed, the different opinions of leadership leads to confusion and concern about the lack of agreement amongst theories. Rost (1993) tried to make sense of the various leadership studies and so does Dr. Carter McNamara (1999a).

Different people tend to talk about leadership from many different perspectives and not even realize that they are doing so. It is very simplistic to generalize about leadership as if the term applies the same way in every
situation. Understanding the concept of leadership requires more than reading a few articles or fantasizing about what great leaders should be. (McNamara, 1999b)

McNamara (1999a) notices the trend towards the word “leadership” being generalized in simplistic terms to many different situations and this motivates him to develop “Carter’s Cube™” based upon his own domains and Blanchard's situational leadership model.

Carter’s Cube incorporates 20 different perspectives of leadership into five leadership domains, two leadership contexts and two leadership orientations (McNamara, 1999a). “I invented (the Cube) out of pure frustration because I kept reading peoples' definitions of leadership that were so idealized that I wanted to help people get more realistic. The definitions of leadership have become so romanticized as to become almost useless” (McNamara, Personal Communication, March 1, 2005).

Table 2.1 below explains Carter’s Cube of Leadership (McNamara, 1999a). The cube identifies the relevant leadership skills related to the five domains of leadership, the two contexts of leadership and their focus, and the two orientations of leadership and the accompanying values.
### Carter’s Cube of Leadership

<table>
<thead>
<tr>
<th>Carter’s Cube™ Five Domains of Leadership</th>
<th>Relevant Leadership Skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leading Yourself</td>
<td>Time management, stress, management assertiveness, etc.</td>
</tr>
<tr>
<td>Leading Other Individuals</td>
<td>Coaching, mentoring, delegating, etc.</td>
</tr>
<tr>
<td>Leading Other Groups</td>
<td>Meeting management, facilitation skills, etc.</td>
</tr>
<tr>
<td>Leading Organizations</td>
<td>Strategic planning, Balanced Scorecard, etc.</td>
</tr>
<tr>
<td>Leading Communities, Societies, etc</td>
<td>Community organizing, political skills, etc.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Carter’s Cube™ Two Contexts of Leadership</th>
<th>Focus of Context</th>
</tr>
</thead>
<tbody>
<tr>
<td>Roles</td>
<td>Board Chair, Chief, executive Officer, Executive, etc.</td>
</tr>
<tr>
<td>Traits</td>
<td>Charismatic, influential, ethical, etc.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Carter’s Cube™ Two Orientations of Leadership</th>
<th>Leadership Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Results-oriented</td>
<td>Timeliness, efficiency, work direction, authority</td>
</tr>
<tr>
<td>Relationship-oriented</td>
<td>Participation, empowerment, relationships, etc.</td>
</tr>
</tbody>
</table>

Table 2.1 Carter's Cube (McNamara, 1999a)
Used with permission of Carter McNamara, Ph.D
A Theoretical Model Relating to Statewide Leadership Programs

The theoretical model proposed in this research for statewide leadership programs is based upon the social learning theory of Bandura (1986), adult learning theory (Birkenholz, 1999) the transformational leadership theory of Bass (1985) and Rost’s leadership paradigm (1993). The proposed model attempts to capture the elements related to participants of statewide agricultural leadership programs.

Figure 2.3 Theoretical Model of Leadership Programs
In the proposed theoretical model of leadership (Figure 2.3), statewide agricultural leadership programs begin in the context of a group of individuals with a need to learn. The individuals undergo learning activities that form social relationships. The participant’s experiences occur through observation, modeling, thought processes, and in different environments. The results that are observed are self-efficacy, behavior changes, motivation, action, influence relationships, and mutual purpose. All of the areas interact and lead to transformation within self, the organization, and the community. The model may have processes cycling back through different levels as individual needs, or new avenues of experience occur.

**Leadership Program Evaluation Methods**

Program evaluation, as defined by Stufflebeam (2001), is “a study designed and conducted to assist some audience to assess an object’s merit and worth” (p. 11). Stufflebeam argues for the use of the term “evaluation approaches” rather than the term “evaluation models” since “most of the presented approaches are idealized or ‘model’ views for conducting program evaluations according to their author’s beliefs and experiences” (p. 9). Stufflebeam (2001) prefers to use the term “approach” to “model” because practices in evaluation can be on a broad scale and the term model is too demanding to cover the idea of program evaluation. Accountability evaluation helps to develop a dynamic baseline of information to demonstrate results (Stufflebeam, 2001).

Stufflebeam (2001) argues that when theoretical frameworks exist, evaluation can be enhanced. The key outcomes identified by Stufflebeam of theory-based evaluation are
to identify the extent of a program being theoretically sound, determine the reason for success and failures, and provide direction for improvement. This method is useful in identifying variables. Evaluations may take two forms. Formative evaluations look at improving how a program is structured and implemented and summative evaluations look at the program objectives achieved. Qualitative and quantitative methods are important to provide a cross-check of findings. Quantitative studies are used to determine standardization and for replicable findings. While qualitative methods are used for deeper understanding of patterns and themes as well as the diverse impacts of a program’s outcomes.

**Qualitative Methods**

Qualitative data provides detailed, thick description and allows for more in-depth inquiry (Patton, 1990; Russon & Reinelt, 2004). The use of multiple methods allows for triangulation of results and can offset another method’s weakness and compliments a method’s strengths. Relying solely on quantitative data can mask great differences among participants (Patton, 1990). Patton indicates that qualitative data from the same study can show the real meaning of the program for participants. Patton (1990) points out that a dynamic evaluation is not tied to a single treatment or predetermined goals or outcomes but focuses on the actual operations and impacts of a process, program or intervention over a period of time. Evaluators focus on capturing process, documenting variations and exploring individual differences in experiences and outcomes (Patton).
Conflicting results between the qualitative and quantitative data may also be found (Kan & Parry, 2004; Wall & Kelsey, 2004). Therefore, these researchers emphasize the importance of triangulating data and using multiple methods in program evaluation.

The grounded theory approach takes qualitative research methods and attempts to generate theory which is grounded in the data rather than testing existing theory (Kan & Parry, 2004). The richness of the data ensures that the resulting theory is able to provide a holistic understanding of the leadership process (Kan & Parry, 2004). To this end, leadership researchers must expand beyond quantitative analysis and shift to qualitative (DeRuyver, 2001).

Survey methods can be supplemented with interviews to yield thick, rich data (Russon & Reinelt, 2004). Russon and Reinelt (2004) suggest the use of focus groups to give the evaluator insights into what should be asked on the survey questionnaire. The authors also caution against an over-reliance on self-reported data because it is subject to bias. They suggest that efforts should be made to triangulate self-reported data through such areas as publications, presentations and media coverage (Russon & Reinelt, 2004).

Furthermore, Martineau and Hannum (2004) suggest that some researchers doubt the merits of the retrospective assessment because it could create an increase in the ratings from the “before” to the “now.” These researchers argue for the validity of retrospective surveys by pointing out that ratings of change are highly correlated with objective measures of change such as performance appraisals (Martineau & Hannum, 2004; Rockwell & Kohn, 1989).
Martineau and Hannum (2004) also suggest that evaluation techniques should measure more than just the participant’s perception of the program. Therefore, the evaluation of leadership development programs can be much more difficult since the programs produce intangible results, such as increased leadership capacity (Martineau & Hannum, 2004). Also, significant changes of performance in leadership development may only be revealed as long-term impacts over time (Martineau & Hannum, 2004).

In evaluating programs, Martineau and Hannum (2004) have focused on the participatory approach to leadership development evaluation. They recommend the participatory approach to involve the participants, stakeholders and the organization. Organizations are included because they provide the groundwork for “improving the process and system, while creating a measurable return on investment” (p 39). Different stakeholders also will have different perspectives on the impact the evaluation might have. Martineau and Hannum (2004) advocate that including stakeholder groups secures their endorsement of the results and the plans that arise from them.

Bryman (2004) states that leadership research is a field dominated by self-administered questionnaires as the single kind of data gathering instrument. Qualitative research is used to determine how the ensuing data is mutually reinforcing. Bryman (2004) suggests that qualitative research is conducted in order to prepare for quantitative research in terms of developing research instruments.
Quantitative Methods

Quantitative methods can logically follow qualitative research as Bryman (2004) suggests. However, in program evaluation, one must be careful of response shift bias when using quantitative methods. Response-shift bias occurs when individuals have rated themselves at one time, from one perspective, and then change their responses at a later time because their perspectives have changed (Martineau & Hannum, 2004). Retrospective pretest and posttest assessments require two ratings; one rating focuses on the individual before the program and the other rating assesses the person’s skill and behaviors after the program is complete (Martineau & Hannum, 2004).

Rockwell and Kohn (1989) point out that the participants may have limited knowledge at the beginning of a program which prevents them from determining their baseline behaviors. By a program’s end, the content may have impacted their responses. Therefore, if a pretest is used, the participants would have no way to know if they have made an accurate assessment and this would cause response shift bias.

Response shift bias is avoided when respondents rate themselves within a single frame of reference (Pratt, McGuigan & Katzev, 2000). Pratt et al. (2000) state that retrospective designs produce a more legitimate assessment of program outcomes than traditional pretest-posttest methodology. Pratt et al. (2000) suggest that collecting outcome information at the end of the program can respond to the dynamic, evolving needs of the participants to reflect the actual program content as it evolved over the time.

The limitations of the retrospective design are memory-related problems and there might be a subjective motivation to make the program look good on the part of the participants.
(Pratt et al. 2000). Questions should be formulated to enhance the recall of events. Pratt et al. (2000) believes behaviors that are more specific are easier to recall and assess than behaviors that are more global. The authors state that any self-report must be considered a form of estimation and may contain subject bias.

Wall and Kelsey (2004) found an overestimation of the knowledge and skills gained, along with social desirability and effort justification, in a statewide agricultural leadership program based upon a retrospective survey. They state that researchers need to be alert because self-reporting surveys may be inadequate for determining program impacts.

Degree-of-change ratings, where individuals rate their degree of change using a five point response scale ranging from “no change” to “great change” seems to be better for assessing change across rater groups such as peers, direct reports and bosses (Martineau & Hannum, 2004). The degree-of-change rating indicates the amount of change better than evaluations that measure change using pre-and posttest ratings (Martineau & Hannum, 2004).

**Likert-type scales**

Likert-type scales, also known as summative rating scales, were developed by Rensis Likert (1932) to assess a survey respondent’s attitudes (Clason & Dormody, 1994). According to Clason & Dormody (1994, p. 31), “Likert scaling presumes the existence of a latent or natural continuous variable whose values characterizes the respondent’s attitudes or opinions”. Multi-items are used in measurement, instead of a single item, to average out the measurement error, to bring depth to the measurement, and for accuracy
and reliability (Gliem & Gliem, 2003). Several items are used to measure the same variable and then these multiple items are combined or summed to arrive at a positive or negative strength of the attitude being measured (Vogt, 1999).

Likert developed an odd numbered scale including five response categories: strongly approve, approve, undecided, disapprove and strongly disapprove. The important aspects of these categories are that they are odd numbers. Some researchers advocate a value of neutral or undecided. However, Trochim (2001) suggests that this can lead to reluctance on the respondent’s part to answer and recommends a forced-choice response scale, eliminating the neutral category. This forces the respondent to decide to select a scale item and limits uncooperativeness, inapplicability and reluctance to answer (Trochim, 2001; McCall, 2001). McCall (2001) suggests collapsing categories, such as the strongly agree and agree during the data analysis if the sample is small.

To measure internal consistency, Cronbach’s alpha is reported (Gliem & Gliem, 2003). Cronbach’s alpha scores above .7 suggest that the items in the index are measuring the same thing (Vogt, 1999). Gliem and Gliem (2003) state that Cronbach’s Alpha requires a single test administration to provide the estimate of reliability. They recommend an alpha of .8 as a reasonable goal, with a high value Cronbach’s alpha indicating good internal consistency for scale items.

Clason and Dormody (1994) further argue for the scale being ordinal and the population ordered by the magnitude of the latent variable. Therefore, the data will be organized as counts or percentages occurring in response to the categories.
Research Related to the Evaluation of Agricultural Leadership Development Programs

For over 40 years agricultural leadership programs have existed in the United States; however, little has been done to determine their impact on individual, society and community. In 1965, the original goal of the “Kellogg Farmers Study Program” created at Michigan State University was to “provide young agricultural and rural leaders with a broader view of society, as well as a greater sense of the world, and how they fit into the bigger picture” (WKKF, 2001, p.1). This is one of the same goals that continues to drive statewide agricultural leadership programs today.

The original goal of the Michigan program was to create and test a model that would be used to identify and develop potential leaders and that leadership development could be accelerated by a concentrated training program (Carter, 1999). Carter explains that many states still follow the original Kellogg model and many still expose their participants to a broad range of state and national issues that are not sector-specific. WKKF (2001) affirms that most of the basics premises of agricultural leadership programs have remained unchanged.

According to WKKF (2001), agricultural leadership development programs work on the personal, professional, policy and practices levels. Personal growth is achieved by broadening a leader’s perspectives to other viewpoint and culture by increasing self-confidence and giving individuals a clearer sense of self-purpose or self-efficacy. The concept of professional growth is achieved by learning innovative approaches to management and business and increasing industry representation and participation in
leadership roles (WKKF, 2001). Policy and practice achievements are made and strong networks of resources are formed among the participants. WKKF (2001) states that the participants become more informed about policy and are more motivated to act or become involved. Finally, life-altering experiences have been reported by program alumni (WKKF, 2001).

Little scientific research has been conducted to determine how leadership programs affect participants, society and organizations. Kelsey and Wall (2003) state that it is even harder to assess statewide agricultural leadership programs regarding the actual impact on the states that sponsor them. A literature review and correspondence with statewide leadership directors finds that seven statewide agricultural leadership development programs have conducted research regarding their programs (Wall & Kelsey, 2004; Vantreese & Jones, 1996; Whent & Leising, 1991; Horner, 1984; Carter, 1999; Mirani 1999; Dhanakumar et al., 1996).

Some researchers report that the statewide agricultural leadership programs have been found to increase personal contacts, networking, communications skills, political awareness, understanding of society and cultures and civic and community involvement (Diem & Nikola, 2005, Vantreese & Jones, 1996; Whent et al., 1991; Horner, 1984; Carter, 1999; Mirani 1999; Dhanakumar et al., 1996). On the other hand, Kelsey & Wall (2003) found in one statewide agricultural leadership program that participants did not authenticate actual changes in behavior made after their program participation. Participants were not serving in leadership positions and were taking a minimal role in improving their communities. Increased awareness of the importance of rural community
development was present but did not move participants to action. Kelsey and Wall (2003) call for changing the program to develop effective leaders who can work as community developers. The program is “glamorous and brings prestige and higher status to participants while community building is not glamorous but difficult” (Kelsey & Wall, 2003).

Vantreese and Jones (1996) found that program participants implement action at the local level on public policy issues and organized networks to address agricultural issues. The participants also work with many different organizations for change. The researchers report an increase in elected leadership positions since the individual’s participation, whether public office or to the board of agricultural, civic or community organizations (Vantreese & Jones, 1996). Diem and Nikola (2005) found that the investment is worthwhile in one statewide agricultural leadership program. The researchers state that graduates have stepped up into leadership positions in a variety of organizations and report greater self-confidence, political skills, cultural learning, time management and networking skills.

In an evaluation of a community leadership program, Pigg (2001) found that participants in community leadership programs experience outcomes that are individual, organizational and community related. Finally, Carter (1999) identified four construct areas of people skills, policy development, analytical skills and personal skills. Networking was identified as an overall benefit of the program (Carter, 1999).
The EvaluLEAD Framework

Leadership development programs have been funded by the W. K. Kellogg Foundation (WKKF) since the 1930’s when support was given to the Michigan Community Health Project (Russon & Reinelt, 2004). The efforts by WKKF to support leadership development have resulted in programs such as youth leadership development, community leadership and the Agricultural Leadership Development Program initiative (Russon & Reinelt, 2004). In 2002, WKKF undertook a new initiative to determine how leadership development programs are evaluating their impact.

According to Russon and Reinelt (2004), the current status of leadership programs must be determined. WKKF (Leadership Scan, 2000) maintains that there is a great deal of knowledge about how leadership programs impact individuals in terms of skills, capacities, and knowledge, but little is known about the mastery of leadership over time and the process of developing as a leader (WKKF Leadership Scan, 2000). The WKKF study (2000) reveals that directors of leadership programs are often frustrated by the lack of resources to collect program impact data, low knowledge in conducting impact evaluation and the multiple demands on their time, which makes program evaluation a low priority (Russon & Reinelt, 2004). WKKF (2000) points out that there are no known well-developed theories of leadership development that are grounded in what is being learned through program evaluation. The W. K. Kellogg Foundation (2002) notes, “leadership programs have many theories about how their programs lead to change” (p. 3).
Leadership development improves activities that “sustain the achievement of positive outcomes for organizations, communities and countries by individuals” (Grove & PLP Team, 2002, p.2). Grove and PLP Team (2002) point out that leadership development occurs through a multitude of experiences and not at a static point in time with an important component being group processes. “Leadership is a result of the individual’s placement with and among others involved in actions oriented toward meaningful change” (Grove & PLP Team, 2002, p. 7).

Finally, Russon and Reinelt (2004) emphasize that methods of evaluation must be clarified in determining what the audiences of the evaluation really want to know. Foster (2000) notes that a future task might be the development of assessment tools that could be used across leadership program especially areas of overlapping program interests. Flexibility in application is important because one single model of evaluation cannot be applied across the many different contexts, goals and outcomes of the myriad of leadership development programs (Grove & PLP Team, 2002).

The EvaluLEAD framework allows for outcomes that will vary across many different program levels and concepts. Grove and PLP Team (2002) explains the relationship between the program and the observable result may not be a direct relationship. Grove and PLP Team (2002) suggests that evaluation approaches must explore learning as well as job and career performance. Descriptive data serves a critical purpose in this area as well as stories and interpretive techniques. To build upon the Kellogg Scan, the Population Leadership Program (PLP) has developed and proposed the
EvaluLEAD Framework. The term “framework” is used instead of the word “model” to allow for flexibility in the EvaluLEAD application (Grove & PLP Team, 2002).

The EvaluLEAD framework assumes that evaluation of leadership development programs will lead to findings that could not be foreseen (Grove et al., 2005). Therefore, stakeholders will be able to be better informed about the program and the program will produce better results. In the EvaluLEAD framework, six separate domains or “outcome elements” were identified as being related to leadership development outcomes (Grove & PLP Team, 2002). Grove and PLP Team (2002) propose the EvaluLEAD Framework as depicted in Figure 2.3. The framework works in a dynamic mode that seeks to determine program outcomes on the three levels of individual, organizational and societal/community. The areas analyzed in the framework are individual growth, job and career performance, organizational values and outputs, and community norms and social system changes. Grove and PLP Team (2002) calls some of these outcomes more tangible and can be identified as more tangible or they may be evocative which are less tangible outcomes.
Grove et al. (2005) identify leadership development outcomes as being changes in behavior, relationship, activities, or action of the people(s), groups and organizations with which a program works. Some changes attributed to the program might be observable in participants. While others might not be immediately detected such as those of personal attitudes, values and assumptions (Grove et al., 2005). Therefore, evaluation must be based on relevant levels of program affect and impact.

The EvaluLEAD framework advocates the measurement of the outcome elements on the individual, organizational and societal/community levels. Two types of evaluation
inquiry are used, which Grove et al. (2005, p. 13) calls “evidential” and “evocative” approaches. According to Grove et al. (2005), evocative inquiry relates to measuring impacts through an in-depth examination of relationships and personal learning. Evocative data may be less tangible impact, however, the researchers state that it is critical to understanding the leader’s development. Evocative data is gathered through interviews, stories, cases and ethnographic techniques and can occur at the individual, organizational and societal/community level (Grove et al., 2005).

The evidential approach to evaluation involves observations that are more tangible and important for determining program success and is used to gather evidence of program impacts (Grove & PLP Team, 2002). Outcomes could be accomplishments reported by others and changes in behaviors. The evaluation approaches used to gather evidential data are surveys, 360-degree instruments, pre and post test and static retrospective reviews (Grove & PLP Team, 2002).

**Individual Outcomes**

The “Individual Domain” is the area that benefits directly from a leadership development program (Grove et al., 2005). Leadership is a characteristic that can be developed through formal and informal training (Earnest, 1996). Leadership development can be evidenced by increased community service, new roles in the community (or profession) and increased confidence and learned skills. Knowledge is a measure of leadership approaches (Hiebert & Klatt, 2001). Therefore, leadership development should shift a person from being individual-centered to caring about others.
There should be a desire to promote positive change (Meehan, 1999). This also leads to learning together, which brings about a building of knowledge and the development of a learning cycle (Sandmann & Vandenberg, 1995).

Grove et al. (2005, p. 11) calls transformative changes the “prize” to which programs aspire. Transformative results represent the “new road” taken for the individual, organization or community. These results are substantial shifts in viewpoints, paradigms, career organizational directions or socio-political reforms (Grove et al., 2005).

The Leadership Learning Community ([LLC], 2001) notes that individual transformation can be measured by deepened commitment, increased support networks, skill development and relationship building. These outcomes can be self-reported and individual outcomes will be described as collaboration, competency building, individual sustainability and personal mastery (LLC). Leadership competencies are described as being communication, collaboration, systems thinking; where the leader sees how individual situations are shaped to a broader connect; cultural competence; and the cultivation of others (LLC).

**Organizational Outcomes**

The “organizational domain” is the area where the program participant is affiliated and would be expected to apply their newly acquired leadership skills (Grove et al., 2005, p. 13). The researchers indicate that change could be initiated inside a participant’s organization or in working with outside organizations. One study of an existing
agricultural leadership program by Dhanakumar et al., (1996), indicates that the program enhanced alumni civic and community development at the local level.

**Community/Societal Outcomes**

The “societal/community domain” refers to communities, social or professional networks, to which the influences of the program participants extend directly or through their organizational work (Grove et al., 2005). The author’s emphasize that it is critical to include this domain in the evaluation process. The LLC (2001) reports that participants should show new collaborations with their communities. Earnest (1996) shows increased local community involvement and volunteerism among community leadership program participants. Therefore, an effective leadership program should be reflected in community involvement and/or organizational involvement.

**EvaluLEAD Conceptual Model**

The EvaluLEAD model (Figure 2.5) was developed for this study by the researcher from the EvaluLEAD framework described by Grove et al. (2005). The individual, organization and community domains indicated in the model are the areas where program outcomes occur. The individual domain is where most of the direct benefits of the leadership development program will occur and where the most program-associated results might be expected (Grove et al., 2005). The organizational domain is where results occur within the organizations where the program participants work or in outside organizations where the participants have contact (Grove et al., 2005). Finally, the societal/community domain is the community where the program participants have
influence either individually, or directly or indirectly through the organizations with which they work, or are affiliated. Grove et al. (2005, p. 9) calls the mission or “reason for being” for most leadership development programs is to influence this domain.

The program outcomes that occur from the leadership development program may be on the episodic, developmental or transformative level as outlined in the EvaluLEAD framework (Grove et al., 2005). Grove et al. (2005) offers examples of episodic results as actions of the participants which are well-defined and time-bound. Developmental results occur across time and at different speeds and are represented as steps taken by an individual that may reach some challenging outcome, such as a sustained change in behavior or a new strategy (Grove et al. 2005). The transformative area is where fundamental shifts occur in behavior or performance. They are the “prize” to which programs aspire (Grove et al., 2005, p.11). The leadership program outcomes identified in the model on the individual, organizational and community levels are examples of outcomes that Grove et al (2005) mentions could occur on these levels.

The forms of inquiry that Grove et al. (2005) describes as evidential and evocative are included and take the form of evaluation methodology. Evidential inquiry seeks to capture the facts of what is occurring to people through the gathering of “hard evidence (Grove et al., 2005, p. 13). On the other hand, evocative inquiry seeks the person’s viewpoints and feedback through such methods as open-ended surveys, case studies, etc. (Grove et al., 2005)
Summary

Social learning theory argues that people should interact and exhibit behavior that enhances self, ability and role performance. Therefore, significant differences in activities should be identified in participants of agricultural leadership programs.

Social learning theory contends that people should interact and exhibit behavior which enhances self and ability. Therefore, participants in agricultural leadership programs should exhibit behaviors that indicate increased ability in role performance, increased involvement in community activities, and increased perceptions of reality making them more aware of cultural differences.

Adult learning (Birkenholz, 1999) takes place because the individual is motivated to learn. The individual is self-selecting the learning experience. Finally, adults learn best by hands-on experiences related first to their knowledge.

Leadership theories focus on transformational leadership (Bass, 1985) which inspires others to achieve the vision and motivates others. Self-confidence is a key to effective leaders and has been linked to transformational leadership (McGowan, 1986). Finally, leadership can occur in group settings where the group moves toward an end point (Kan & Parry 2004). The Rost (1993) paradigm indicates that leadership is a relationship of influence where real change occurs with a mutual purpose in the context of relationships. In the proposed theoretical model of leadership developed by the researcher (Figure 2.3), the statewide leadership program begins with a group of individuals whose experiences lead to results that are observable and lead to transformation within the participants, organization and community.
When the EvaluLEAD model (Figure 2.5) is applied as unit of measure to the agricultural leadership program, outcomes should be identified on the individual, organizational and community level. These outcomes could be classified as smaller changes or much higher transformations. However, an effective measure must be developed to measure leadership program outcomes amongst the participants.
Figure 2.5 EvaluLEAD Conceptual Model

Leadership Program Outcomes

- New insight or views have changed.
- Assuming leadership positions.
- Profoundly impacted a shift in viewpoint, career or vision.
- Implementing a new program or project.
- New organizational strategy.
- Totally new organizational directions.
- Involvement in community.
- Implementation of a community program.
- Fundamental socio-political reforms.

Types of Program Results

- **Episodic**: Changes or actions stimulated by the program.
- **Developmental**: Change taking place over time and building on one another.
- **Transformative**: Fundamental shifts or unanticipated changes.

Forms of Inquiry

- **Evidential**
  - Observable and measurable.
  - Hard evidence and facts of what is happening to people, organizations and communities.
  - Gather facts.
  - Measure indicators.

- **Evocative**
  - Generating feelings and insights.
  - Changes in values, vision, self-awareness.
  - Collect opinions, capture stories, encourage reflection.
CHAPTER 3

RESEARCH METHODOLOGY

This chapter addresses the methodology used in the identification of outcomes in a statewide agricultural leadership program focusing on participant outcomes on the individual, organizational and societal/community. The qualitative and quantitative methods utilized in the study are discussed which includes focus groups, instrument development and data collection techniques. The chapter explores the methodology used in the study, the research variables, population, final instrumentation, validity, reliability and data analysis techniques.

Research Variables

The purpose of this study was to examine the outcomes of a statewide agricultural leadership program amongst the program’s alumni and to develop an instrument to measure these outcomes. The EvaluLEAD Framework was used as a guideline to measure the leadership program’s effects (Grove et al., 2005). The variables identified in the EvaluLEAD model (Figure 2.4) and socio-demographic variables were included in the study. They are:
1) Individual outcomes – assessed the leadership program alumni’s perception of their personal growth measured by the variables of self-confidence, interpersonal skills, business skills, community involvement and creative thinking

2) Organizational outcomes – assessed the leadership program’s alumni’s perception of where they have applied their program-associated results in their business and organization. These outcomes are measured by the variables of business decision making, innovativeness, use of business resources, new leadership skills, and improved management skills

3) Societal/community outcomes – assessed the leadership program alumni’s perception of the extent of their organizational reach as influenced by the leadership program. These outcomes are measured by the variables of leadership roles, increased involvement, increased awareness of time, and appreciation of cultural differences

4) Demographic characteristics – measured by the variables of class participation, gender, age, income, size of community, and education level.

Research Questions

The work of Bandura (1986) in social learning theory emphasizes self-efficacy, motivation, observational learning and the behaviors that accompany outcome identification. All of these areas interact in the area of reciprocal determinism where learning takes place on the environmental, behavioral and personal levels. Combined with the EvaluLEAD model’s individual, organizational and societal/community
outcomes of leadership programming, the following research questions will guide this study:

1) What are the results of the statewide agricultural leadership development program at the individual level?

2) What are results of the statewide agricultural leadership development program at the organizational level?

3) What are results of the statewide agricultural leadership development program that occur at the societal/community level?

4) Is there a statistically significant relationship between the socio-demographic characteristics of the participants and their involvement in leadership practices?

5) Can an effective instrument be developed to evaluate statewide agricultural leadership programs?

Research Design

The design of this study was a retrospective, descriptive survey research design to investigate the outcomes of the Ohio LEAD Program on an individual, organizational and community level. This study used the EvaluLEAD framework and Bandura’s (1986) social learning theory to describe the outcomes of a statewide agricultural leadership program.

Qualitative and quantitative methods were used to collect data on the population of living alumni of the Ohio LEAD program since the program’s founding in 1985. Human subject’s clearance was obtained for this study from The Ohio State University Institutional Review board and the protocol numbers are 2005E0615 and 2005E0216. The study began by conducting focus groups to gather data from participants and to
develop and focus the final survey instrument. The resulting instrument collected self-reported data from the alumni and contained both qualitative and quantitative elements, to provide greater detail, and to assist in triangulating the data (Glesne, 1999).

Population

The target population for the study was graduates of the Ohio LEAD Program since 1985-2005. The list of alumni was generated by the Ohio LEAD Program and was updated regularly. The population encompassed 10 alumni classes and included retired as well as employed program graduates. Of the original cohort of 270 program alumni, two were deceased.

For the final survey, two individuals had invalid addresses and were unable to be located after several tries and four elected not to complete the survey. These alumni were removed from the list resulting in a census population of 262 individuals.

Instrumentation

The focus group interviews and final questionnaire used in this study were developed by the researcher to identify this statewide agricultural leadership program’s outcomes. To the best of the researcher’s knowledge, appropriate instrumentation did not exist to measure the program’s outcomes. The steps taken to develop the survey instrument began with focus group research, followed by survey development, field testing and finally evaluation of the population,
Focus Groups

Focus groups were used to begin developing the survey instrument based upon the EvaluLEAD model (Figure 2.4). According to Nassar-McMillan and Borders (2002) focus groups assist in gathering initial data, especially when information on a topic is sparse. Additionally, the authors state that focus groups, representing the population of interest, are useful in comparing a group’s reactions to the same concepts.

The principal researcher acted as the moderator for three focus groups comprised of one randomly selected member of each of the 10 alumni classes. Each person included in the sessions were randomly selected from a pool comprised of names from each alumni class. Three alternates were drawn for each class in case a participant was unable to attend a focus group session.

Phone calls were made to each selected focus group member by the researcher using a calling script (Appendix A). If someone could not attend, the first person on the randomly selected alternate list of three names was contacted. If that person could not attend, the next person on the alternate list was contacted and so forth. The researcher stopped calling when one person from each class agreed to attend one of the three focus groups, however, on the interview date not all arrived. Seven alumni attended for focus group one. Eight alumni attended for focus group two and seven alumni attended for focus group three. This meant that each of the focus groups consisted of five to nine participants.

The interview questions used in the focus groups were developed based upon the EvaluLEAD framework (Appendix B). Experts in evaluation methods also assisted in
question development. The questions were formulated according to research by Patton (1990) and Glesne (1999) to examine a variety of angles regarding the individual, organizational and societal level outcomes of the alumni focus group participants. The focus group survey phase resulted in a multitude of different items being generated, which are reviewed in Chapter four.

Questions for each focus group were written to uncover results related to the EvaluLEAD model and were field tested by another state’s agricultural leadership program and evaluated by experts in the field (Appendix B). A moderator and co-facilitator participated in each group. The sessions were audio-taped and transcribed. According to Patton (1990), standardized open-ended interviews are used to minimize interview effects by asking the same questions to each respondent. However, there is a weakness of the standardized approach in that it does not permit the interviewer to use different lines of questioning as the need arises (Patton, 1990).

Upon arrival at the location, focus group participants were given an informed consent form to sign and asked to complete a short demographic background form (Appendix C). The nature of the research was discussed and the participants were made aware that they were being taped and the transcripts were to be typed verbatim. The moderator began the scripted questioning and each focus group lasted from one and one half to two hours (Appendix B). Names were not identified in the transcripts after an initial introduction of the participants to each other. Oral remarks on the transcription were noted as being either male or female. Field notes were compiled at the end of each interview.
Glesne (1999) recommends that a copy of the interview transcript be shared with each focus group participant to further audit the fieldwork and to promote trustworthiness of the data. Therefore, the transcript was mailed to each participant asking each to indicate any errors in the transcription. Each participant was asked to mail or fax a signed approval of their session’s transcript, or the changes, back to the Ohio LEAD program. Eleven participants sent back their session approval forms. Having made notification, and having not received a response from the other participants, the research went forward because signed consent forms were on file for each participant and at least one member of each focus group responded to the audit request.

Glesne (1999) suggest the use of a peer debriefer to “audit” the transcripts and to ensure the subsequent code development is free of bias and useful to the study. One experienced member of the graduate research committee acted as peer debriefer. Audio tapes were transcribed immediately after the focus groups and content and analytical coding analysis was conducted. N6 – Version 6 of the NUD*IST QSR software was used to identify patterns and important themes in the data. Focus group data were sorted into 245 nodes. From these nodes, the data were sorted based upon the EvaluLEAD framework (Figure 2.4), into trees and subtrees which were categorized according to the framework of individual outcomes, organizational outcomes and societal/community outcomes. As suggested by Martineau and Hannum (2004), a data-collection reviewer was used to examine the process and analysis of the focus group questions and data.
Survey Instrument

Following the advice of Nassar-McMillan and Borders (2002), the initial item lists for the final survey instrument were generated from the focus groups by the researcher. The EvaluLEAD framework was used as a guide, as well as consultation and input from skilled professionals. The instrument consisted of three sections corresponding to the main variables in the study: personal level outcomes, organizational level outcomes and societal/community level outcomes, plus demographic information (Appendix H). The instrument included categorical, summated scale and open-ended questions.

The Likert-type scale questions were designed to measure the extent of respondent agreement. Questions were designed to assist in recall (Pratt, McGuigan & Katzev, 2000) and included a degree of change rating as suggested by Hannum and Martineau (2004). A degree of change rating is where the respondents self-rate the amount of change resulting from the program. The five point Likert-type scale presented for the respondent’s selection was: 1) None/None at all 2) A Little 3) Some 4) Much 5) A Great deal. Open-ended questions were included after the summated scale questions to further determine the respondent’s individual self-reported outcomes to ensure that respondent bias and program glamorization were not occurring.

Twenty-three primary questions comprised the instrument with three subscales under questions one, five and nine consisting of 12, 11 and nine questions respectively. Questions one to four were designed to measure individual level outcomes. Questions five to eight, organizational level outcomes and questions nine to fourteen, societal/community level outcomes. Questions 15-17 measured the respondent’s
opinions of program continuation, level of change in the participant and if anything
decreased or worsened regarding the participant. Questions 17-21 collected demographic
data and question 23 allowed for additional comments. Mu scores, frequencies and
percentages were calculated and reported in Chapter four.

**Individual Outcomes**

Individual outcomes were self-reported developed based upon the EvaluLEAD
framework and the focus group outcomes. According to Grove et al. (2005) the
individual domain is where most of the direct benefits of leadership development occur
and where the most program-associated results might be expected.

The first section of the instrument consisted of subscales for the 12 variables of
community involvement, self-confidence, creative thinking, business skills, and amount
of change, modeling, and value of time, value of family, growth, control, transformation
and power. The items were measured by five point scales from 1-None/Not at all, 2 – A
Little, 3 – Some, 4 – Much, 5 – A Great Deal. An open ended question to provide further
insight and triangulation was added: Briefly describe three ways you have personally
changed because of your LEAD experience.

**Organizational Outcomes**

The instrument’s second part consisted of subscales intended to measure the
organizational level. These items were intended to measure program associated results
that is occurring within the organizations where the program participants interact or in outside organizations where the participants have contact (Grove et al., 2005).

Eleven variables of decision making skills, networking skills, situation response, problem solving, use of time, change, involvement, resource use, business/career change, confidence, building contacts were self-reported. All items were measured using the same five point scale as above. To provide further insight and triangulation, three follow-up questions were asked: Briefly describe three ways you have improved on a professional, organizational or business level because of your LEAD experience; as a result of the LEAD Program experience did you change careers?; and please describe your occupation, including your specific roles and responsibilities.

**Societal/Community Outcomes**

The third section of the instrument consisted of subscales intended to measure societal/community level outcomes. The societal/community level of outcomes, according to Grove et al. (2005), is where the program participants have influence either directly or indirectly through the organizations with which they work or are affiliated. Grove et al. (2005, p. 9) calls the mission or “reason for being” for most leadership development programs is to influence this domain.

Again the same five point scale was employed and all items were self-reported. This section consisted of eight subscales intended to measure the variables of involvement in local organizations, involvement in a state level, involvement on the national level, involvement in other countries, awareness of time value, community involvement, if
involvement was reduced, and cultural appreciation change. Five open ended questions were included to provide further insight and triangulation and to collect information about the respondents: Briefly describe three ways you have made a difference within your society or community because of your LEAD experience; and please describe any community projects that you have initiated or championed because of your experience in the Ohio LEAD program; and please report your level of involvement regarding your activity in organizations at the local, state and national levels including board(s) of directors of which you are a current member or have been a member since you were in LEAD. Also, indicate the office(s) that you might hold/held on those boards; and please list any governmental or elected positions that you hold.

Additional Data

Several questions were asked to aid in having final data to further “round out” the study and to seek respondent opinions following findings by Wall and Kelsey (2004) that agricultural leadership programs participants overestimated their impacts. The added questions were formulated based upon comments made by focus group participants. These data were compared to the outcome level data to determine if any patterns emerged.

The five questions were: Please describe anything that “decreased” or “worsened” as a result of the LEAD experience; and please indicate how important you feel it is to continue the LEAD Program; and please select a number below to indicate the level of change that you experienced because of your LEAD participation; and as a result of
your LEAD experience, did you decide to pursue further formation education? and if so, what degree/certification did you receive?

**Demographic Information**

Finally, demographic information was self-reported as level of education, income, LEAD class membership, gender, age and community. These variables and categories of answer are summarized in Table 3.1.
<table>
<thead>
<tr>
<th>Variable</th>
<th>Categories</th>
<th>Level of Measurement</th>
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</thead>
<tbody>
<tr>
<td><strong>Education</strong></td>
<td>1) High School</td>
<td>Ordinal</td>
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<tr>
<td></td>
<td>2) Associates Degree</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3) Bachelors Degree</td>
<td></td>
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<tr>
<td></td>
<td>4) Masters Degree</td>
<td></td>
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<td></td>
<td>5) PhD</td>
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<td></td>
<td>6) Graduate Degree</td>
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</tr>
<tr>
<td></td>
<td>7) Post Graduate</td>
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<tr>
<td><strong>Income</strong></td>
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<td>Ordinal</td>
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<td></td>
<td>2) $25,000 – 39,999</td>
<td></td>
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<td></td>
<td>3) $40,000 – 59,999</td>
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<td>4) $60,000 – 79,999</td>
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<td>5) $80,000 – 99,999</td>
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<td></td>
<td>6) Greater than $100,000</td>
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<td><strong>LEAD Class</strong></td>
<td>1-10</td>
<td>Interval/Ratio</td>
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<td><strong>Gender</strong></td>
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<td>Nominal</td>
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<td></td>
<td>2) Female</td>
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<td><strong>Age</strong></td>
<td>1) 20 – 29</td>
<td>Collected as ordinal</td>
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<td></td>
<td>2) 30 – 39</td>
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<td>3) 40 – 49</td>
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<td>4) 50 – 59</td>
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<td></td>
<td>5) 60 – 69</td>
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<td><strong>Community Description</strong></td>
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<td>2) City</td>
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<tr>
<td></td>
<td>3) Small Town</td>
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</tr>
<tr>
<td></td>
<td>4) Rural Farm</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5) Rural Nonfarm</td>
<td></td>
</tr>
</tbody>
</table>

Table 3.1 Demographic Variables

**Content Validity**

Trochim (2005) suggests generating the items to be included in the instrument by engaging a number of people in the creation process. Following Trochim’s (2005) suggestions, the draft instrument was examined by a professional who assisted in collapsing the questions and a group of judges was used to rate the items on a one to five rating scale for face and content validity. The judges who checked the instrument for
face and content validity were directors of other statewide agricultural leadership programs. The judges are asked to rate each scale item: 1) strongly unfavorable to the concept, 2) somewhat unfavorable to the concept, 3) undecided, 4) somewhat favorable to the concept, 5) strongly favorable to the concept (Appendix D). Each judge is then responding to how favorable each item is to the construct (Trochim, 2005). The items for inclusion in the instrument are then based upon the item score and finally the Cronbach’s alpha to determine reliability (Trochim; Clason & Dormody, 1994; McCall, 2001).

**Field Test**

The survey instrument was developed into a Zoomerang web-based survey for ease of use. A field test was sent to 20 alumni from another statewide agricultural leadership program to check for clarity, face and content validity, ease of use and appropriateness of the instrument. Comments regarding these items were minimal and a preliminary reliability analysis resulted in no items being dropped from the survey. The response rate for the field test conducted by Zoomerang web-based survey method was 70% (n=14). This number was deemed sufficient as a pretest. The responses were distributed across the continuums and comments indicated that the respondents could relate to the questions. The questions from the field test were placed into a reliability analysis to compute Cronbach’s alpha coefficients.
**Reliability**

An alpha reliability analysis was conducting with the field test responses to further test reliability measures. Within the questionnaire, 12 items were designed to measure individual outcomes. Gliem & Gliem (2003) state that alphas of .8 are a reasonable goal. An alpha of .90 was calculated on the field test, which was high and indicated correlation among the items. Organizational outcomes comprised seven items in the second measure of the instrument and the field test generated an alpha measurement of .90 which was high. Finally, the eight measures of societal/community generated an alpha of .86, on the field test, also high. Alphas of this magnitude suggest that the measures were highly interrelated and the weighted values can be summed. A high alpha reliability legitimized summing the weighted values to form a composite index. This means that one composite mean could be generated from the summed weight value which then became the single indicators of each of the three outcomes and could be used in further statistical analysis.

**Web-based Surveys**

Kaplowitz, Hadlock and Levine (2004) and Solomon (2001) cite the advantages of using the internet for surveys as the cost savings in printing and mailing and the savings in time. The researchers found that web-based and mail surveys both received comparable response rates when preceded by advance mail notification. Kaplowitz et al. (2004) found that mail pre-notices increased response rate and that web surveys can achieve a comparable response rate than mailed survey.
Solomon (2001) states that an e-mail cover letter with a URL in the text of the e-mail for data collection provides an effective way to survey. Solomon cautions about the possibility of bias from people not having or choosing not to use the internet, he also mentions a disparity among socioeconomic groups. Multiple copies of a survey cannot be submitted since the program detects multiple completions. Contacts with non-respondents, personalized contacts and contact prior to sending out the survey increases response rates (Solomon). Solomon cautions that repeated follow-ups have diminishing returns and risk irritating respondents without noticeably increasing repose rates. Finally, there is the potential that spam filters will scour the e-mail link and potential respondents will not receive the survey.

**Data Collection**

Response rate was calculated using American Association for Public Opinion Research [AAPOR] (2004) standards. According to AAPOR standards (2004), non-respondents are those individuals who did not return the survey or respond. In this research, those returning a questionnaire, but refusing to respond were dropped from the analysis.

The Dillman Tailored Design Method (2000) was followed for this research. A letter announcing the web-based survey was mailed one week in advance to each Ohio LEAD alumni participant on December 8, 2005. This letter was signed by the Program Director, who was also the investigator for the research (Appendix E). A tootsie pop was included as an incentive following the Dillman method. An e-mail announcing the survey and containing the web-based Zoomerang link was sent to 229 participants with e-mail
records on December 15, 2006. The Zoomerang survey tracked response rate by e-mail address and data was collected by the OSU Extension Development and Evaluation team to ensure confidentiality.

For those who did not have an e-mail address on file, or who requested it, a paper survey instrument was mailed to 43 individuals the same week. This mailing included a cover letter, stamped self-addressed envelope and the survey instrument. A confidential number was assigned to each alumnus to track the response rate and to encourage non-respondents with follow-up reminders.

Following the initial launch, a second e-mail reminder from the researcher was sent to 155 people who had not completed the survey on December 21, 2005. The researcher also sent e-mail reminders on December 26, 2005 (n=133); January 4, 2006 (n=114); January 9, 2006 (n=105) and, January 13, 2006 (n=99). A colorful postcard reminder was sent from the director of Extension to all mailed and web-based non-respondents on 1/13/06. Following the Dillman (2000) method the postcard reminded them to complete the survey and thanked them if they had already done so.

Finally, e-mail reminders from the alumni president (January 5, 2006; n=114), the director of the Extension evaluation office (January 13, 2006; n=99), the Vice-President for agriculture from the college (January 18, 2006; n=89) were sent. Again, following the Dillman (2000) method a letter and hard copy of the survey were mailed to all non-respondents on January 27, 2006. The initial survey launch resulted in 53 responses the first week, 43 the second, 45 the third. Responses decreased to approximately 20 each of weeks four through six and then less than 10 responses each week until February 9, 2006.
when 13 responses were received then eight responses received the week of 2/15/06. The researcher was then counseled to end the survey with 196 responses received for a response rate of 75%. Early respondents were compared to late respondents and no difference was detected. According to Wiseman (2003, pg. 2),

If either a high response rate is achieved or if respondents do not differ from non-respondents, then non-response error is not a problem. In fact, non-response error is only a problem if a low response rate is achieved and respondents differ from non-respondents on one or more of the variables of interest.

**Data Analysis**

As noted in the EvaluLEAD framework (Figure 2.4), respondents were asked to self-rate the benefits of their leadership program experience on the three levels of individual, organization and community. The data were analyzed using version 13 of the Statistical Package for Social Sciences (SPSS) software. To analyze the descriptive statistics and frequencies, tables were generated using SPSS with frequency distributions. Descriptive tables were generated by SPSS of means, percentages and standard deviation. Multiple regression was used to predict outcomes. Outcomes on the individual, organization and community level were summed and treated as dependent variables. Socio-demographic characteristics of education, gender, age, alumni class, location of residence became the independent variables. Missing data was recoded with the mean since less than 15% of the data was absent (George & Mallery, 2006). When missing data is recoded with the mean, in regression analysis, the beta is not changed (Roth & Switzer, 1995).
CHAPTER 4

RESULTS

The results of the focus groups and the statistical analysis from the instrument are presented in this chapter. The results of the focus group analysis based on the EvaluLEAD model (Figure 2.4) is presented and played an important part in the development of the final survey instrument. A sampling of the voices of the focus group participants are offered on each of the three program outcome levels. The data from the instrument is presented.

Focus Group Research

The purpose of the focus group study was to determine the alumni outcomes of a statewide agricultural leadership development program and to generate an instrument to measure these outcomes. The results of the focus group studies are unique and generated a great deal of data describing statewide leadership program outcomes. The researcher found that outcomes exist in different degrees on the individual, organizational and societal/community level as self-reported by the alumni in the focus groups. This is consistent with the framework presented by the EvaluLEAD model and in social learning
theory. As was consistent with the findings of Nassar-McMillan and Borders (2002), the focus groups contained in this study generated critical items which might not have come out in another method of instrument development. As a result, the alphas of the final items were very high and none on the final instrument needed to be deleted. Nassar-McMillan and Borders report similar results.

The researcher organized three focus groups. This following information presents the combined findings of the three focus groups. Conclusions made by the researcher were audited by a peer debriefer to determine if themes and patterns were identified correctly.

The cohorts of this portion of the study came from the Ohio LEAD Program and were comprised of 22 individuals from ten different alumni classes. Each class was represented and was asked the same questions. To represent the themes using the EvaluLEAD framework the following patterns emerged. To ensure confidentiality of the participants, names are not identified only gender, age, class number and non-specific occupation. Table 4.1 below indicates the characteristics of the focus groups by alumni class, gender, age and occupation.
Table 4.1 Focus Group Characteristics

<table>
<thead>
<tr>
<th>Focus Group</th>
<th>Alumni Class</th>
<th>Gender</th>
<th>Age</th>
<th>Occupation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1 *</td>
<td>----</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td>2 *</td>
<td>----</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Male</td>
<td>57</td>
<td>sales</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>Male</td>
<td>56</td>
<td>manager</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>Male</td>
<td>51</td>
<td>farmer</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>Male</td>
<td>41</td>
<td>farmer</td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>Female</td>
<td>45</td>
<td>farmer</td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>Female</td>
<td>32</td>
<td>manager</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>Male</td>
<td>50</td>
<td>manager</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Male</td>
<td>46</td>
<td>sales</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Male</td>
<td>45</td>
<td>farmer</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>Male</td>
<td>53</td>
<td>sales</td>
</tr>
<tr>
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<td>5 *</td>
<td>----</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>Female</td>
<td>51</td>
<td>nursery</td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>Female</td>
<td>51</td>
<td>government</td>
</tr>
<tr>
<td></td>
<td>8 *</td>
<td>----</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td>9</td>
<td>Female</td>
<td>41</td>
<td>manager</td>
</tr>
<tr>
<td></td>
<td>1 *</td>
<td>----</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Male</td>
<td>50</td>
<td>service</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Female</td>
<td>55</td>
<td>farmer</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>Male</td>
<td>39</td>
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</tr>
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<td>Male</td>
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</tr>
<tr>
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</tr>
<tr>
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<td>37</td>
<td>sales</td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>Female</td>
<td>45</td>
<td>manager</td>
</tr>
<tr>
<td></td>
<td>9</td>
<td>Male</td>
<td>35</td>
<td>manager</td>
</tr>
</tbody>
</table>

*Note: Not present at focus group
Focus group questions were designed to generate discussion and led into identifying program outcomes (Appendix B). Focus group results were categorized using NUD*IST software according to the individual, organizational and societal/community level items that were generated in the discussion. The focus group outcomes were used to develop a survey designed to measure individual, organizational and community outcomes.

Using the focus group data, outcomes were identified to determine the leadership program impact. In the individual domain, 78 possible outcomes were identified. In the organizational domain 31 outcomes were identified. Finally, in the community domain 15 outcomes were identified. The following Tables summarize the focus group results according to coding statistics.

**Individual Level Focus Group Outcomes**

Individual outcomes were most prevalent among the focus group participants and were described by all of the participants. The strength of the outcomes varied according to the individual. Opinions presented could be further identified as relating to the themes. The highest rated individual outcome was that of new perspectives and new ideas followed by personal change and changes in self esteem and confidence, then time management. Table 4.2 identifies the number of mentions by focus group participants on the individual level.
<table>
<thead>
<tr>
<th>Individual Level Concepts of Focus Groups</th>
</tr>
</thead>
<tbody>
<tr>
<td>New perspectives/new ideas</td>
</tr>
<tr>
<td>Totally changed</td>
</tr>
<tr>
<td>self confidence/self-esteem</td>
</tr>
<tr>
<td>Time management/cut back/prioritize</td>
</tr>
<tr>
<td>Self awareness</td>
</tr>
<tr>
<td>Contact with class/network</td>
</tr>
<tr>
<td>Public speaking/communications</td>
</tr>
<tr>
<td>Better decision maker/planner</td>
</tr>
<tr>
<td>Teamwork/working together</td>
</tr>
<tr>
<td>Became more involved</td>
</tr>
<tr>
<td>Not a dramatic change</td>
</tr>
<tr>
<td>Went back for more education</td>
</tr>
<tr>
<td>Enhanced skills</td>
</tr>
</tbody>
</table>

**Table 4.2 Individual Level Concepts of Focus Groups**

Following are excerpts from the various focus group participants regarding their leadership program outcomes.
One female indicated that for her the program experience encouraged her to try new things:

I guess I always felt that I tried new things but when I was with the LEAD program I felt like I had invested a lot of time and effort and expense into all of this, I need to benefit from that in some way. So I do find that, then I did and continue to try new things...I think that song what is it about the dance came out when we were in LEAD program... I think I’m more willing to do that. And have my children do that too. I guess I see some things rubbing off on our kids. They have an interest in travel and politics to some level because they’ve seen the interest we’ve had (Focus Group 3, text units 234-245).

A male indicated his undertakings were a little different in trying new things:

[You] improve your weaknesses and I know I’m not...one of those guys that stands up at a rally...But I can be the guy that helps guide and direct meetings or organizations and that kind of thing – in my own way...Early on somebody said to our group, you’re all coming in here at a different level and the purpose of the LEAD program is to raise you up a few notches. So I might have been here and somebody else was here and we both went up. You can tell who some people are, kind of ahead of the crowd...I think the program raised us all up from where we started (Focus Group 3, Text units 293-330)

Another outcome indicated highly in the focus groups was being changed by the program experience, one female summed up this change as follows:

When I was nominated there were a couple individuals who put a lot of confidence in me and in the fact, they thought...I could complete the LEAD program and benefit from it. And I guess it was that little bit of confidence...just put me over the edge... I needed to become confident in what I thought I wanted to do. My level of education was high school, and then I started a career right away so I didn’t have a full college experience... I would not be able to excel in life as much as others who had their college degree. I found that I was no different than they were. My education just came from a different arena than a university setting. So it really just gave me that little bit that I needed to start to work on my skills. The skills I learned...within the LEAD program have greatly contributed to what I’ve been able to do, I think that’s probably the biggest part. (Focus group 3, text units 196-209).
A different male participant indicated:

It seemed to give me a little bit of courage and confidence to make a complete career change from one industry to another, starting from zero with building a business on my own. After I left the ag business, I just look back and think about the leadership and the types of classes that we went through, and that helped me with my confidence. (Focus group 2, Text units 224-228)

Another female said that she was changed by the program experience and she described the following:

Mine was powerful because of the self confidence that I had coming out of the program… The knowledge and the skills I had I just didn’t observe them before… I knew what I needed to do when I left there. It was go… Just go and do it! And I did. (Focus Group 2, Text units 861-864)

Another male stated that his participation was a confidence builder. He described:

I was in a rural community probably an hour away from any larger town. If you started jogging, [if] you started going to school, [if] you tried to better yourself, you were pretty much put down. I didn’t have a group for any type of support. No one said, ‘go for it. Do it.’ That’s what the LEAD class was for two years for me. [The program] opened up so many doors, gave me the confidence. I mean when we went to the Washington trip, we talked to Senators, we got to know that they’re people just like you and I. Go up to them, tell them what you need… be honest. Don’t put on any airs and they’re people. We’re just all people that want to get along and get things done. That was the most valuable, refreshing, confidence building experience one could ever have in… life. But especially [for someone] from a small community. (Focus Group 2, Text units 240-263)

A male described his increase in confidence:

I know initially I didn’t have the confidence or maybe it was my age, [I] didn’t think my opinions or points were taken. But after participating in LEAD I’m not as afraid to voice my opinions, and have more confidence in myself that my directions are solid and worthwhile. I may have doubted myself in the past [and]… I had apprehension as far as speaking in front of groups…, well there’s still that fear there, but I’m a lot better than what I ever used to be. (Focus Group 3, text units 303-311).
Finally, another male summed up the experience of confidence in the following manner:

I think the LEAD program... built up our confidence. There’s a lot of leadership qualities in... people but until you build the confidence...[to] do and lead...that’s...what the program really did for a lot of us, including me. I really believe it has a big impact...because you were driven,...you had to do leadership things...That was part of the program and it built your confidence to do the things that you need to do as a leader (Focus group 2, Text units 355-366).

An added outcome brought forward in the focus groups were participants scaling back activities to reprioritize, one male summed up his downsizing in the following way:

I dropped out of things and cut things back because LEAD took so much time. Then in the process of LEAD, I got married. Now 18 years out, I’m starting to get re-involved and at a higher level. (Focus Group 1, text units 788-791).

Another female mentioned scaling back her activities due to her program experience:

[The program] just leads you to appreciate the skills that you learned but yet to prepare yourself for that day where you also may have to step down and back out as a leader and reorganize. I always thought that once you were a great leader, you were a leader and that was it. So I think I’ve learned later in life how you’re going to have to step down from some leadership roles and reorganize (Focus Group 3, Text units 312-330).

**Organizational Focus Group Outcomes**

Organizational level outcomes were identified primarily by the focus group participants as new perspectives and new ideas in business. Table 4.3 lists the areas of outcomes mentioned by the focus group members. Many of the participants identified themselves as having been changed and increasing in self-confidence and
self esteem as a result of the program. Others mention that they cut back in their time commitment after the program. What follows are selected excerpts from the focus groups.

Table 4.3 Organizational Level Concepts of Focus Groups

<table>
<thead>
<tr>
<th>Concept</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Networking</td>
<td>11</td>
</tr>
<tr>
<td>Business transformations</td>
<td>8</td>
</tr>
<tr>
<td>Improved business Skills</td>
<td>7</td>
</tr>
<tr>
<td>Business growth/change</td>
<td>4</td>
</tr>
<tr>
<td>Confidence in business</td>
<td>5</td>
</tr>
<tr>
<td>Time management</td>
<td>2</td>
</tr>
<tr>
<td>Got out of farming</td>
<td>2</td>
</tr>
<tr>
<td>Communication</td>
<td>1</td>
</tr>
</tbody>
</table>

The first area identified by focus group participants on the organizational level was networking in terms of business, coaching and keeping contacts with one another, one female described the classes networking as:

The challenge I felt was watching other people mentoring and coaching and doing some of those things that I enjoyed then and still do today. Our class still has an annual get-together and believe me not everybody shows up. Some years it’s five or six [people] and some years it’s 12 or 15 [people] but there is still that networking within the class, and with some other classes, and that’s a great deal of value. (Focus Group 2, Text units 276-309).
An additional level of organizational growth was identified by a female participant as:

I actually am in a position where political people are coming to me asking questions, which I never would have dreamed three years ago… So you know taking on things that you really are not so sure about but doing it because you have faith that there may be some other benefit coming back to that. I would have probably never approached it in that fashion before I don’t think. (Focus Group 2, 1479-1485).

One more female said she experienced organizational transformation in that she can make a difference in the business world:

I do feel that now make a difference in this world with people and different committees that I’ve served on but I find that I don’t make the difference myself personally. I myself could never be looked at as someone who has really made an impact or a difference in this world. But by just learning to be a part of a committee, to view the purpose of what you’re trying to accomplish and to contribute to that group it just seems like that group then can move it forward. So I guess personally I’ve learned that I don’t have to do it myself but what little I can contribute to a group or to a cause becomes a bigger part of it and seems to make it happen. (Focus Group 3, Text units 352-361):

Another level of organizational change described in the focus groups is that of increased networking, which resulted in higher self-confidence in the business arena because of the support from other participants. For example, one male described:

I took the business another way, but it was that change and motivation and self-confidence. Now I’m working with alumni from another class and we – he has a different type of business but we compliment each other well, so we’ve done some trade shows together and we refer clients back and forth a lot. We talk at least on a monthly basis, if not more often. We’ve become very close friends and I didn’t know him until he was in the next class (Focus group 2, text units 576-582).

Another female described a change in her farming practices because of networking and her increased confidence:
There were a couple of different things from my perspective. One was giving me more ideas and confidence to try alternative practices or some outside of the traditional corn and soybeans, maybe there’s things that we could look into. Where before, I was just kind of following in the same path. I [may not have] implemented any of those ideas, but at least I have considered them and thought them through a little more in depth. Then, taking advantage of the networking between the classmates that we met, I think it’s given more confidence and ability to feel like if I decide to do something, there’s people out there I can call and ask questions to and that I may not have really felt that way before. So it kind of filled that void. Trying to do my best to take advantage of that instead of thinking that it’s all just on my shoulders and so on. (Focus group 1, text units 151-163).

**Societal/Community Level Outcomes**

Societal/Community level outcomes were identified by the participants as assuming leadership roles in the community being the most prevalent item mentioned. Table 4.4 identifies the societal/community level outcomes mentioned by the focus group participants.

<table>
<thead>
<tr>
<th>Societal/Community Level Concepts of Focus Groups</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assumed leadership roles in community</td>
<td>14</td>
</tr>
<tr>
<td>Cultural awareness</td>
<td>2</td>
</tr>
<tr>
<td>Leadership roles</td>
<td>2</td>
</tr>
<tr>
<td>Social responsibility</td>
<td>2</td>
</tr>
<tr>
<td>Involvement in other countries</td>
<td>2</td>
</tr>
<tr>
<td>Found I made a difference</td>
<td>1</td>
</tr>
<tr>
<td>Mentored others</td>
<td>2</td>
</tr>
<tr>
<td>More proactive</td>
<td>1</td>
</tr>
<tr>
<td>Politics</td>
<td>1</td>
</tr>
</tbody>
</table>

Table 4.4 Societal/Community Level Concepts of Focus Groups
A male mentioned his community involvement as finding the willingness to undertake new activities:

I guess my willingness to do some things that before I would have said no to…you…[have] your own guilt like you can do this. Then why in the heck don’t you? You can step forward and take it off of somebody else (Focus group 3, Text units 443-443).

On the other hand, one male said that he did not experience much change regarding his level of community involvement:

I was already in a leadership role in our company. It did cause me to get out of my box. But my change in my lifestyle was not real significant, it was gradual. It caused me to accept more leadership roles within the community but I don’t know that I had a real significant change in my lifestyle, anything real different (Focus group 2, Text units 430-445).

An additional female participant states that her perspective and self-confidence levels changed:

I believed before but everything I did was more about me, what my ability was, how I was going to grow in it and when I got out of there I realized that the whole two years I invested in the program really meant nothing unless I passed it on. The public presentations, so many of them, I mean in front of entire sophomore classes and junior classes of high schools, and civic groups and all kinds of things did become a big deal. (Focus group 2, Text Units 640-646).

The theme of cultural awareness emerged with one male stating:

I can see before I was in LEAD, I was pretty much a farm boy with a home farm perspective. One of the reasons I went in LEAD was I was interested in international experience and all of that it would offer. And it did, just expand my world tremendously…I was in LEAD how long ago? 15 years ago or more and just the other day…it seems like LEAD comes up in conversation…We were at a family gathering for Memorial Day and my mother-in-law had some kind of food there that was a little different. My sister says, I can’t believe you ate that stuff! I said, Well ever since I’ve been to China, I’ll try anything. If you knew me before LEAD, I was the pickiest eater. I mean I’d lived on chicken noodle soup and hamburgers all my life. Then, I went to China and it opened up a whole new culinary world. On a personal level, that’s what LEAD
did. It’s just not the food, but a lot of different aspects it opens it up, and you’re willing to try things, experience them and get the other point of view. LEAD comes up all the time in my life. (Focus group 3, Text units 179-209)

One female described her activity in leadership roles:

If the agriculture people themselves aren’t paying attention to legislation that is affecting their business, then who’s going to? Who cares? So it’s, I think it’s important and I got involved with more political activities too (Focus group 3, Text units 802-804).

Several focus group participants mentioned decreased involvement. One example of this is from a female:

I guess that would be my experience too, I don’t – I was pretty active before. I don’t know that I’ve had any significant changes in activity level or level of impact, but hopefully improved decision making based on some of those experiences (Focus Group 3, Text units 729-733,).

On another level, not everyone felt that they changed very much from their leadership program experience, one male said:

I think the age factor has got a lot to do with it, it really does. A lot happens in your life between 25 and 38, I mean there’s an awful lot of developing by yourself and when you’ve got children at that time and where they are and what’s going on. You were a little bit older and you had already done some of those things. And mine wasn’t significant either (Focus Group 3, Text units 437-442).

Other levels mentioned by the focus groups were divorce and problems amongst spouses. One male said:

There’s some jealousy there that goes back to family dynamics and understanding the relationship with your spouse. Some people had some real crossroads with the program. The problems were there. Lead didn’t cause it. The problems were already there but LEAD may have brought it to the surface. And that’s what I’ll say. We came home [my wife and me] and we marked out five couples that would be divorced within two years, and we were right on four
out of the five. I mean it’s so obvious. You walked in the group and you could
tell whose having problems, when they don’t want to admit they have a
problem. (Focus Group 1, Text units 669-482)

Another female mentioned:

I think some of those issues have resolved the way they’ve redone the
program but we had the same problem in our group. And more than money
being an issue, the more issue for them was time. Time away from home.
Because times change, now it’s time with your family that’s very important.
And taking those times away from your family was a big issue for I think about
four couples that we had. And two that are no longer together. Some of them
had a hard time adjusting, really hard time adjusting. (Focus Group 1, Text units
501-508)

A skilled researcher assisted in collapsing the focus group outcomes to formulate
survey instrument questions. Individual outcomes could be collapsed into 12 categories
focusing on self-confidence, interpersonal skills, organizational skills, community
involvement and creative thinking. In the organizational domain, outcomes were
combined into 11 categories of business decision making, innovativeness, use of business
resources, new leadership skills, and improved management skills. In the community
domain, eight outcomes were asked dealing with leadership roles, increased involvement,
increased awareness of time, and appreciation of cultural differences.

Survey Return Rate

The response rate for the survey was 75% (n=196). The original population eligible
for the survey was 270 living LEAD program alumni, since two were deceased. During
the course of the survey, two individuals were unable to be located and four individuals
declined to respond to the survey. One person stated, “I believe in the program but just
do not fill out surveys.” This left an alumni population of 262 eligible to respond to the
survey.

The web-based questionnaire obtained 87% (n=167) of the alumni responding with
an additional 15% (n=29) responding by mailed questionnaire. All of the surveys were
deemed complete. No surveys had more than 15% missing information and therefore no
cases needed to be deleted from the study, instead the mean was substituted for the
missing data. George and Mallery (2006) state that it is acceptable to replace up to 15%
of the data with the mean with little damage to outcomes.

The final survey instrument was subjected to a reliability analysis using the final data
set of respondents (n=196). The alpha should be .70 or higher to ensure reliability
(Fraenkel & Wallen, 2003). Table 4.5 indicates the comparison between the alumni alpha
and the field test alphas.

<table>
<thead>
<tr>
<th>Item</th>
<th>Field Test (n= 14)</th>
<th>Alumni Data (n=196)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual Level Section</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12 items</td>
<td>.90</td>
<td>.91</td>
</tr>
<tr>
<td>Organization Level Section</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7 items</td>
<td>.90</td>
<td>.92</td>
</tr>
<tr>
<td>Community Level Section</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8 items</td>
<td>.86</td>
<td>.79</td>
</tr>
</tbody>
</table>

Table 4.5 Cronbach’s Alpha Reliability Analysis
The alumni data was placed into an SPSS reliability analysis to compute Cronbach’s alpha coefficients. A high alpha reliability legitimized summing the weighted values to form a composite index and to reach multicollinearity. This resulted in one composite mean being generated from the summed weighted values. The composite mean was used in multiple regression analysis.

**Additional Data**

Since the alumni of this program had never been surveyed, several questions were asked to aid in seeking information, to determine if patterns and trends were present, and to further “round out” the study. Eight additional questions were formulated to collect data regarding program continuation, pursuit of additional education, career modification, occupation, organizational activity, government and elected positions held and report of the participant’s change. The responses for each question are outlined below.

1.) Please indicate how important you feel it is to continue the LEAD Program.

Respondent were asked to select a number from 1 not important to 10-very important regarding program continuation. The results are indicated in Table 4.6.
Table 4.6 Importance of Continuing the LEAD Program

2) As a result of your LEAD experience, did you decide to pursue further formal education? Eighty-four percent (n=156) responded no to this question.

3) As a result of the LEAD programs experience did you change careers? Eighty-four percent (n=164) indicated that they did not change careers.

4) Please describe your occupation, including your specific roles and responsibilities: Ninety-two percent (n=181) responded to this question. Occupations reported cover a variety of areas from farmer to company CEO’s. Due to the variations in reports resulting from this open-ended question, the respondent’s occupations were collectively categorized by the researcher into farmer, manager, government, business owner, etc. as shown in Table 4.7.
Table 4.7 Occupations Reported by Respondents

<table>
<thead>
<tr>
<th>Occupation</th>
<th>% (n)</th>
<th>Occupation</th>
<th>% (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farmer</td>
<td>27% (48)</td>
<td>Environmental Educator</td>
<td>2% (4)</td>
</tr>
<tr>
<td>Manager</td>
<td>18% (33)</td>
<td>Non-Profit</td>
<td>2% (3)</td>
</tr>
<tr>
<td>Government</td>
<td>13% (23)</td>
<td>Realtor</td>
<td>2% (3)</td>
</tr>
<tr>
<td>Business Owner</td>
<td>9% (16)</td>
<td>Attorney</td>
<td>1% (2)</td>
</tr>
<tr>
<td>Green Industry</td>
<td>6% (10)</td>
<td>Pastor</td>
<td>&gt;1% (1)</td>
</tr>
<tr>
<td>Banking/lending</td>
<td>5% (9)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CEO/CFO</td>
<td>4% (8)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consulting</td>
<td>4% (8)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sales</td>
<td>3% (5)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Research</td>
<td>2% (4)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Human Resources</td>
<td>2% (4)</td>
<td>Total Reporting</td>
<td>(181)</td>
</tr>
</tbody>
</table>

5) Please report your level of involvement regarding your activity in organizations at the local, state, and national levels including the board(s) of directors of which you are a current member or have been a member since you were in LEAD. Also, indicate the office(s) that you might hold/held on those boards:

This-open ended question resulted in 72% (n=124) of the respondents indicating organizational involvement in state, local and national organizations. The majority of the respondents report involvement on several levels. Due to the wide range of responses to this question, the researcher categorized the answers to this question into three levels: local, state and national groups; Board membership; and chair, president, past-president. Table 4.8 indicates the level of organizational involvement reported by respondents.
<table>
<thead>
<tr>
<th>Level of Organizational Involvement</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Local Groups*</td>
<td>55% (n=68)</td>
</tr>
<tr>
<td>State Groups*</td>
<td>36% (n=45)</td>
</tr>
<tr>
<td>National Groups*</td>
<td>9% (n=11)</td>
</tr>
<tr>
<td>Board of Directors (All Levels)</td>
<td>58% (n=72)</td>
</tr>
<tr>
<td>Chair/President/Past President (All Levels)</td>
<td>33% (n=41)</td>
</tr>
</tbody>
</table>

*Respondents reported across all levels

Table 4.8 Level of Organizational Involvement

6) Please list any governmental elected or appointed positions that you hold:

Twenty-three percent (n=45) of all those reporting indicate holding elected or governmental positions. From those reporting, the positions held are primarily on the local level such as: county commissioners, township trustees, zoning boards and local soil and water conservation district boards. This question was open-ended so the researcher sorted the responses into the categories shown in Table 4.9.
Table 4.9 Governmental Positions Held

7) Please select a number below to indicate the level of change that you experienced because of your LEAD participation.

Respondents were asked to select a number from 1 not important to 10 very important regarding the level of change that they experienced due to their leadership program participation. This question was included to allow the participant to self-report their level of change for comparison purposes. Responses are outlined in Table 4.10.
Table 4.10 Level of Change Reported by Program Participants

8) Please describe anything that “decreased” or “worsened” as a result of the LEAD experience.

Twenty percent (n=40), responded and answers ranged from relationship stress and challenges, to decreased involvement in commitments, to suggestions for program change. This question was open ended and responses were organized by the researcher into the categories summarized in Table 4.11.
Areas that Decreased or Worsened

<table>
<thead>
<tr>
<th>Area</th>
<th>Percentage (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relationship stress/challenges</td>
<td>38% (n=15)</td>
</tr>
<tr>
<td>Personal commitments</td>
<td>38% (n=15)</td>
</tr>
<tr>
<td>Attitude</td>
<td>15% (n=6)</td>
</tr>
<tr>
<td>Complaints about Program</td>
<td>10% (n=4)</td>
</tr>
<tr>
<td>Total Reporting (20%; n=40)</td>
<td></td>
</tr>
</tbody>
</table>

Table 4.11 Areas that Decreased or Worsened

Alumni Demographic Summary

Respondents to the instrument are summarized according to gender, age, income, education, residence and alumni class. Results are reported in Table 4.12.

Seventy-two percent (n=141) of those responding were male and 26% (n=51) were female. Eleven percent (n=22) earned from less than $25,000 to $39,999 per year. Fifty-five percent (n=108) reported an income of $40,000 – $79,999. Thirty-four percent (n=66) earned from $80,000 - $100,000+.

The education level of the respondents indicates that the majority (73%, n=143) hold a bachelors degree or higher. Fifty-one percent (n=99) of the respondents were from rural farms, with the remaining half being from various sizes of town and cities.
<table>
<thead>
<tr>
<th>Variable</th>
<th>Category</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender (n=192)</td>
<td>Male</td>
<td>141</td>
<td>73.4</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>51</td>
<td>26.6</td>
</tr>
<tr>
<td>Age (n=186)</td>
<td>20 - 29</td>
<td>2</td>
<td>1.1</td>
</tr>
<tr>
<td></td>
<td>30 - 39</td>
<td>34</td>
<td>18.3</td>
</tr>
<tr>
<td></td>
<td>40 - 49</td>
<td>75</td>
<td>40.3</td>
</tr>
<tr>
<td></td>
<td>50 - 59</td>
<td>72</td>
<td>38.7</td>
</tr>
<tr>
<td></td>
<td>60 - 69</td>
<td>3</td>
<td>1.6</td>
</tr>
<tr>
<td>Income (n=189)</td>
<td>Below $25,000</td>
<td>1</td>
<td>.5</td>
</tr>
<tr>
<td></td>
<td>$25,000 - $39,999</td>
<td>21</td>
<td>11.2</td>
</tr>
<tr>
<td></td>
<td>$40,000 - $59,999</td>
<td>58</td>
<td>30.7</td>
</tr>
<tr>
<td></td>
<td>$60,000 - $79,999</td>
<td>42</td>
<td>22.2</td>
</tr>
<tr>
<td></td>
<td>$80,000 - $99,999</td>
<td>22</td>
<td>11.6</td>
</tr>
<tr>
<td></td>
<td>&gt; $100,000</td>
<td>45</td>
<td>23.8</td>
</tr>
<tr>
<td>Education (n=194)</td>
<td>High School</td>
<td>18</td>
<td>9.3</td>
</tr>
<tr>
<td></td>
<td>Associates</td>
<td>12</td>
<td>6.2</td>
</tr>
<tr>
<td></td>
<td>Bachelors</td>
<td>103</td>
<td>53.0</td>
</tr>
<tr>
<td></td>
<td>Masters</td>
<td>33</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td>PhD</td>
<td>3</td>
<td>1.6</td>
</tr>
<tr>
<td></td>
<td>Graduate</td>
<td>3</td>
<td>1.6</td>
</tr>
<tr>
<td></td>
<td>Post Graduate</td>
<td>1</td>
<td>.5</td>
</tr>
<tr>
<td></td>
<td>None</td>
<td>21</td>
<td>10.8</td>
</tr>
<tr>
<td>Residence (n=194)</td>
<td>Large City</td>
<td>15</td>
<td>7.7</td>
</tr>
<tr>
<td></td>
<td>City</td>
<td>26</td>
<td>13.4</td>
</tr>
<tr>
<td></td>
<td>Small Town</td>
<td>37</td>
<td>19.1</td>
</tr>
<tr>
<td></td>
<td>Rural Farm</td>
<td>99</td>
<td>51.0</td>
</tr>
<tr>
<td></td>
<td>Rural Nonfarm</td>
<td>17</td>
<td>8.8</td>
</tr>
</tbody>
</table>

Table 4.12 Respondent Demographic Characteristics by Category, Frequency and Percent
Respondents were requested to reveal their alumni class. The response rates for each LEAD class ranged from a low of 44% for class 8 to 92% for Class 9. Ten did not report. The totals of eligible alumni respondents (n=262) and the total responding to the survey (75%; n=196) from each class are described in Table 4.13.

<table>
<thead>
<tr>
<th>Class Number</th>
<th>Number of Alumni Eligible</th>
<th>Number of Respondents</th>
<th>Percentage of Eligible Alumni By Class</th>
<th>Percentage of total reporting</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>29</td>
<td>20</td>
<td>69</td>
<td>10.2</td>
</tr>
<tr>
<td>2</td>
<td>27</td>
<td>17</td>
<td>63</td>
<td>8.7</td>
</tr>
<tr>
<td>3</td>
<td>28</td>
<td>22</td>
<td>79</td>
<td>11.2</td>
</tr>
<tr>
<td>4</td>
<td>29</td>
<td>19</td>
<td>66</td>
<td>9.7</td>
</tr>
<tr>
<td>5</td>
<td>25</td>
<td>13</td>
<td>52</td>
<td>6.6</td>
</tr>
<tr>
<td>6</td>
<td>30</td>
<td>24</td>
<td>80</td>
<td>5.6</td>
</tr>
<tr>
<td>7</td>
<td>28</td>
<td>24</td>
<td>86</td>
<td>12.2</td>
</tr>
<tr>
<td>8</td>
<td>25</td>
<td>11</td>
<td>44</td>
<td>12.2</td>
</tr>
<tr>
<td>9</td>
<td>24</td>
<td>22</td>
<td>92</td>
<td>5.6</td>
</tr>
<tr>
<td>10</td>
<td>17</td>
<td>13</td>
<td>76</td>
<td>11.2</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>262</strong></td>
<td><strong>196</strong></td>
<td><strong>75%</strong></td>
<td></td>
</tr>
</tbody>
</table>

Table 4.13 Alumni Class Respondent Breakdown
Research Question One: What are the individual level outcomes of a statewide agricultural leadership program?

The first section of the instrument was designed to measure the 12 variables of community involvement, self-confidence, creative thinking, business skills, and change resulting from the LEAD experience, meet people, value of my time, value of my family, my growth, control, life changing events and power to make a difference.

Alumni responded to 12 summated scales questions dealing with their personal growth as a result of their participation in the Ohio LEAD Program. These are summarized in Table 4.14. The variables are underlined in the Table on the individual outcome scale.

Following are the results for each individual variable which illustrate respondent’s reports on a five point scale ranging from 1 (None) to 5 (A Great Deal). Mu and standard deviations as well as the frequency tables for the Likert-scale items, much and a great deal and none to a little are reported to allow patterns to emerge in the data. Histograms have been used to demonstrate the frequency of responses to the questions and indicate mu and standard deviations.
<table>
<thead>
<tr>
<th></th>
<th>None</th>
<th>A Little</th>
<th>Some</th>
<th>Much</th>
<th>A Great Deal</th>
<th>µ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exposure to new ideas and concepts led to <em>my</em> growth</td>
<td>1%</td>
<td>7%</td>
<td>19%</td>
<td>49%</td>
<td>24%</td>
<td>3.91</td>
</tr>
<tr>
<td>I improved in *self-*confidence</td>
<td>3%</td>
<td>6%</td>
<td>35%</td>
<td>42%</td>
<td>14%</td>
<td>3.58</td>
</tr>
<tr>
<td>LEAD helped me to realize that I have the <em>power</em> to make a</td>
<td>4%</td>
<td>12%</td>
<td>29%</td>
<td>38%</td>
<td>17%</td>
<td>3.52</td>
</tr>
<tr>
<td>difference</td>
<td>7</td>
<td>24</td>
<td>58</td>
<td>74</td>
<td>33</td>
<td></td>
</tr>
<tr>
<td>I was able to meet people whose success I could imitate</td>
<td>2%</td>
<td>15%</td>
<td>28%</td>
<td>39%</td>
<td>15%</td>
<td>3.51</td>
</tr>
<tr>
<td>I increased my awareness of the <em>value</em> of my time</td>
<td>7%</td>
<td>10%</td>
<td>26%</td>
<td>41%</td>
<td>16%</td>
<td>3.5</td>
</tr>
<tr>
<td>I improved my <em>business</em> skills</td>
<td>4%</td>
<td>12%</td>
<td>35%</td>
<td>40%</td>
<td>10%</td>
<td>3.4</td>
</tr>
<tr>
<td>I improved in <em>creative</em> thinking</td>
<td>4%</td>
<td>11%</td>
<td>37%</td>
<td>40%</td>
<td>9%</td>
<td>3.4</td>
</tr>
<tr>
<td>My community involvement increased</td>
<td>5%</td>
<td>12%</td>
<td>43%</td>
<td>30%</td>
<td>10%</td>
<td>3.27</td>
</tr>
<tr>
<td>I learned the <em>value</em> of my family because of my LEAD experience</td>
<td>11%</td>
<td>14%</td>
<td>32%</td>
<td>30%</td>
<td>14%</td>
<td>3.21</td>
</tr>
<tr>
<td>My LEAD experience began a series of life changing events for</td>
<td>12%</td>
<td>25%</td>
<td>28%</td>
<td>24%</td>
<td>10%</td>
<td>2.95</td>
</tr>
<tr>
<td>me</td>
<td>24</td>
<td>49</td>
<td>55</td>
<td>48</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>I learned I do not have to be in control</td>
<td>12%</td>
<td>22%</td>
<td>39%</td>
<td>20%</td>
<td>6%</td>
<td>2.86</td>
</tr>
<tr>
<td>People describe me as being changed by my <em>LEAD</em> experience</td>
<td>16%</td>
<td>22%</td>
<td>41%</td>
<td>16%</td>
<td>5%</td>
<td>2.7</td>
</tr>
<tr>
<td></td>
<td>32</td>
<td>43</td>
<td>80</td>
<td>31</td>
<td>9</td>
<td></td>
</tr>
</tbody>
</table>

**Table 4.14 Individual Outcomes Ordered by µ**
Exposure to new ideas and concepts led to my growth

<table>
<thead>
<tr>
<th>Exposure to new ideas and concepts led to my growth</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>None/Not at all</td>
<td>1</td>
<td>.5</td>
</tr>
<tr>
<td>A Little</td>
<td>13</td>
<td>6.6</td>
</tr>
<tr>
<td>Some</td>
<td>37</td>
<td>18.9</td>
</tr>
<tr>
<td>Much</td>
<td>97</td>
<td>49.5</td>
</tr>
<tr>
<td>A Great Deal</td>
<td>48</td>
<td>24.5</td>
</tr>
<tr>
<td>Total</td>
<td>196</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Figure 4.1 My Growth

Table 4.15 My Growth

Fifty-percent (n=97) of the respondents report growth “much” of the time due to exposure to new concepts and ideas (Mode [Mo]=4). The statistics for the item were a mu (μ) of 3.91 and standard deviation (SD) of .86. Table 4.15 and Figure 4.1 illustrate the descriptive statistics for this item.
Forty-two percent of the respondents (n=83; Mo=4) report “much” improvement in self-confidence. The $\mu$ was 3.58 and SD was .91. Figure 4.2 and Table 4.16 display these reports.
LEAD helped me to realize that I have the power to make a difference

![Bar chart showing frequency distribution](chart.png)

**Figure 4.3 Power to Make a Difference**

<table>
<thead>
<tr>
<th>LEAD helped me to realize that I have the power to make a difference</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>None/Not at all</td>
<td>7</td>
<td>3.6</td>
</tr>
<tr>
<td>A Little</td>
<td>24</td>
<td>12.2</td>
</tr>
<tr>
<td>Some</td>
<td>58</td>
<td>29.6</td>
</tr>
<tr>
<td>Much</td>
<td>74</td>
<td>37.8</td>
</tr>
<tr>
<td>A Great Deal</td>
<td>33</td>
<td>16.8</td>
</tr>
<tr>
<td>Total</td>
<td>196</td>
<td>100.0</td>
</tr>
</tbody>
</table>

**Table 4.17 Power to Make a Difference**

Concerning the item regarding experience with LEAD helping the respondent to realize that they had the power to make a difference, 37% (n=74) reported in the “much” category (Mo=4). Figure 4.3 and Table 4.17 outline these responses. The µ was 3.52 and SD was 1.02.
I was able to meet people whose success I could imitate

Figure 4.4 Meet People

<table>
<thead>
<tr>
<th>I was able to meet people whose success I could imitate</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>None/Not at all</td>
<td>4</td>
<td>2.0</td>
</tr>
<tr>
<td>A Little</td>
<td>30</td>
<td>15.3</td>
</tr>
<tr>
<td>Some</td>
<td>55</td>
<td>28.1</td>
</tr>
<tr>
<td>Much</td>
<td>77</td>
<td>39.3</td>
</tr>
<tr>
<td>A Great Deal</td>
<td>30</td>
<td>15.3</td>
</tr>
<tr>
<td>Total</td>
<td>196</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 4.18 Meet People

Table 4.18 and Figure 4.4 demonstrate the feelings of the respondents related to meeting people whose success they could imitate. Thirty-nine percent (n=77; Mo=4) report “much.” The $\mu$ was 3.51 and SD was 1.00.
Forty-one percent of the respondents (n=80; Mo=4) indicated “much” in the item “I increase my awareness concerning the value of my time.” The μ was 3.50 and SD was 1.08. Figure 4.5 and Table 4.19 display these reports.
In the area of improvement in business skills, 39% (n=77; Mo=4) of respondents selected “much.” The $\mu$ was 3.40 and SD was .96. Figure 4.6 and Table 4.20 display the respondent’s reports.
Figure 4.7 Creative Thinking

Table 4.21  Creative Thinking

<table>
<thead>
<tr>
<th>I improved in creative thinking</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>None/Not at all</td>
<td>7</td>
<td>3.6</td>
</tr>
<tr>
<td>A Little</td>
<td>21</td>
<td>10.7</td>
</tr>
<tr>
<td>Some</td>
<td>72</td>
<td>36.7</td>
</tr>
<tr>
<td>Much</td>
<td>79</td>
<td>40.3</td>
</tr>
<tr>
<td>A Great Deal</td>
<td>17</td>
<td>8.7</td>
</tr>
<tr>
<td>Total</td>
<td>196</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 4.21 and Figure 4.7 exhibit if the respondents felt they improved in creative thinking. The $\mu$ was 3.40 and SD was .92. Forty percent (n=79; Mo=4) of the respondents indicate “much.”
My community involvement increased

![Histogram of community involvement](image)

Mean = 3.27
Std. Dev. = 0.973
N = 196

Figure 4.8 Community Involvement

<table>
<thead>
<tr>
<th>My community involvement increased</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>None/Not at all</td>
<td>10</td>
<td>5.1</td>
</tr>
<tr>
<td>A Little</td>
<td>24</td>
<td>12.2</td>
</tr>
<tr>
<td>Some</td>
<td>84</td>
<td>42.9</td>
</tr>
<tr>
<td>Much</td>
<td>59</td>
<td>30.1</td>
</tr>
<tr>
<td>A Great Deal</td>
<td>19</td>
<td>9.7</td>
</tr>
<tr>
<td>Total</td>
<td>196</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 4.22 Community Involvement

Table 4.22 and Figure 4.8 illustrate a μ score of 3.27 and SD of .97 of respondents reporting their community involvement. Forty-three percent (n=84; Mo=3) report “some.”
I learned the value of my family because of my LEAD experience

Figure 4.9 Value of My Family

<table>
<thead>
<tr>
<th>I learned the value of my family because of my LEAD experience</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>None/Not at all</td>
<td>22</td>
<td>11.2</td>
</tr>
<tr>
<td>A Little</td>
<td>27</td>
<td>13.8</td>
</tr>
<tr>
<td>Some</td>
<td>62</td>
<td>31.6</td>
</tr>
<tr>
<td>Much</td>
<td>58</td>
<td>29.6</td>
</tr>
<tr>
<td>A Great Deal</td>
<td>27</td>
<td>13.8</td>
</tr>
<tr>
<td>Total</td>
<td>196</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 4.23 Value of My Family

Figure 4.9 and Table 4.23 conveys what the respondents selected regarding learning the value of their family. Thirty-two percent (n=62; Mo=3) selected “some.” The µ was 3.21 and SD was 1.18.
My LEAD experience began a series of life changing events for me

![Histogram showing the frequency distribution of life changing events.

$\text{Mean} = 2.95$

$\text{Std. Dev.} = 1.182$

$\text{N} = 196$

Figure 4.10 Life Changing Events

<table>
<thead>
<tr>
<th>My LEAD experience began a series of life changing events for me</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>None/Not at all</td>
<td>24</td>
<td>12.2</td>
</tr>
<tr>
<td>A Little</td>
<td>49</td>
<td>25.0</td>
</tr>
<tr>
<td>Some</td>
<td>55</td>
<td>28.1</td>
</tr>
<tr>
<td>Much</td>
<td>48</td>
<td>24.5</td>
</tr>
<tr>
<td>A Great Deal</td>
<td>20</td>
<td>10.2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>196</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

Table 4.24 Life Changing Events

Figure 4.10 and Table 4.24 indicate how the respondents felt about their experience beginning a series of life changing events. Twenty-eight percent (n=55; Mo=3) selected “some.” The $\mu$ was 2.95 and SD was 1.18.
I learned I do not have to be in control

Figure 4.11 Control

<table>
<thead>
<tr>
<th>I learned I do not have to be in control</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>None/Not at all</td>
<td>24</td>
<td>12.2</td>
</tr>
<tr>
<td>A Little</td>
<td>44</td>
<td>22.4</td>
</tr>
<tr>
<td>Some</td>
<td>77</td>
<td>39.3</td>
</tr>
<tr>
<td>Much</td>
<td>39</td>
<td>19.9</td>
</tr>
<tr>
<td>A Great Deal</td>
<td>12</td>
<td>6.1</td>
</tr>
<tr>
<td>Total</td>
<td>196</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 4.25 Control

Forty percent of respondents report learning that they do not have to be in control occurred “some” (n=77; Mo=3). The µ was 2.95 and SD was 1.18. Table 4.25 and Figure 4.11 describe the descriptive statistics.
People describe me as being changed by my LEAD experience

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>None/Not at all</td>
<td>32</td>
<td>16.3</td>
</tr>
<tr>
<td>A Little</td>
<td>43</td>
<td>21.9</td>
</tr>
<tr>
<td>3</td>
<td>1</td>
<td>.5</td>
</tr>
<tr>
<td>Some</td>
<td>80</td>
<td>40.8</td>
</tr>
<tr>
<td>Much</td>
<td>31</td>
<td>15.8</td>
</tr>
<tr>
<td>A Great Deal</td>
<td>9</td>
<td>4.6</td>
</tr>
<tr>
<td>Total</td>
<td>196</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Figure 4.12 Changed by LEAD Experience

Table 4.26 Changed by LEAD Experience

Figure 4.12 and Table 4.26 present the description of change from the LEAD experience. Forty-one percent (n=80; Mo=3) selected “some.” The μ was 2.69 and SD was 1.09.
Personal Change Triangulation

To further triangulate the Likert-scale items, respondents were asked to describe three ways that they changed due to their experience in an open-ended question. Eighty-eight percent (n=143) of the alumni responded. The researcher categorized the answers to this question into the levels indicated in Table 4.27.

<table>
<thead>
<tr>
<th>Description of Personal Change</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Networking</td>
<td>63% (n=123)</td>
</tr>
<tr>
<td>Self-Confidence</td>
<td>59% (n=115)</td>
</tr>
<tr>
<td>Cultural Appreciation</td>
<td>51% (n=100)</td>
</tr>
<tr>
<td>Social Skill Building</td>
<td>50% (n=98)</td>
</tr>
<tr>
<td>Communications Skills</td>
<td>33% (n=65)</td>
</tr>
<tr>
<td>More active</td>
<td>31% (n=61)</td>
</tr>
<tr>
<td>Less Active</td>
<td>10% (n=20)</td>
</tr>
</tbody>
</table>

Table 4.27 Description of Personal Change

Research Question 2: Does involvement in agricultural leadership programs positively affect the organizational behaviors of the participant?

The organizational domain was designed to measure the participants outcomes on a sub-scale comprised of 11 variables. These were: network of contacts, networking skills, facilitate change, responding to problems, problem-solving, decision making skills, confidence to compete, use of time, use of resources, professional organizations and change of career. The variables are underlined in Table 4.23 on the organization outcome scale. A five point scale was used ranging from 1 (None) to 5 (A Great Deal). The items of much, a great deal, none and a little are reported to allow patterns to emerge in the data. Histograms have been used to demonstrate the frequency responses to the questions and indicate mu and standard deviations.
<table>
<thead>
<tr>
<th>Organizational Outcomes Scale</th>
<th>None</th>
<th>A Little</th>
<th>Some</th>
<th>Much</th>
<th>A Great Deal</th>
<th>μ</th>
</tr>
</thead>
<tbody>
<tr>
<td>LEAD helped me to build a better network of contacts</td>
<td>3%</td>
<td>4%</td>
<td>21%</td>
<td>41%</td>
<td>30%</td>
<td>3.92</td>
</tr>
<tr>
<td>I improved my networking skills</td>
<td>1%</td>
<td>7%</td>
<td>21%</td>
<td>43%</td>
<td>28%</td>
<td>3.90</td>
</tr>
<tr>
<td>The exposure to other people and ideas helped facilitate change</td>
<td>1%</td>
<td>5%</td>
<td>26%</td>
<td>46%</td>
<td>22%</td>
<td>3.86</td>
</tr>
<tr>
<td>I am able to respond to problems and situations more effectively</td>
<td>3%</td>
<td>12%</td>
<td>36%</td>
<td>40%</td>
<td>10%</td>
<td>3.43</td>
</tr>
<tr>
<td>I became more innovative in my approach to problem-solving</td>
<td>3%</td>
<td>14%</td>
<td>30%</td>
<td>44%</td>
<td>9%</td>
<td>3.43</td>
</tr>
<tr>
<td>I improved my business/organizational decision making skills</td>
<td>4%</td>
<td>14%</td>
<td>39%</td>
<td>36%</td>
<td>7%</td>
<td>3.28</td>
</tr>
<tr>
<td>I learned to make more efficient use of my time</td>
<td>6%</td>
<td>16%</td>
<td>42%</td>
<td>30%</td>
<td>7%</td>
<td>3.17</td>
</tr>
<tr>
<td>I developed the confidence to compete on a different level in business/career</td>
<td>8%</td>
<td>19%</td>
<td>33%</td>
<td>30%</td>
<td>11%</td>
<td>3.16</td>
</tr>
<tr>
<td>I became more involved in professional organizations</td>
<td>8%</td>
<td>21%</td>
<td>35%</td>
<td>25%</td>
<td>11%</td>
<td>3.11</td>
</tr>
<tr>
<td>I became more efficient in my use of resources</td>
<td>3%</td>
<td>14%</td>
<td>40%</td>
<td>37%</td>
<td>6%</td>
<td>3.30</td>
</tr>
<tr>
<td>My LEAD experience helped me to change the direction of my business/career</td>
<td>19%</td>
<td>28%</td>
<td>27%</td>
<td>16%</td>
<td>10%</td>
<td>2.69</td>
</tr>
</tbody>
</table>

Table 4.28 Organization Outcomes Ordered by μ
LEAD helped me to build a better network of contacts

Figure 4.13 Network of Contacts

<table>
<thead>
<tr>
<th>LEAD helped me to build a better network of contacts</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>None/Not at all</td>
<td>6</td>
<td>3.1</td>
</tr>
<tr>
<td>A Little</td>
<td>8</td>
<td>4.1</td>
</tr>
<tr>
<td>Some</td>
<td>42</td>
<td>21.4</td>
</tr>
<tr>
<td>Much</td>
<td>81</td>
<td>41.3</td>
</tr>
<tr>
<td>A Great Deal</td>
<td>59</td>
<td>30.1</td>
</tr>
<tr>
<td>Total</td>
<td>196</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 4.29 Network of Contacts

The response to LEAD helping build a better network of contacts indicated that 41% (n=81; Mo=4) selected “much.” The µ was 3.92 and SD was .99. Figure 4.13 and Table 4.29 reflect the descriptive statistics.
I improved my networking skills

Figure 4.14 Networking Skills

Table 4.30 Networking Skills

<table>
<thead>
<tr>
<th>I improved my networking skills</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>None/Not at all</td>
<td>2</td>
<td>1.0</td>
</tr>
<tr>
<td>A Little</td>
<td>14</td>
<td>7.1</td>
</tr>
<tr>
<td>Some</td>
<td>41</td>
<td>20.9</td>
</tr>
<tr>
<td>Much</td>
<td>84</td>
<td>42.9</td>
</tr>
<tr>
<td>A Great Deal</td>
<td>55</td>
<td>28.1</td>
</tr>
<tr>
<td>Total</td>
<td>196</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Improvement in networking skills was reported as “much” by 41% (n=84; Mo=4) of the respondents with a μ of 3.90 and SD of .93. Table 4.30 and Figure 4.14 represent this report.
The exposure to other people and ideas helped facilitate change

![Frequency distribution graph]

**Figure 4.15 Facilitate Change**

<table>
<thead>
<tr>
<th>The exposure to other people and ideas helped facilitate change</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>None/Not at all</td>
<td>1</td>
<td>.5</td>
</tr>
<tr>
<td>A Little</td>
<td>10</td>
<td>5.1</td>
</tr>
<tr>
<td>Some</td>
<td>50</td>
<td>25.5</td>
</tr>
<tr>
<td>Much</td>
<td>91</td>
<td>46.4</td>
</tr>
<tr>
<td>A Great Deal</td>
<td>44</td>
<td>22.4</td>
</tr>
<tr>
<td>Total</td>
<td>196</td>
<td>100.0</td>
</tr>
</tbody>
</table>

**Table 4.31 Facilitate Change**

Exposure to other people helped facilitate change was reported as “much” by 46% (n=91; Mo=4) of those responding as “much.” A µ of 3.86 and SD of .84 was generated.

Figure 4.15 and Table 4.31 describe responses.
Figure 4.16 Respond to Problems

Table 4.32 Respond to Problems

Forty percent (n=79; Mo=4) of the respondents said they were able to respond to problems and situations effectively “much” of the time. The µ was 3.43 and SD was .91. Table 4.32 and Figure 4.16 illustrate the data.
I became more innovative in my approach to problem-solving

![Bar chart showing frequency distribution](chart.png)

**Mean = 3.43**  
**Std. Dev. = 0.944**  
**N = 196**

**Figure 4.17 Problem-Solving**

<table>
<thead>
<tr>
<th>Description</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>None/Not at all</td>
<td>6</td>
<td>3.1</td>
</tr>
<tr>
<td>A Little</td>
<td>27</td>
<td>13.8</td>
</tr>
<tr>
<td>Some</td>
<td>58</td>
<td>29.6</td>
</tr>
<tr>
<td>Much</td>
<td>87</td>
<td>44.4</td>
</tr>
<tr>
<td>A Great Deal</td>
<td>18</td>
<td>9.2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>196</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

**Table 4.33 Problem-solving**

The item which measured innovation resulted in 44% (n=87; Mo=4) selecting “much.” A μ of 3.43 and SD of .94 are reported. Table 4.33 and Figure 4.17 depict the data.
I improved my business/organizational decision making skills

![Histogram showing frequency distribution]

Mean = 3.28  
Std. Dev. = 0.937  
N = 196

**Figure 4.18 Decision Making Skills**

<table>
<thead>
<tr>
<th>I improved my business/organizational decision making skills</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>None/Not at all</td>
<td>8</td>
<td>4.1</td>
</tr>
<tr>
<td>A Little</td>
<td>28</td>
<td>14.3</td>
</tr>
<tr>
<td>Some</td>
<td>76</td>
<td>38.8</td>
</tr>
<tr>
<td>Much</td>
<td>70</td>
<td>35.7</td>
</tr>
<tr>
<td>A Great Deal</td>
<td>14</td>
<td>7.1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>196</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

**Table 4.34 Decision Making Skills**

Improvement in organizational skills is indicated by 39\% (n=76; Mo=3) of the respondents selecting “some.” The $\mu$ was 3.28 and SD was .94. The results are illustrated by Figure 4.18 and Table 4.34.
I learned to make more efficient use of my time

![Histogram of I learned to make more efficient use of my time](image)

**Figure 4.19 Use of Time**

<table>
<thead>
<tr>
<th>I learned to make more efficient use of my time</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>None/Not at all</td>
<td>11</td>
<td>5.6</td>
</tr>
<tr>
<td>A Little</td>
<td>31</td>
<td>15.8</td>
</tr>
<tr>
<td>Some</td>
<td>82</td>
<td>41.8</td>
</tr>
<tr>
<td>Much</td>
<td>58</td>
<td>29.6</td>
</tr>
<tr>
<td>A Great Deal</td>
<td>14</td>
<td>7.1</td>
</tr>
<tr>
<td>Total</td>
<td>196</td>
<td>100.0</td>
</tr>
</tbody>
</table>

**Table 4.35 Use of Time**

Table 4.35 and Figure 4.19 show that 42% of the respondents (n=82; Mo=3) selected “some.” The µ was 3.17 and SD was .10.
I developed the confidence to compete on a different level in business/career

Figure 4.20 Confidence to Compete

<table>
<thead>
<tr>
<th>I developed the confidence to compete on a different level in business/career</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>None/Not at all</td>
<td>16</td>
<td>8.2</td>
</tr>
<tr>
<td>A Little</td>
<td>37</td>
<td>18.9</td>
</tr>
<tr>
<td>Some</td>
<td>64</td>
<td>32.6</td>
</tr>
<tr>
<td>Much</td>
<td>58</td>
<td>29.6</td>
</tr>
<tr>
<td>A Great Deal</td>
<td>21</td>
<td>10.7</td>
</tr>
<tr>
<td>Total</td>
<td>196</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 4.36 Confidence to Compete

Figure 4.20 and Table 4.36 indicates that 33% (n=64; Mo=3) of the respondents selected “some” on the item “I developed confidence to compete in business.” The µ was 3.16 and SD 1.12.
I became more involved in professional organizations

![Bar chart showing frequency distribution]

**Figure 4.21 Professional Organizations**

<table>
<thead>
<tr>
<th>I became more involved in professional organizations</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>None/Not at all</td>
<td>16</td>
<td>8.2</td>
</tr>
<tr>
<td>A Little</td>
<td>40</td>
<td>20.4</td>
</tr>
<tr>
<td>Some</td>
<td>69</td>
<td>35.2</td>
</tr>
<tr>
<td>Much</td>
<td>49</td>
<td>25.0</td>
</tr>
<tr>
<td>A Great Deal</td>
<td>22</td>
<td>11.2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>196</td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

**Table 4.37 Professional Organizations**

Thirty-five percent (n=69; Mo=3) of the respondents indicated more involvement in professional organizations as “some” with a µ of 3.11 and SD of 1.11. Figure 4.21 and Table 4.37 reflect these descriptive statistics.
I became more efficient in my use of resources

Figure 4.22 Use of Resources

<table>
<thead>
<tr>
<th>I became more efficient in my use of resources</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>None/Not at all</td>
<td>6</td>
<td>3.1</td>
</tr>
<tr>
<td>A Little</td>
<td>27</td>
<td>13.8</td>
</tr>
<tr>
<td>Some</td>
<td>78</td>
<td>39.8</td>
</tr>
<tr>
<td>Much</td>
<td>73</td>
<td>37.2</td>
</tr>
<tr>
<td>A Great Deal</td>
<td>12</td>
<td>6.1</td>
</tr>
<tr>
<td>Total</td>
<td>196</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 4.38 Use of Resources

Figure 4.22 and Table 4.38 reflect the selections for efficient use of resources. Forty percent (n=78; Mo=3) of the respondents selected “some.” The µ was 3.30 and SD was .09.
My LEAD experience helped me to change the direction of my business/career

![Bar chart showing frequency of responses to the question about changing business/career direction.](chart.png)

**Figure 4.23 Change Career**

<table>
<thead>
<tr>
<th>My LEAD experience helped me to change the direction of my business/career</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>None/Not at all</td>
<td>38</td>
<td>19.4</td>
</tr>
<tr>
<td>A Little</td>
<td>55</td>
<td>28.1</td>
</tr>
<tr>
<td>Some</td>
<td>52</td>
<td>26.5</td>
</tr>
<tr>
<td>Much</td>
<td>32</td>
<td>16.3</td>
</tr>
<tr>
<td>A Great Deal</td>
<td>19</td>
<td>9.7</td>
</tr>
<tr>
<td>Total</td>
<td>196</td>
<td>100.0</td>
</tr>
</tbody>
</table>

**Table 4.39 Change Career**

Figure 4.23 and Table 4.39 reflect if the respondent felt that their experience helped them to change the direction of their business or career. Twenty-eight percent (n=55; Mo=2) selected “a little.” The µ was 2.69 and SD was 1.23.
Respondents were asked to describe three ways they improved on a professional, organizational or business level because of the program. Eighty percent (n=157) responded and all reporting indicated an increase in networking and business management skills.

Research Question 3: Do participants of agricultural leadership programs exhibit increased community involvement?

The area of community involvement was measured by asking the respondents to self-report using the five point scale of ranging from 1 (None) to 5 (A Great Deal). Table 4.40 shows the section consisting of eight subscales intended to measure the variables of: cultural differences, value of my time, local organizations, community organizations, state level, national level, and other countries. The variables are underlined in the table on the community outcome scale.

Following are the results for each variable based upon the respondent’s reports. Mu and standard deviations for the Likert-scale items are reported to allow patterns to emerge in the data. Histograms and tables have been used to demonstrate the frequency responses to the questions.

Two open-ended questions were asked to further triangulate the data. To the question, “please indicate how you have made a difference in your society or community as a result of the LEAD program,” 68% (n=133) reported they did something to make a difference. In response to the question “please describe any community projects that you have initiated or championed because of your experience in the Ohio LEAD program,” 47% (n=93) of respondents indicated championing community projects.
Table 4.40 Community Outcomes Sorted by μ

<table>
<thead>
<tr>
<th>Community Outcomes Scale</th>
<th>None</th>
<th>A Little</th>
<th>Some</th>
<th>Much</th>
<th>A Great Deal</th>
<th>μ</th>
</tr>
</thead>
<tbody>
<tr>
<td>My appreciation of cultural differences increased due to my LEAD experience</td>
<td>3%</td>
<td>6%</td>
<td>17%</td>
<td>40%</td>
<td>35%</td>
<td>3.98</td>
</tr>
<tr>
<td>I increased my awareness of the value of my time</td>
<td>6%</td>
<td>20%</td>
<td>37%</td>
<td>27%</td>
<td>10%</td>
<td>3.15</td>
</tr>
<tr>
<td>My LEAD experience helped to increase my involvement in local organizations</td>
<td>10%</td>
<td>20%</td>
<td>39%</td>
<td>22%</td>
<td>9%</td>
<td>2.99</td>
</tr>
<tr>
<td>Due to my LEAD participation, I increased my involvement with community organizations</td>
<td>11%</td>
<td>26%</td>
<td>33%</td>
<td>21%</td>
<td>9%</td>
<td>2.91</td>
</tr>
<tr>
<td>I reduced my commitment to some organizations to be more effective in other organizations</td>
<td>21%</td>
<td>23%</td>
<td>31%</td>
<td>17%</td>
<td>8%</td>
<td>2.68</td>
</tr>
<tr>
<td>I became involved with groups on a state level because of LEAD</td>
<td>28%</td>
<td>25%</td>
<td>25%</td>
<td>14%</td>
<td>9%</td>
<td>2.51</td>
</tr>
<tr>
<td>I became involved with groups on a national level because of LEAD</td>
<td>47%</td>
<td>21%</td>
<td>17%</td>
<td>7%</td>
<td>7%</td>
<td>2.03</td>
</tr>
<tr>
<td>I became involved with activities in other countries after my LEAD experience</td>
<td>64%</td>
<td>15%</td>
<td>8%</td>
<td>7%</td>
<td>5%</td>
<td>1.72</td>
</tr>
</tbody>
</table>

Table 4.40 Community Outcomes Sorted by μ
Figure 4.24 Cultural Differences

<table>
<thead>
<tr>
<th>My appreciation of cultural differences increased due to my LEAD experience</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>None/Not at all</td>
<td>5</td>
<td>2.6</td>
</tr>
<tr>
<td>A Little</td>
<td>12</td>
<td>6.1</td>
</tr>
<tr>
<td>Some</td>
<td>33</td>
<td>16.8</td>
</tr>
<tr>
<td>Much</td>
<td>78</td>
<td>39.8</td>
</tr>
<tr>
<td>A Great Deal</td>
<td>68</td>
<td>34.7</td>
</tr>
<tr>
<td>Total</td>
<td>196</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 4.41 Cultural Differences

Forty percent (n=78; Mo=4) of respondents indicated their appreciation of cultural differences increased at the “much” level. The $\mu$ was 3.98 and SD was 1.00. Figure 4.24 and Table 4.41 reflect the responses.
I increased my awareness of the value of my time

Table 4.42 Value of My Time

Table 4.42 and Figure 4.25 show the respondents indicating the awareness of the value of their time on the community level. Thirty-seven percent (n=72; Mo=3) selected “some.” The μ was 3.15 and SD was 1.03.
My LEAD experience helped to increase my involvement in local organizations

![Histogram](image)

Mean =2.99  
Std. Dev. =1.088  
N =196

**Figure 4.26 Local Organizations**

<table>
<thead>
<tr>
<th>LEAD experience helped to increase my involvement in local organizations</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>None/Not at all</td>
<td>20</td>
<td>10.2</td>
</tr>
<tr>
<td>A Little</td>
<td>39</td>
<td>19.9</td>
</tr>
<tr>
<td>Some</td>
<td>76</td>
<td>38.8</td>
</tr>
<tr>
<td>Much</td>
<td>44</td>
<td>22.4</td>
</tr>
<tr>
<td>A Great Deal</td>
<td>17</td>
<td>8.7</td>
</tr>
<tr>
<td>Total</td>
<td>196</td>
<td>100.0</td>
</tr>
</tbody>
</table>

**Table 4.43 Local Organizations**

Involvement in local organizations was reported as a $\mu$ of 2.99 and SD of 1.09.

Thirty-nine percent of the respondents (n=76; Mo=3) selected “some.” Table 4.43 and Figure 4.26 describe the responses.
Due to my LEAD participation, I increased my involvement with community organizations

**Figure 4.27** Community Organizations

<table>
<thead>
<tr>
<th>Due to my LEAD participation, I increased my involvement with community organizations</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>None/Not at all</td>
<td>22</td>
<td>11.2</td>
</tr>
<tr>
<td>A Little</td>
<td>50</td>
<td>25.5</td>
</tr>
<tr>
<td>Some</td>
<td>65</td>
<td>33.1</td>
</tr>
<tr>
<td>Much</td>
<td>42</td>
<td>21.4</td>
</tr>
<tr>
<td>A Great Deal</td>
<td>17</td>
<td>8.7</td>
</tr>
<tr>
<td>Total</td>
<td>196</td>
<td>100.0</td>
</tr>
</tbody>
</table>

**Table 4.44** Community Organizations

Thirty-three percent (n=65; Mo=3) indicate “some” increase in involvement in community organizations (Table 4.40, Figure 4.27). The $\mu$ was 2.91 and SD was 1.12.

Figure 4.27 and Table 4.44 reflect the descriptive statistics.
I reduced my commitment to some organizations to be more effective in other organizations

Figure 4.28 Reduced Commitment

<table>
<thead>
<tr>
<th>I reduced my commitment to some organizations to be more effective in other organizations</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>None/Not at all</td>
<td>42</td>
<td>21.4</td>
</tr>
<tr>
<td>A Little</td>
<td>43</td>
<td>21.9</td>
</tr>
<tr>
<td>Some</td>
<td>61</td>
<td>31.2</td>
</tr>
<tr>
<td>Much</td>
<td>34</td>
<td>17.3</td>
</tr>
<tr>
<td>A Great Deal</td>
<td>16</td>
<td>8.2</td>
</tr>
<tr>
<td>Total</td>
<td>196</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 4.45 Reduced Commitment

Table 4.45 and Figure 4.28 exhibits the responses concerning the item regarding a reduction in commitment to increase effectiveness with other organizations. Thirty-one percent (n=61; Mo=3) selected “some.” The μ was 2.68 and standard deviation is 1.22
I became involved with groups on a state level because of LEAD

![Histogram](image)

**Figure 4.29 State Level**

<table>
<thead>
<tr>
<th>I became involved with groups on a state level because of LEAD</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>None/Not at all</td>
<td>55</td>
<td>28.1</td>
</tr>
<tr>
<td>A Little</td>
<td>48</td>
<td>24.5</td>
</tr>
<tr>
<td>Some</td>
<td>48</td>
<td>24.5</td>
</tr>
<tr>
<td>Much</td>
<td>27</td>
<td>13.8</td>
</tr>
<tr>
<td>A Great Deal</td>
<td>18</td>
<td>9.2</td>
</tr>
<tr>
<td>Total</td>
<td>196</td>
<td>100.0</td>
</tr>
</tbody>
</table>

**Table 4.46 State Level**

As indicated by Table 4.46 and Figure 4.29, 28% (n=55; Mo=1) of respondents selected “None/Not at all” with a $\mu$ of 2.51 and SD of 1.28.
I became involved with groups on a national level because of LEAD

Figure 4.30 National Level

<table>
<thead>
<tr>
<th>I became involved with groups on a national level because of LEAD</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>None/Not at all</td>
<td>93</td>
<td>47.4</td>
</tr>
<tr>
<td>A Little</td>
<td>42</td>
<td>21.4</td>
</tr>
<tr>
<td>Some</td>
<td>34</td>
<td>17.3</td>
</tr>
<tr>
<td>Much</td>
<td>13</td>
<td>6.6</td>
</tr>
<tr>
<td>A Great Deal</td>
<td>14</td>
<td>7.1</td>
</tr>
<tr>
<td>Total</td>
<td>196</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 4.47 National Level

Forty-seven percent (n=93; Mo=1) of respondents indicated “none/not at all” for involvement on the national level due to LEAD. The $\mu$ was 2.05 and SD was 1.25. Table 4.47 and Figure 4.30 summarizes the responses.
I became involved with activities in other countries after my LEAD experience

![Bar chart showing frequency distribution]

Figure 4.31 Other Countries

<table>
<thead>
<tr>
<th>I became involved with activities in other countries after my LEAD experience</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>None/Not at all</td>
<td>125</td>
<td>63.8</td>
</tr>
<tr>
<td>A Little</td>
<td>33</td>
<td>16.8</td>
</tr>
<tr>
<td>Some</td>
<td>15</td>
<td>7.7</td>
</tr>
<tr>
<td>Much</td>
<td>13</td>
<td>6.6</td>
</tr>
<tr>
<td>A Great Deal</td>
<td>10</td>
<td>5.1</td>
</tr>
<tr>
<td>Total</td>
<td>196</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 4.48 Other Countries

Figure 4.31 and Table 4.48, indicates the involvement in other countries. The majority of respondents (63%; n=125; Mo=1) indicate “none/not at all.” The μ was 1.72 and SD was 1.17.
Table 4.49 indicates individuals self-reporting on the organizations where they are involved within their communities in response to the question “please indicate the organizations in which you were or are involved due to your LEAD experience.” Respondents could select all that applied.

The majority of respondents indicate involvement in agricultural related organizations. Church had the highest number of respondents at 57% (n=99) followed by the county level Farm Bureau at 48% (n=83), OSU Extension at 39% (n=68) and 4-H at 30% (n=53).

Respondents were asked to describe three ways that they have made a difference within their society or community as a result of their LEAD experience and 71% (n=136) report involvement primarily on their local community level with farm organizations, community service projects, non-profit and church activities. Respondents were invited to describe projects that they initiated or championed because their LEAD experience and 38% (n=75) indicated involvement with projects at a variety of community levels.
<table>
<thead>
<tr>
<th>Organization</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Church</td>
<td>99</td>
<td>57%</td>
</tr>
<tr>
<td>Farm Bureau - county level</td>
<td>83</td>
<td>48%</td>
</tr>
<tr>
<td>OSU Extension</td>
<td>68</td>
<td>39%</td>
</tr>
<tr>
<td>4-H</td>
<td>53</td>
<td>30%</td>
</tr>
<tr>
<td>Soil and Water</td>
<td>51</td>
<td>29%</td>
</tr>
<tr>
<td>FFA</td>
<td>42</td>
<td>24%</td>
</tr>
<tr>
<td>Commodity Group - Soybean</td>
<td>37</td>
<td>21%</td>
</tr>
<tr>
<td>Chamber of Commerce</td>
<td>36</td>
<td>21%</td>
</tr>
<tr>
<td>Commodity Group – Corn</td>
<td>34</td>
<td>20%</td>
</tr>
<tr>
<td>Farm Bureau - state level</td>
<td>32</td>
<td>18%</td>
</tr>
<tr>
<td>School - Athletics</td>
<td>25</td>
<td>14%</td>
</tr>
<tr>
<td>Commodity Group - Beef</td>
<td>19</td>
<td>11%</td>
</tr>
<tr>
<td>Rotary</td>
<td>12</td>
<td>7%</td>
</tr>
<tr>
<td>County Fair Board</td>
<td>12</td>
<td>7%</td>
</tr>
<tr>
<td>Boy Scouts</td>
<td>11</td>
<td>6%</td>
</tr>
<tr>
<td>School Board</td>
<td>11</td>
<td>6%</td>
</tr>
<tr>
<td>Commodity Group - Dairy</td>
<td>10</td>
<td>6%</td>
</tr>
<tr>
<td>Commodity Group - Pork</td>
<td>10</td>
<td>6%</td>
</tr>
<tr>
<td>Commodity Group - Fruit and Vegetable</td>
<td>9</td>
<td>5%</td>
</tr>
<tr>
<td>Farm Bureau - national level</td>
<td>8</td>
<td>5%</td>
</tr>
<tr>
<td>Women for Ohio Agriculture</td>
<td>8</td>
<td>5%</td>
</tr>
<tr>
<td>Commodity Group - Wheat</td>
<td>8</td>
<td>5%</td>
</tr>
<tr>
<td>School - PTA</td>
<td>8</td>
<td>5%</td>
</tr>
<tr>
<td>Jaycees</td>
<td>5</td>
<td>3%</td>
</tr>
<tr>
<td>Farmer’s Union</td>
<td>3</td>
<td>2%</td>
</tr>
<tr>
<td>Commodity Group - Poultry</td>
<td>2</td>
<td>1%</td>
</tr>
<tr>
<td>Commodity Group – Wine Producers</td>
<td>2</td>
<td>1%</td>
</tr>
<tr>
<td>Girl Scouts</td>
<td>2</td>
<td>1%</td>
</tr>
<tr>
<td>Sertoma</td>
<td>1</td>
<td>1%</td>
</tr>
<tr>
<td>Grange</td>
<td>1</td>
<td>1%</td>
</tr>
<tr>
<td>Other - miscellaneous</td>
<td>74</td>
<td>43%</td>
</tr>
</tbody>
</table>

Table 4.49 Community Involvement of Respondents
Multiple Regression

Research Question 4: Is there a statistically significant relationship between the socio-demographic characteristics of the participants and their involvement in leadership practices?

Linear regression was used to predict the individual, organizational and community outcomes when compared to the socioeconomic demographics. The predictor or independent variables were education, income, age, class, gender and location of residence. The criterion or dependent variables were individual, organizational and community outcomes.

Individual Level Multiple Regression

Table 4.50, Table 4.51 and Table 4.52 illustrate the summary of the individual level multiple regression against the six independent variables at the .05 level of significance. The variables were entered simultaneously into the model in SPSS. The summary of the multiple regression results for the individual level indicates there were no significant predictors in the model.

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
<th>Change Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>.161(a)</td>
<td>.026</td>
<td>-.005</td>
<td>8.61824</td>
<td>R Square Change</td>
</tr>
<tr>
<td>1</td>
<td>.026</td>
<td>.839</td>
<td>6</td>
<td>189</td>
<td>.541</td>
</tr>
</tbody>
</table>

a Predictors: (Constant), The area where I live is considered: was a member of LEAD Class:, What is your level of education?, My gender is:, What is your current income? My current age is:

Table 4.50 Individual Model Multiple Regression
**ANOVA(b) Individual Model**

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Regression</td>
<td>373.916</td>
<td>6</td>
<td>62.319</td>
<td>.839</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>14037.791</td>
<td>189</td>
<td>74.274</td>
<td>.541(a)</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>14411.707</td>
<td>195</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a Predictors: (Constant), The area where I live is considered: I was a member of LEAD Class:, What is your level of education? , My gender is:, What is your current income? My current age is:
b Dependent Variable: persoutcomes

Table 4.51 ANOVA for Individual Level

**Individual Outcomes Coefficients(a)**

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>Collinearity Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
</tr>
<tr>
<td>1 (Constant)</td>
<td>37.151</td>
<td>5.889</td>
<td>-</td>
</tr>
<tr>
<td>Education</td>
<td>-.599</td>
<td>.335</td>
<td>-.131</td>
</tr>
<tr>
<td>Income</td>
<td>.341</td>
<td>.508</td>
<td>.053</td>
</tr>
<tr>
<td>Class</td>
<td>-.036</td>
<td>.281</td>
<td>-.011</td>
</tr>
<tr>
<td>Gender</td>
<td>1.467</td>
<td>1.411</td>
<td>.076</td>
</tr>
<tr>
<td>Age</td>
<td>.524</td>
<td>1.014</td>
<td>.047</td>
</tr>
<tr>
<td>Area of Residence</td>
<td>.031</td>
<td>.580</td>
<td>.004</td>
</tr>
</tbody>
</table>

a Dependent Variable: persoutcomes

Table 4.52 Individual Level Coefficients
**Organization Level Multiple Regression**

Table 4.53, Table 4.54 and Table 4.55 illustrates the summary of the organization level multiple regression against the six independent variables at the .05 level of significance. The variables were entered simultaneously into the model in SPSS. The summary of the multiple regression results for the organization level shows that there were no significant predictors in this model.

### Organization Model Multiple Regression Summary

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
<th>Change Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>R Square Change</td>
</tr>
<tr>
<td>1</td>
<td>.164</td>
<td>.027</td>
<td>-.004</td>
<td>8.01542</td>
<td>.027 .866 189 .521</td>
</tr>
</tbody>
</table>

* a Predictors: (Constant), The area where I live is considered: I was a member of LEAD Class:; What is your level of education?; My gender is; What is your current income? My current age is:

#### Table 4.53 Organization Model Multiple Regression

### ANOVA(b) Organization Model

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Regression</td>
<td>333.790</td>
<td>6</td>
<td>55.632</td>
<td>.866</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>12142.679</td>
<td>189</td>
<td>64.247</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>12476.468</td>
<td>195</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* a Predictors: (Constant), The area where I live is considered: I was a member of LEAD Class:; What is your level of education?; My gender is; What is your current income? My current age is:

b Dependent Variable: busoutcomes

#### Table 4.54 ANOVA Organization Model
Table 4.55 Organization Outcomes Coefficients

**Community Level Multiple Regression**

Table 4.56 through Tables 4.60 illustrate the summary of the community level multiple regression against the six independent variables at the .05 level of significance. The variables were entered into the model using the stepwise method in SPSS. The summary of the multiple regression results for the community level shows that class membership exhibited a very low significance ($R^2 = .037; p<.05$). The predictor variable of class membership had a beta -.024, $t=-2.9$ at the $p=.05$ level.

<table>
<thead>
<tr>
<th>Model</th>
<th>B</th>
<th>Std. Error</th>
<th>Beta</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (Constant)</td>
<td>38.006</td>
<td>5.477</td>
<td></td>
<td>6.940</td>
<td>.000</td>
</tr>
<tr>
<td>Education</td>
<td>-.509</td>
<td>.311</td>
<td>-.120</td>
<td>-1.635</td>
<td>.104</td>
</tr>
<tr>
<td>Income</td>
<td>.136</td>
<td>.473</td>
<td>.023</td>
<td>.287</td>
<td>.774</td>
</tr>
<tr>
<td>Class Membership</td>
<td>-.211</td>
<td>.261</td>
<td>-.072</td>
<td>-.809</td>
<td>.419</td>
</tr>
<tr>
<td>Gender</td>
<td>.980</td>
<td>1.313</td>
<td>.055</td>
<td>.746</td>
<td>.456</td>
</tr>
<tr>
<td>Age</td>
<td>.424</td>
<td>.943</td>
<td>.041</td>
<td>.449</td>
<td>.654</td>
</tr>
<tr>
<td>Area of Residence</td>
<td>-.281</td>
<td>.539</td>
<td>-.038</td>
<td>-.521</td>
<td>.603</td>
</tr>
</tbody>
</table>

Table 4.56 Community Model Regression
ANOVA(b) Community Model

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Regression</td>
<td>275.861</td>
<td>1</td>
<td>275.861</td>
<td>8.454</td>
<td>.004(a)</td>
</tr>
<tr>
<td>Residual</td>
<td>6330.219</td>
<td>194</td>
<td>32.630</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>6606.080</td>
<td>195</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a Predictors: (Constant), I was a member of LEAD Class:
b Dependent Variable: commoutcomes

Table 4.57 ANOVA Community Model

Coefficients(a) for Community Model

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
<th>95% Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
<td>Lower Bound</td>
</tr>
<tr>
<td>1 (Consta nt) I was a member of LEAD Class:</td>
<td>24.320</td>
<td>.899</td>
<td></td>
<td>.000</td>
<td>22.546</td>
</tr>
<tr>
<td></td>
<td>-.436</td>
<td>.150</td>
<td>-.204</td>
<td>-.2908</td>
<td>.004</td>
</tr>
</tbody>
</table>

a Dependent Variable: commoutcomes

Table 4.58 Community Model Coefficients

Stepwise Community Model Summary

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square Change</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
<th>R Square</th>
<th>F Change</th>
<th>df1</th>
<th>df2</th>
<th>Sig. F Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.204(a)</td>
<td>.042</td>
<td>.037</td>
<td>5.71227</td>
<td>.042</td>
<td>8.454</td>
<td>1</td>
<td>194</td>
<td>.004</td>
</tr>
</tbody>
</table>

a Predictors: (Constant), I was a member of LEAD Class:

Table 4.59 Stepwise Community Model
### Table 4.60 Excluded Variables for Stepwise

<table>
<thead>
<tr>
<th>Model</th>
<th>Excluded Variable</th>
<th>Beta In</th>
<th>t</th>
<th>Sig.</th>
<th>Partial Correlation</th>
<th>Collinearity Statistics</th>
<th>Tolerance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>What is your level of education?</td>
<td>-.033(a)</td>
<td>-.472</td>
<td>.638</td>
<td>-.034</td>
<td>.993</td>
<td></td>
</tr>
<tr>
<td></td>
<td>What is your current income?</td>
<td>.146(a)</td>
<td>1.968</td>
<td>.051</td>
<td>.140</td>
<td>.888</td>
<td></td>
</tr>
<tr>
<td></td>
<td>My gender is:</td>
<td>.108(a)</td>
<td>1.527</td>
<td>.128</td>
<td>.109</td>
<td>.989</td>
<td></td>
</tr>
<tr>
<td></td>
<td>My current age is:</td>
<td>.115(a)</td>
<td>1.352</td>
<td>.178</td>
<td>.097</td>
<td>.678</td>
<td></td>
</tr>
<tr>
<td></td>
<td>The area where I live is considered:</td>
<td>-.033(a)</td>
<td>-.473</td>
<td>.637</td>
<td>-.034</td>
<td>1.000</td>
<td></td>
</tr>
</tbody>
</table>

### Notes:
- a Predictors in the Model: (Constant), I was a member of LEAD Class:
- b Dependent Variable: commoutcomes
CHAPTER 5

SUMMARY AND CONCLUSIONS

This chapter analyzes and summarizes the findings, as well as the implications of the study. Recommendations for further research are also presented.

The purpose of this study was two fold: to evaluate the outcomes of a statewide agricultural leadership program on the participants on several domain levels and to develop an instrument that effectively measures these outcomes. Descriptive statistics were presented to summarize the responses and the variables of individual level, organizational level and community level outcomes were tested against socio-demographic factors of education, gender, alumni class, and age and residence location. As applied to the alumni of this leadership program, results of this research concludes that the program has a positive impact on the levels of individual and organization. Less impact is detected on the community level, with the exception of cultural awareness. Furthermore, the instrument works in identifying leadership program outcomes. Ninety-four percent of the respondents indicate that this statewide agricultural leadership program should be continued and 86% indicate that they experienced a high level of change because of their program participation.
A survey instrument consisting of 23 items was developed (Appendix H). This instrument was intended to measure a leadership program’s domains of impact on the individual, organizational and community level, as described by the EvaluLEAD framework (Grove et al., 2005). The instrument that evolved was based upon the EvaluLEAD framework and focus group interviews. The instrument consisted of categorical questions, summated scale and open-ended questions. The instrument was designed to consist of three sections, individual level outcomes, organizational level outcomes and community level outcomes. The ratings included: none/not at all, a little, some, much and a great deal and were scored 1 through 5 respectively. The instrument was checked for face and content validity by a panel of experts comprised of directors of other statewide agricultural leadership programs and internal administrators familiar with the program.

A target population of 262 of the alumni cohort were either e-mailed a web-based survey or mailed a hard copy. The response rate for the survey was 196 for a return rate of 75%. The demographic data collected indicated that the majority of the respondents were male (72%), ages 40-59 (75%), earned $59,000 - $79,000 per year (52%), held a bachelors degree or higher (74%) and resided on a rural farm (51%).

The return sample indicated that all alumni classes responded and were represented. Betas were compared across all alumni levels and a slight difference was found in community outcomes between alumni classes. It was determined that the model indicates no differentiation due to education, age, alumni class, gender or area where the
respondent resides. Therefore, the model indicates no affect from socio-economic factors on individual and organizational outcomes.

The survey instrument gathered both quantitative and qualitative data and contained four main sections: Part one consisted of subscales focused on assessing the individual outcomes of the statewide agricultural leadership program on the respondents. Part two consisted of subscales developed to assess the organizational outcomes. Part three consisted of subscales to assess the community outcomes and part four gathered socio-demographic characteristics of the respondents. Items were developed based on the literature, focus groups and input from experienced researchers. The instrument had Cronbach’s alpha reliability estimates ranging from .79 to .92.

The preliminary qualitative analysis was conducted with focus groups. The data were used to identify categories from themes that emerged (Glesne, 1999) and to develop an instrument. The instrument also contained open-ended questions to determine patterns and trends and to further triangulate the data. These open-ended questions brought depth to the data and were used as a cross check for respondent bias. The idea being, that if a participant indicated change on the five point scale, change would be indicated in the open-ended responses.

The outcomes of this research triangulates with the literature. Social learning theory (Bandura, 1986, 1990) indicates that people select who they choose to interact with based upon their learned preferences and the environment in which they are involved. If expectancy of outcome influences a person’s behavior, those individuals in an agricultural leadership program should have the expectancy of success as a result of the
program. To apply the theory, this expectation should be found in the thoughts of the person and then transformed into self-action.

The EvaluLEAD framework (Grove et al., 2005) worked as a model of determining leadership program outcomes. The data collected indicates, that people in the position of learning as participants in leadership education, gain knowledge of themselves, improve in business, are active in the local community and are more aware of cultural differences. The improvement in cultural differences, is consistent with Bandura’s (1986) social learning theory which indicates that when people are exposed to people different than themselves, their attitude about others will change.

The items for participant, organization and community outcomes are reported by the mode, mean and standard deviation. Grove et al., (2005) state,

“evaluations of programs that aim to affect the lives of participants they serve have frequently been criticized for focusing on numbers and not on the people themselves – for counting bodies while missing souls, failing to capture the human drama and associated opportunities for affecting individuals in a profound ways.” (p.13)

Research Question One: What are the individual level outcomes of a statewide agricultural leadership program?

Individual level outcomes indicate that respondents were most affected by the program at the individual level. This finding is not surprising since Grove et al., (2005) indicate that most leadership programs should work at this level. The authors state, “the
individual domain is the space in which the most direct benefits of a leadership development program occur.” (p. 12)

Participants were asked to respond to 12 items dealing with how they as an individual have changed because of their agricultural leadership program experience. This section of the instrument was designed to measure the 12 variables of community involvement, self-confidence, creative thinking, business skills, and changed by LEAD experience, meet people, value of my time, value of my family, my growth, control, life changing events and power to make a difference.

Of the 12 items, none indicate “a great deal.” Seven scales reflect a “much” level of program outcomes amongst respondents: my growth (µ=3.91; SD=.86; mode=4); self-confidence (µ=3.58; SD=.91; mode=4); power to make a difference (µ=3.52; SD=1.02; mode=4); meet people (µ=3.51; SD=1.00; mode=4); value of my time (µ=3.50; SD=1.08;mode=4); business skills (µ=3.40; SD=.96; mode=4); and creative thinking (µ=3.40; SD=.92; mode=4). The remaining five items score at the “some” level: community involvement (µ=3.27; SD=.97; mode=3); value of my family (µ=3.21; SD=1.18; mode=3); life changing events (µ=2.95; SD=1.182; mode=3); control (µ=2.86; SD=1.07; mode=3); and changed by LEAD experience (µ=2.70; SD=1.09; mode=3). No items scored at the “a little” or “none” levels.

At the individual level, there are outcomes occurring in the respondents as a result of their program participation in the areas of personal growth, creative thinking, valuing of time, self-confidence, personal power, business skill building and modeling behaviors. Patterns that emerged on this level from the open-ended questions were increased
confidence, increased communications skills, better ability to network and more culturally aware. Social learning theory (Bandura, 1986) suggests that observation of a behavior is a strong influencer and has greater value than verbal instruction. Many positive leadership behaviors are modeled in statewide agricultural leadership programs as the participant is exposed to many different people and experiences.

Social learning theory states that a person internalizes a behavior based upon the degree to which the model is like oneself, the value of the activity and the level of control a person has over implementing the behavior all work together (Brown, 1999). Self-efficacy or self-confidence is developed from factors such as a person’s history of achievement; observation of others success and failures; the social comparison of one’s own performance to the performance of others especially peers; persuasion of others; and, one’s own physiological state (Brown). Brown points out that a self-motivated person is likely to work harder and give up less easily. Therefore, the respondents should and did indicate increased self-confidence and increased motivation.

Van Knippenberg et al. (2004) report that empowerment was positively related to collective efficacy and this related positively to the perceived effectiveness of the group. The leader’s confidence in their own qualities as a leader predicted group member efficacy. Self-esteem also is a factor in leader behaviors and leader effectiveness.

The strength of the individual outcomes varied according to the individual. All however, had some type of outcomes on the individual level from their program participation. Eighty-eight percent of the respondents described ways in which they personally changed due to their agricultural leadership program experience.
To cite a few other comments from respondents:

- I look at the world differently. I network with ag related people from all corners of the state. I am more active in state government and changing laws because of the LEAD experience.

- The LEAD program gave me a network of personal and professional contacts that I feel I can call upon at any time. Knowing that those connections are there, even if you don't see or talk to someone for several years, is a very valuable tool. Improved knowledge of a broad cross-section of agriculture production and agribusinesses, which gives me a big picture. But the experience also reminded me that there is a world outside of agriculture that impacts our industry, and we cannot build a future with ag-only blinders on.

- I have more confidence in sharing innovative ideas in a group setting. I am more confident in standing up for myself in personal and professional relationships. I realize the world is a big place and there is a lot to learn. The exposure to different cultures helped me to understand many local and world issues.

- My earning potential has tripled. I look more at the overall picture rather than my own little situation. My skills for analysis and problem solution get complemented often.

- LEAD broadened my horizon significantly. I was introduced to many ideas and realities that I would not have known otherwise. I am more worldly, and more grounded, than before.

- I learned that one person can make a difference. I learned the importance of being involved in my community. I learned that my opinion and business sense were more sought and respected that I had believed. I am more likely to speak up and out and get involved.

One surprising level emerged; several respondents indicated tensions in their relationship with their spouse as an outcome of the program. This result was uncovered in the area of the instrument where respondents were asked what decreased or worsened as a result of their LEAD experience. Twenty-four percent responded and several
indicated tensions with their spouse and/or time with their family or farm being affected by their program involvement. One person indicated, “marriage ended because I grew and my spouse would not.” Another stated, “there was tension at times with spouse. This is probably due to spouse's attitude and/or lack of interest.” Two others said,

- It is very painful to look back at the amount of stress and anxiety my wife had to deal with as a result of the time I was involved with the LEAD program. It was both constructive (improved awareness) and destructive (strained relationship) at the same time…If I had realized the burden my being in the LEAD program was to create for my wife I would not have participated. It was a great experience for me but "hell" for her. By the way, we just celebrated our 27th wedding anniversary.

- Inability to fully network with various class members due to insecurity of spouses. Some spouses seemed concerned that their husband/wife was experiencing things, making friends, and growing without them. Unfortunately, class members experiencing this challenge tend not to fully experience many benefits of the class. I had full family support, but I did witness of other class members who were not as fortunate.

Research Question Two: Does involvement in agricultural leadership programs positively affect the organizational behaviors of the participant?

The organizational domain according to Grove et al. (2005),

refers to agencies, departments, programs, teams, alliances or structured group of persons organized for a particular purpose where program participants and graduates are affiliated, and might be expected to apply their newly acquired leadership skills and perspectives…program associated results may occur within the “home” organizations of program participants and graduates or within outside organizations with which these individuals or their organizations interact. (p.13)

The organizational domain was designed to measure the participants outcomes on a sub-scale comprised of 11 variables. These were: network of contacts, networking skills,
facilitate change, respond to problems, problem-solving, decision making skills, confidence to compete, use of time, use of resources, professional organizations and change career.

Of the 11 items, none indicate “a great deal.” Five indicate a “much” level of program outcomes. These items are: network of contacts ($\mu=3.94; \text{SD}=.99; \text{mode}=4$); networking skills ($\mu=3.90; \text{SD}=.93; \text{mode}=4$); facilitate change ($\mu=3.86; \text{SD}=.84; \text{mode}=4$); problem-solving ($\mu=3.43; \text{SD}=.91; \text{mode}=4$); and respond to problems ($\mu=3.43; \text{SD}=.94; \text{mode}=4$). Six items scored on the “some” level: use of resources ($\mu=3.30; \text{SD}=.89; \text{mode}=3$); decision making skills ($\mu=3.28; \text{SD}=.94; \text{mode}=3$); use of time ($\mu=3.17; \text{SD}=.97; \text{mode}=3$); confidence to compete ($\mu=3.16; \text{SD}=1.17; \text{mode}=3$); and professional organizations ($\mu=3.11; \text{SD}=1.06; \text{mode}=3$). Change career scored “a little” from respondents ($\mu=2.69; \text{SD}=1.23; \text{mode}=2$). No items scored “none.”

The relationship of these variables to self-efficacy indicates the influence of group situations where the social comparison of one’s own performance to that of their peers and the persuasion of others leads to greater self-efficacy (Brown, 1999). The increased self-efficacy relates to increased self-motivation (Brown, 1999). This then relates to career choice, job attitude, learning and achievement, training proficiency, task persistence and goal-directed behaviors and self efficacy is related to important organizational outcomes (Van Kippenberg et al., 2004). In evaluating organizational
level outcomes, Grove et al. (2005, p. 13) note that individuals “may have license to
initiate changes on their own or they may first need to build support and constituencies
for their ideas.”

On the organizational level, respondents report in the open-ended questions
improvement in networking, improved understanding of the “big picture,” better
communications skills in business and improved management skills. Eighty percent of
the respondents described ways that they improved on a professional, organizational or
business level due to their agricultural leadership program experience. To mention a few:

- Increased my networking contacts. Have a better understanding of
  how the government agencies work and how to work with them.
  Learned not to sweat the little stuff.

- Speaking before a group of my peers. I am more willing to make
difficult decisions. I am more willing to view events from a broader
  perspective

- More readily accept/adapt to change - Look at issues with more
  objectivity - Greater sense of confidence in my leadership abilities.

- I can participate in and conduct meetings more effectively. I have
  more business and professional contacts. I have a better understanding
  of the organizational structure of many groups.

- I more clearly realize the value of my input and leadership in the
  agriculture and conservation arena. Participation in the LEAD
  program caused me to prioritize my workload, a long overdue task. I
  feel more confident when bringing up innovative ideas in a group
  setting.

- Learned to think globally, place more importance on customer needs,
  and consider non-traditional solutions.

- I have learned to look at both sides of issues before making a
decision. I am not intimidated to get up in front of a group of people
  and talk. The networking that I have done has increased.
• I approach associates with more confidence [now] that I have valuable resources and information to share. I have greatly improved as a facilitator and manager of conflict. I approach business decisions with a greater focus and realization that there is more than one way to get things done.

• More of a leader/cutting edge farmer. More high tech. More open to new ideas. Able to convince others of new ideas.

Regarding how respondents answered the question: As a result of their agricultural leadership program experience did you change careers? Eighty-four percent of the respondents said no. However, those saying yes (17%) indicated minor changes within their field of expertise to major transformational changes. Samplings of comments are noted below.

• I wasn't planning on leaving the agricultural industry, but a shrinking ag base forced my company into merger. LEAD gave me the courage and self confidence to consider a mid-life job change that has now turned out to be a wonderful change. It is not by chance, that some of my best clients with the deepest relationships are farmers and their families.

• I still farm 1400 acres, but I have become a county commissioner.

• I started a Precision Ag Consulting and Equipment Sales. The first 6 months are now complete and I have had a little over $300,000 in sales during that period.

• Although still with USDA, I jumped from a county position to a national federal position and expanded my duties to federal farm bill policy and national environmental policy, with a number of international policy assignments including the FAO international agricultural water policy.

The open-ended questions in the organizational domain asked respondents to describe their occupations and their specific roles and responsibilities. These ranged
from involvement in the family farming operation to owner/CEO of large companies.

Several of the responses are noted below:

- CEO of a major dairy marketing cooperative. Oversight responsibility for a $750 million business that includes: milk marketing; milk hauling; milk processing; feed mill; and dairy supply services.

- Owner of a business that sells and installs precision ag equipment, like yield monitors, GPS guidance products and auto steer systems. I also will grid soil sample customers fields and make Variable Rate Prescriptions so they can apply fertilizer and lime on a site specific basis. I am also co-owner and co-founder of C.O.R.N Inc. a company created by six farmers and myself that provides RTK GPS Correction Signals to a two and a half county area. This makes it cheaper for people to get involved with auto steer while generating some income for the owners of the network to help reduce the price of their base stations that they own to provide themselves with RTK signal. It was a great feeling getting this group to work together for a common good.

- General manager in a nursery, with retail and wholesale venues. Train employees, payroll, advertising and publicity responsibilities, and inventory control.

- I am a branch manager of an agricultural lending organization. I am charged with working with most of the larger accounts in the office and with the supervision of an office staff of 3 three others involved with the lending function. I am also the supervisor of another department of the lending institution that deals with crop insurance. I have been a sounding board for a number of initiatives undertaken by the organization prior to their implementation to help ensure their accuracy and efficiency.

- Although I am currently disabled, I have shared managerial responsibilities with my brother in operating grain elevators. Our family business is over 100 years old.

- I work as an investment representative. I serve individual investors, small business owners (many of them farmers), and non-profit groups with retirement plans, estate planning, and security investments. My business is running 100% on referrals of satisfied
clients. My business has been successful because of self
determination, a hard work ethic learned in the agricultural industry,
and the ability to listen to what my clients needs are. I build strong
caring relationships and treat people as I would want to be treated. I
enjoy helping others.

- Owner and CEO of an expanding national level consulting firm for
  the past four years. Entrepreneur, manager, Web master, and
  technical/production guy when necessary.

- Natural resource manager, I am a mid-level manager for a federal
  agency and my role is to place employees in the right places to
  address the field office workload and supply them with the
  appropriate resources, and to ensure that program goals are
  accomplished.

- I currently work as the human resources focal point serving 29
  counties in West Central Ohio. My HRD job duties include staff
  training, fiscal accountability, employee benefits, newsletter
  generation, promotion & tenure, performance appraisals, and
  legislative affairs. My duties are diverse in nature and enable me to
  serve a wide audience of colleagues, clientele, and legislators.

- Own and operate a retail garden center. I am the general manager
  and grower.

- Grain and dairy farmer, college swim coach, township trustee.

- Director, of a small business development center... providing
  individual confidential counseling and training programs to improve
  skills and knowledge of new or existing small business
  owners/managers.

- President/CEO. Manage an agribusiness that is one of the top five in
  the state. We have more than doubled in size in the last 10 years and
  set record earnings and sales records the last two years in row.

- I am the director of three county organizations. Work daily with
  volunteers and leadership organizing and planning events and
  business opportunities.

- I co-own a production/retail fruit and vegetable business. Business
  management, financial accounting, human resources, payroll, etc.
etc. is all done "in House" on a shared basis with my spouse 50/50. We multi-task all aspects of a small business.

- As a national program leader in USDA, I manage over $10 million in federal grants in water and agricultural, environmental issues and provide substantial input and analysis for federal farm bill and EPA agricultural/environmental policies. I work with universities in all 50 states plus US territories, tribal colleges, and historically African American and Hispanic colleges to implement research, extension and teaching programs.

- How does one begin to explain when involved in a first generation family farm that has grown to be in the top three percent in the country? I've been blessed to farm with my brother who is equally talented if not far exceeding me. By being a team, we both succeed at farming, family and community. These are no specific roles and responsibilities when you are jack of all trades and master of none.

*Research Question Three: Do participants of agricultural leadership programs exhibit increased community involvement?*

The community domain refers to neighborhoods, communities or sectors of society to which the influences of participants may extend (Grove et al., 2005). The community level items were designed to measure how participation in the community changed after the statewide agricultural leadership program experience. The section consisted of eight subscales intended to measure: cultural differences, value of my time, reduced commitment, local organizations, community organizations, state level, national level, and other countries.

Of the eight items measured in this section, none indicate “a great deal.” One was at the “much” level, cultural differences ($\mu=3.98; \text{SD}=1.0; \text{mode}=4$). Four items were at the “some” level: value of time ($\mu=3.15; \text{SD}=1.02; \text{mode}=3$); local organizations
(\(\mu=2.99; \ SD=1.09; \ mode=3\)); community organizations (\(\mu=2.91; \ SD=1.12; \ mode=3\)); and reduced commitment (\(\mu=2.68; \ SD=1.22; \ mode=3\)). Three items showed low scores of “none”: state level (\(\mu=2.51; \ SD=1.28; \ mode=1\)); national level (\(\mu=2.05; \ SD=1.25; \ mode=1\)); and other countries (\(\mu=1.72; \ SD=1.17; \ mode=1\)).

The community outcome section had lower reports of participant change than the other two areas of individual and organization. These results were consistent with expected leadership program outcomes (Grove et al., 2005). Respondents not reporting involvement in the community area indicate that they decided to cut back on their involvement either due to family or business considerations. This correlates with the individual level scale where 60% of those responding indicate that they are much more aware of the value of their time. Several respondents noted that they now pick and choose where they become involved and that they have learned to say no to those requesting their time. Another person said, “I became less involved - mostly because I was burnt out after the two years and some major family crisis happened during my LEAD experience. I am currently involved in church/faith related activities, but am still way less involved than before LEAD.”

Another factor could be that a higher number of respondents were from the later classes (2001-2005) and they have not yet become as active in their community. There was a small statistically significant correlation in the multiple regression between class and outcomes. The most unexpected occurrence at the community level is the very high number of respondents (75%) who indicate their appreciation for cultural diversity and their awareness of cultural diversity changed.
Kathy Lechman, Leader for Diversity Development at Ohio State University Extension interprets this result, “as a good thing because the result tells me that the participants were exposed to those cultures they had not been exposed to before and the increased understanding of cultures may have helped the participants to look at things differently” (Lechman, personal communication, February, 9, 2006). Since we hear about how the world is changing to a more global environment and those in agriculture should be prepared for global competition this seems to be an important program outcome.

The responses to the open-ended community level involvement did not correspond with the Likert-scale answers. Fifty-seven percent responded being involved with their church and 47% reported being involved with their local Farm Bureau. Other patterns in the community level of involvement are that the respondents are not very political and they are more involved with agricultural organizations. Those responding indicating working on the local and community levels (45%) because of their involvement with the program are:

- We started a new youth center and I serve as a board member. This is very much needed in our community. I revived a small town Chamber of Commerce when the group had almost dissipated. Have been instrumental in moving the business and village goals toward economic development, fostering cooperation to work toward common goals. I feel a sense of pride returning to the community.

- Gave more than 50 presentations on cultural diversity and the human condition after completing International trip. Became a lay minister and filled pulpits in many locations speaking on our calling to reach out to one another. Wrote numerous educational articles about agriculture and rural living for an urban audience.
• LEAD made me a more effective communicator LEAD made me more aware of resources available on a state and regional level that can help organizations in my community or serve as a model for my community. I have provided better leadership to those organizations where I was previously serving.

• I am more respectful of people from different socio-economic or cultural backgrounds. Small communities must work together because of their daily interaction. For the most part, regardless of where someone lives, success, family and religion are the mainstay to one's being and peace.

To further triangulate the data, respondents were asked to self-report what new community projects they championed because of their leadership program experience with 40% indicating they championed community projects. These projects ranged from smaller community projects to large international projects. Several are noted below.

• It is hard to think back to what was before and what was after LEAD but I became involved with the Farm Bureau after LEAD since FB is such a supporter of LEAD. I continue to look how Agriculture needs to be connected with the community since we are growing so fast.

• My wife and I are currently giving talks aimed at educating the public on stem cell research and have been active in legislation at both the national and state levels.

• Started a new technology quilting in another country for export and sales to tourists. Improved technology of cheese factories organized a demonstration garden to teach mulching, pruning and tying technologies.

• I organized a habitat for humanities build for our employees. Our experience in Athens, Ohio will always remind me of those in need of basic food and shelter.

• I was involved as President of an ethanol project which was an early effort to bring an ethanol facility to Ohio in 2001.

• I helped start the most popular Internet agricultural discussion group.

• Generated several county applicants for Clean Ohio fund dollar applications. Took the lead with new county commissioner to initiate new county agricultural center project.
• Initiated new zoning regulations in my township. Initiated and co-chaired joint comprehensive plan between village and township {first in Ohio}, also procured funding for project.

• The efforts to permanently preserve farmland. I was a major contributor at both local and state levels to develop and implement these programs and continue to work on this issue locally.

• Reorganized our Chamber of Commerce. Formed Economic Development committee with business and village leaders. As Kiwanis Club President, we have grown members by 20% and increased our revenue base which allows us to give more back to the community. Working with a private group to raise capital for a new track and field and performing arts center at our local High School.

• Helped start (county) Premium Grain Growers. An LLC company that is made up of 28 farmers to pool resources and market specialty crops.

• Due to my role a new project has just been put in place at OSU regarding family violence.

• I will soon begin managing my church’s website where I hope to link to local organizations that need volunteers. I hope to list volunteering opportunities at all levels of participation that someone could see where they could make the most difference.

• I gained the confidence to work in an inner city setting to understand the housing, food, crime, and cultural issues facing those communities.

• The efforts to permanently preserve farmland. I was a major contributor at both local and state levels to develop and implement these programs and continue to work on this issue locally.

• I was involved with the sister city organization and was on the team that went to our sister city where I was chosen to sign the official document.

Seventy percent of the alumni describe in detail their involvement in organizations on the local, state and national level and 70% hold offices in these organizations. They range in participation in the national Ohio Agri-Women, to producer cooperatives and the
producer investment organization. Twenty percent report elected or governmental positions. From those reporting, the positions held are primarily on the local level such as: county commissioners, township trustees, zoning boards and local soil and water conservation district boards (SWCD). One person reports that she was the first woman elected to a local SWCD board and first woman elected president of the board. Notably lacking is anyone reporting holding the offices of representative or senator.

Kelsey and Wall (2003) focused on the question: Do agricultural leadership programs produce community leaders? Did the agricultural leadership program contribute to developing leaders for rural community development and did the participants take an active role in improving their communities after completion of the program. The survey responses in the Kelsey and Wall (2003) study showed that the participants believed they were change agents in their communities. However, the focus group evidence did not support the data (Kelsey & Wall, 2003). This research was conducted with eight extreme cases and it could be argued that eight cases were not enough to come to the conclusion that the program did not work.

In this study of statewide agricultural leadership programs, the focus group results and the open-ended survey questions, indicate that program graduates are involved in their communities and many do act as change agents. In fact, respondent’s are more conservative in their answers on the Likert type scale questions indicating the “some” response and then indicating growth in the open-ended questions.

For example, in response to the question, “please indicate how you have made a difference in your society or community as a result of the LEAD program,” 66% feel that
they did something to make a difference. In response to the question “please describe any community projects that you have initiated or championed because of your experience in the Ohio LEAD program,” 40% of the respondents indicated championing community projects.

This seemed to the researcher to be a paradox since their answers, though short, seemed to be occurring at a much higher level in regards to the open-ended responses than those chosen in the Likert scale. However, it is still important to note that not all of the respondents are involved in the area of community and the instrument gathers the self-perception of the respondent.

The organizational level outcomes indicate that once again all of the participants exhibited change due to their leadership program experience. The amount of change once again varied by the participant.

**Research Question Four: Is there a statistically significant relationship between the socio-demographic characteristics of the participants and their involvement in leadership practices?**

No statistically significant relationship could be found when regressed against the socio-demographic variables on the individual and organizational levels. A very slight relationship was found between which alumni class the participant was a member of and program outcomes.

Multiple regression indicates a small variability regarding LEAD class as a predictor variable. The model does not predict time and the low variability in the LEAD classes
may be a function of not having enough time to fully put into effect the program’s impacts because of the larger percentage of respondents from classes 9 and 10, which took place from the year’s 2001 to 2005.

It should be noted that Kaplowitz et al. (2004) found that younger respondents had a statistically higher response rate than older respondents on web-based surveys. In this research, classes nine and ten had the highest response rates and the majority were in the lower age range of 30-49 years of age. This could also account for the slight change in the dependent variable regarding class affiliation on the multiple regression analysis.

Research Question Five: Can an effective instrument be developed to evaluate statewide agricultural leadership programs?

Judging from the responses to the questions and by reviewing the data gathered, an effective instrument can be developed to measure statewide agricultural leadership programs. A retrospective survey design seems to work best for leadership program research if it is coupled with open-ended questions to further triangulate the data. Reliability statistics indicate that the instrument is highly reliable and valid. Face and content validity was determined by expert judges. External validity is controlled because this study is only valid to the population of this statewide agricultural leadership program. Threats to internal validity could be history and were controlled by asking open-ended questions to further triangulate the data. Respondents tend to be more conservative on the Likert scale questions than biased toward “glamorization” of the program. Also, it
was not detected that people tend to self-report a rather positive bias of program’s that they support as suggested by Kelsey and Wall (2003).

Finally, Nassar-McMillan and Borders (2002) point out volunteers may not be particularly committed to the concepts of the research and therefore may be reluctant to become involved. This may have happened in this research. One comment from a respondent indicated a disdain for the process.

Implications

Carter and Rudd (2000) state that participants must understand the larger aspects of society before they can be effective in dealing with agricultural issues. Carter and Rudd (2000) note the common goals of statewide agricultural leadership program are: the development of personal skills, networking, developing effective spokespersons and developing future civic and organizational leaders. The two primary goals of statewide agricultural leadership programs evolve to first develop leadership skills in the participants and secondly to enhance their knowledge on topics (Carter and Rudd, 2000).

Agricultural leadership programs most often increase leadership skills, increase confidence, increase involvement in volunteer activities and increase networking for the participants (Carter & Rudd, 2000). Carter and Rudd (2000) point out that the results of many leadership programs may be unknown because of the lack of detailed evaluations and that many changes participants experience are not revealed until after the program’s completion.
The first implication of this study can be applied to state, national and international agricultural leadership programs. An instrument has been developed that can effectively measure the outcomes of statewide agricultural leadership program on three domains after the participant leaves the program. The instrument that has resulted from the application of the EvaluLEAD framework will help us to reach a better understanding of statewide agricultural leadership programs. At the very least we are offered a basic understanding of programmatic results on several levels after the participant leaves the program. This is good news for program directors, stakeholders, funders and others who have long lamented the lack of an effective measurement tool.

The instrument has indicated high reliability with no affect from socio-economic factors. This is important because the impacts of the program were not confined to a particular group of individuals, who were older or younger; male or female; or from a particular region. Granted, the instrument still needs to be tested with other statewide agricultural leadership programs; however it produces effective retrospective program results.

The further implications of this study are best clarified through the lens of the Ohio LEAD program’s revised goals (November, 2005). Two of the program’s goals are to develop and enhance leadership capacities and to build self-confidence. One approach is to evaluate the leadership capacities through the Rost (1993, p. 102) concept of leadership as, “an influence relationship among leaders and follower who intend real changes that reflect their mutual purposes.” The Rost model (Figure 2.2) illustrates leadership as having four elements: a relationship based on influence, leaders and
followers in relationship, and real changes occurring with a mutual purpose. The results of this study reflect Rost’s concepts by indicating that outcomes are being achieved in terms of relationships where one another’s personal growth is occurring and in terms of real change occurring.

Individual growth and change occurs, as well as self-confidence and the knowledge that the individual has the power to make a difference. If the levels of a little, some, and much on the Likert scale of the instrument are interpreted to seldom, infrequently and regularly respectively then respondents are reporting outcomes occurring on the personal and organization level on a regular basis.

People create new social structures which open them up to new modeling and experiences for learning (Bandura, 1986). Networking occurs with others and business skills are honed. This study has found that these results are positive providing we define the leadership capacities that we expect from the participants after completing the program. Regarding, the self-confidence goal, respondent’s report a strong improvement on the self-confidence items on several of the outcome scales. This result is strongly positive.

Two other program goals are to evaluate issues, diversity, challenges of urban and rural communities, and to increase understanding of important global issues and their impact on communities. The respondents report exposure to new ideas and concepts led to their growth. They also report an increase in appreciation of cultural differences, which meets the diversity area. Not much data has been collected on the participant’s ability to evaluate these issues. Issues based programming is occurring, however, this
outcome has not been effectively measured. Nor can an assumption be made concerning the impact that the participants are having on their communities. The data indicates community involvement and some participants report community transformations. However, more probing in this area needs to be done to receive a true picture of the outcomes.

One more goal is to inspire vision and action within organizations, communities, and the political arena. Though the community outcomes section of the instrument did not show much to a great deal of activity in this area on the higher end of the scale it is important to look a bit further to tease out the data due to the incongruity of the responses. On the open-ended question, 72% of the respondents indicate being involved in some manner in their community as a volunteer. Additionally, 58% report holding positions on boards of directors elevating them to the level of an opinion leader within their communities. In the political area, only 23% report having elected or governmental positions. If a goal of this program is to increase political activity, then an effort must be made to mold political office holders. If the goal is to increase civic awareness and consciousness, the focus groups and answers to the open-ended questions indicate this is occurring.

An additional program goal is expanding personal and professional networks. The respondents indicate this is occurring by the higher response levels to networking contacts and how exposure to others led to growth.

A final goal is to examine personal ideas, assumptions, beliefs and values. Eighty-six percent of the respondents (n=166) report being changed by the program.
Respondent’s state that their exposure to other people and ideas help to facilitate change. Since 60% of those reporting are rural residents and 19% are small town residents it is noteworthy that an appreciation for cultural differences was expressed.

To summarize the implications of this study, a baseline evaluation now exists that will allow the program decision maker, funders and stakeholders to determine improvements to the program, make changes and to discuss the outcomes.

**Recommendations**

Regarding this statewide agricultural leadership program perhaps one of the respondents best sums it up, “The LEAD experience is a part of who I am today. No direct cause and effect, but I use concepts and ideas that originated from LEAD involvement.” In this study, the objective was to try to gain an understanding of the program’s outcomes because no evaluation information existed. We are now underway in our understanding of agricultural leadership program outcomes. However, much more needs to be accomplished:

1) Replication of this research with other statewide agricultural leadership programs and compare the results between programs. This would test how the instrument fares and determine if similar results are being detected between programs.
2) The conceptual EvaluLEAD model (Figure 2.4) can be applied to this and other statewide agricultural leadership programs to assist in program evaluation.

3) Expand this research to stakeholders and employers of program alumni to determine their expectations and detect levels of change. Hannum and Martineau (2004) recommend the participatory approach to evaluation. This would be the next step. Therefore, it would be useful to conduct a focus group of the stakeholders of the program to identify their priorities and changes in behavior, relationships, activities, or actions that the program is expected to bring about (Grove et. al, 2005).

4) Based upon the research findings reported in this study, determine if programmatic changes need to be made to this statewide agricultural leadership program. For example, questions could be added to measure the level of learning by the participants about the issues and to report how they have applied their learning in their community.

5) Determine if the attitude scale should be changed and some of the questions combine or rephrased to collapse some of the questions.


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APPENDICES

LIST OF APPENDICES

A. Focus Group Calling script
B. Focus group questions
C. Sign-In Sheet for Focus Groups
D. Judges survey instrument
E. Pre-Survey Letter to Alumni
F. Follow-up Letter
G. Follow-up Postcard
H. Survey instrument
Hello, I am Alice Black, Director of the Ohio LEAD Program at The Ohio State University. I am conducting focus group discussions with our program alumni and stakeholders to determine the outcomes of the Ohio LEAD Program.

I would like to invite you to take part in a two hour focus group on date from time to time.

Our discussion will be made up of 7-9 other alumni and will focus on your experience after completing the Ohio LEAD Program. Your input will be kept completely confidential and your name will not be associated with your comments about the program. Your participation is completely voluntary. During the focus group, you can refuse to answer any questions that you do not wish to and you may withdrawal from participation at any time without any problem.

Will you be able to attend?

If No: Thank you for your time.

If Yes: Thank you very much. If for any reason you cannot attend, please call me at 614-292-4650. I will be sending you a letter confirming the date and time of your attendance. I also want to let you know that our discussion will be audio-taped only for analysis purposes and it will be kept completely confidential.

Do you have any questions?

Thank you for your time and for your input. I look forward to seeing you.

The Ohio State University
Jim Connors, principal investigator
Alice Black, co-investigator
Contact: 614-292-4650
APPENDIX B

FOCUS GROUP INTERVIEW QUESTIONS

Objectives:

[1] To collect information about the outcomes of the Ohio LEAD program
[2] To determine the effect the Ohio LEAD program had on the leadership
development of the past participants on an individual, organizational and society
level.

Opening Statement for Interviews:

Welcome. Once again thank you for agreeing to participate in this small group
discussion. I am Alice Black and assisting me today is Tari Marcou. Thank you for
completing the consent and demographic data forms. Please turn off any cell phones or
pagers for the duration of our discussion.

We want to collect information that will help us improve the Ohio LEAD program. As
someone who has been in the program, you are in a unique position to help us think about
potential improvements. We are interested in your experiences with the program and
your thoughts about your experiences, and your ideas are most valuable to us.

We are conducting at least three of these small group discussions. We will be on a first
name basis. We are tape recording our session because we do not want to miss any
important comments. Even though we will use actual quotations in our final reporting, at
no time during any of the analysis or reporting will we associate a name with a direct
quote, and therefore, so far as a group discussion can provide, we assure
confidentiality. There are no right or wrong answers, and you are free to leave at any
time. Both negative and positive comments are encouraged, sometimes we learn a great
deal from the negative comments.

I am going to ask the first question different from the remaining questions. I will ask the
first question, then pause for a few moments. Then, I will start somewhere around the
table, and then go around the table, giving EVERYONE the opportunity to respond.
After the first question, any one may respond to any part of the discussion at any time. Let’s begin:

[1] Describe the current leadership positions that you hold?
*Sub-question:* Are there any other leadership positions that you hold that have not been mentioned?

[2] What do you think it takes to make a good leader?

[3] Tell us about the way your life has been different now that you have completed the Ohio LEAD Program?

[4] What are some of the changes that you have seen in yourself as a result of LEAD?
*Sub-questions:* What did you learn about yourself during the Ohio LEAD Program?
How did you change as a result of the LEAD program?

[5] How have you personally benefited by your LEAD program participation?
*Sub-questions:* How have you used what you gained from the program to make decisions?

[6] What influence have you had in your job/farm or organization after the Lead Program?
*Sub-question:* Did you implement new projects or programs or perhaps you changed direction?

[7] How did you have an impact on the larger community of food, agriculture or the environment after the program?
*Sub-question:* How have you worked in your community after the program?
Have you been involved in any activities, programs, offices, if so how?

[8] Describe any significant life changes or transformations since your involvement in LEAD?
*Sub question:* Some similar leadership programs have indicated that significant life changes, such as marriage or divorce, or totally different paths have occurred as a result of this program. How do you feel about this?

[9] Suppose you had one minute to talk to the Governor about the Ohio LEAD Program, what would you say?

[10] Considering all of the things that we have talked about, is there anything else that you would like to add to our discussion about the LEAD Program?
APPENDIX C

SIGN-IN SHEET FOR FOCUS GROUPS

Ohio LEAD Focus Group Demographic Data Form

Name ______________________________________________________

County of Residence ___________________________________________

I was a member of LEAD Class _____________         Age___________

Occupation____________________________________________________

Education_____________________________________________________

Briefly Explain the Highlights of your class  For example, the location for class trip, in-
state educational experiences etc.

Do you remember your Briggs Type Personality indicator (Circle one.)

<table>
<thead>
<tr>
<th>INTJ</th>
<th>INFJ</th>
<th>INTP</th>
<th>ISTP</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISTJ</td>
<td>ISFJ</td>
<td>INFP</td>
<td>ISFP</td>
</tr>
<tr>
<td>INTP</td>
<td>ENFP</td>
<td>ENTJ</td>
<td>ESTJ</td>
</tr>
<tr>
<td>ESTP</td>
<td>INFP</td>
<td>ENFJ</td>
<td>ESFJ</td>
</tr>
</tbody>
</table>

Don’t Remember

What is your current income? (Circle one.)

a) Below $ 25,000
b) $ 25,000 - 39,999
c) $ 40,000 - 59,999
d) $ 60,000 - 79,999
e) $ 80,000 - 99,999
f) $ 100,000 - 200,000
g) $ 200,000 +
APPENDIX E

PRE-SURVEY LETTER TO ALUMNI

Dear :  

Happy Holidays!! Can you believe that it has been 20 years since the founding of the Ohio LEAD program? We have begun our 11th class and we do not have any research information to show what effects, if any, there have been with our alumni. We now need your help in determining the outcomes of the Ohio LEAD Program.

As part of my dissertation research, a survey has been developed to determine the outcomes of the Ohio LEAD program on a personal, business and community level. This survey was written after meeting with three alumni focus groups and conducting research into the outcomes of leadership development programs.

In the next few days, you will be receiving a 23 question survey by e-mail or by mail. If we have a current e-mail address for you on file, you will receive the survey by e-mail from black.298@osu.edu with a web link to a Zoomerang site for completion. If you do not have a current e-mail on file with us, you will receive a paper copy and a return address envelope.

Your responses will be kept strictly confidential. The on-line survey is sent to another office and the results of this survey will serve to help us identify what outcomes the Ohio LEAD program is producing among alumni. You will never be identified individually. Mailed surveys and e-mailed surveys are coded to statistically evaluate response rate and outcomes. The results will only be published as group data i.e. averages statistical deviation, etc. We must follow-up on non-responses with phone calls, so please complete the survey! The more alumni that complete the survey the better our statistical picture and the more understanding we will gain about the program.

To thank you for your participation in advance, we have included a “pop” on us. Please complete the survey by December 25th!!

If you have any questions, or do not receive a survey, please contact me at 614-292-4650 or at black.298@osu.edu.

Wishing you a joyous holiday season,

Alice Black
Director, Ohio LEAD Program
APPENDIX F

FOLLOW UP LETTER TO ALUMNI

Dear:

We have not heard from you regarding the Ohio LEAD alumni survey! Your response is critical to our data collection. Just in case you did not receive the web-based survey, enclosed is the print version and a stamped self-addressed return envelope.

Your responses will be kept strictly confidential. Surveys are returned to the OSU Leadership Center and you will not be identified individually. They are coded to statistically evaluate response rate and outcomes.

If you do not wish to complete the survey, simply write on it “do not wish to complete” and send it back to us.

Thank you for assisting us in our attempts to determine the outcomes of the Ohio LEAD Program. Your efforts on our behalf are very much appreciated.

Sincerely,

Alice Black
Director, Ohio LEAD Program
REMINDER
If you have already completed the survey for the Ohio LEAD program - Thank You!

If not, please complete the survey as soon as possible. We count on your responses to help us in our effort. Without your responses, we cannot make the comparisons that we need to help us determine the outcomes of the Ohio LEAD Program.

If you need a survey, or the web link sent to you, please call us at 614-292-4650 or e-mail black.298@osu.edu and we will send you another.

Thank you for your help!!

Dr. Keith Smith
Associate Vice President
OSU Extension
2120 Fyffe Road, Columbus, Ohio 43210
APPENDIX H

SURVEY INSTRUMENT

Instructions:

The following items deal with your LEAD experience on a personal level. For each item please indicate how you as an individual have changed because of your LEAD experience.

<table>
<thead>
<tr>
<th>1</th>
<th>None/Not at all</th>
<th>2</th>
<th>A Little</th>
<th>3</th>
<th>Some</th>
<th>4</th>
<th>Much</th>
<th>5</th>
<th>A Great Deal</th>
</tr>
</thead>
</table>

My community involvement increased

I improved in self-confidence

I improved in creative thinking
I improved my business skills

People describe me as being changed by my LEAD experience

I was able to meet people whose success I could imitate

I increased my awareness of the value of my time

I learned the value of my family because of my LEAD experience

Exposure to new ideas and concepts led to my growth

I learned I do not have to be in control

My LEAD experience began a series of life changing events for me

LEAD helped me to realize that I have the power to make a difference

Briefly describe three ways you have personally changed because of your LEAD experience:
What is your level of education?

As a result of your LEAD experience, did you decide to pursue further formal education? If so, what degree/certification did you receive?

Instructions:

The following items deal with your experience with LEAD on a business/organizational level. Please indicate how you or your business professionally changed because of your LEAD experience.


I improved my business/organizational decision making skills

1  2  3  4  5

I improved my networking skills

1  2  3  4  5

I am able to respond to problems and situations more effectively

188
I became more innovative in my approach to problem-solving

I learned to make more efficient use of my time

The exposure to other people and ideas helped facilitate change

I became more involved in professional organizations

I became more efficient in my use of resources

My LEAD experience helped me to change the direction of my business/career

I developed the confidence to compete on a different level in business/career

LEAD helped me to build a better network of contacts

Briefly describe three ways you have improved on a professional, organizational or business level because of your LEAD experience:
7

As a result of the LEAD Program experience did you change careers?

[YES] [NO]

If your answer is YES, please describe the career change you made:

________________________________________________________________________

8

Please describe your occupation, including your specific roles and responsibilities:

________________________________________________________________________

9

Instructions:

The following items deal with your LEAD experience on a community level. Please indicate how your participation in the community changed after your LEAD experience.

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>None/Not at all</td>
<td>A Little</td>
<td>Some</td>
<td>Much</td>
<td>A Great Deal</td>
</tr>
</tbody>
</table>

My LEAD experience helped to increase my involvement in local organizations

I became involved with groups on a state level because of LEAD

I became involved with groups on a national level because of LEAD

I became involved with activities in other countries after my LEAD experience

I increased my awareness of the value of my time

Due to my LEAD participation, I increased my involvement with community organizations

I reduced my commitment to some organizations to be more effective in other organizations

My appreciation of cultural differences increased due to my LEAD experience

10

Briefly describe three ways you have made a difference within your society or community because of your LEAD experience:
11. Please describe any community projects that you have initiated or championed because of your experience in the Ohio LEAD program:

[Blank space for text]

12. Please indicate the organizations in which you were or are involved due to your LEAD experience: (Select all that apply.)

- OSU Extension
- 4-H
- FFA
- Farm Bureau - county level
- Farm Bureau - state level
- Farm Bureau - national level
- Commodity Group - Beef
- Commodity Group - Pork
- Commodity Group - Corn
- Commodity Group - Soybean
- Commodity Group - Wheat
- Commodity Group - Dairy
- Commodity Group - Poultry
Commodity Group - Fruit and Vegetable
Commodity Group - Wine Producers
Soil and Water
Rotary
Sertoma
Jaycees
Chamber of Commerce
Boy Scouts
Girl Scouts
Church
County Fair Board
Women for Ohio Agriculture
Farmer’s Union
Grange
School - PTA
School - Athletics
School Board
Other, Please Specify

Please report your level of involvement regarding your activity in
organizations at the local, state, and national levels including the board(s) of directors of which you are a current member or have been a member since you were in LEAD.

Also, indicate the office(s) that you might hold/ held on those boards:

Please list any governmental elected or appointed positions that you hold:

Please describe anything that “decreased” or “worsened” as a result of the LEAD experience:

Please indicate how important you feel it is to continue the LEAD Program.

<table>
<thead>
<tr>
<th>Not Important</th>
<th>Very Important</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5 6 7</td>
<td>8 9 10</td>
</tr>
</tbody>
</table>

194
17

Please select a number below to indicate the level of change that you experienced because of your LEAD participation.

<table>
<thead>
<tr>
<th>Did not change</th>
<th>Changed a great deal</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>9</td>
<td>10</td>
</tr>
</tbody>
</table>

The following questions are called demographic questions and help to determine patterns and trends in the final research analysis.

18

What is your current income? (Select one.)

- Below $25,000
- $25,000 - 39,999
- $40,000 - 59,999
- $60,000 - 79,999
- $80,000 - 99,999
- Greater than $100,000

19

I was a member of LEAD Class:
20

My gender is:
- Male
- Female

21

My current age is:

22

The area where I live is considered: (Select one.)
- Large city
- City
- Small town
- Rural farm
- Rural nonfarm

23

Additional Comments: