

Eco-Leadership in Practice: A Mixed Methods Study of County 4-H Programs

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ABSTRACT (Academic)

Our understanding of leaders and the role they play in organizations and society is changing. Four broad discourses of leadership have been identified as occurring during the past 100 years: controller, therapist, messiah, and eco-leader. The most recent, eco-leader discourse, is characterized by collective decision-making, collaboration, shared leadership, and grassroots organization. Eco-leadership is believed to be beneficial for organizations operating in a 21st century, knowledge-driven economy. A quintessential example of an ecological organization is the Extension Service's 4-H program, the organization which this study examines. However, in 4-H, as in many organizations, a majority of leadership development efforts focus on the individual, positional leader. Further, the vast majority of the literature devoted to eco-leadership is conceptual in nature; empirical studies linking leadership approaches to organizational outcomes are rare.

This study uses an explanatory sequential mixed methods design to examine: (a) the nature of the relationship between county 4-H agents' leadership discourse preferences and programmatic success; (b) county 4-H association members' levels of systemic and hierarchical thinking and programmatic success; (c) the way in which county 4-H association members' perceive their leadership within their counties; and (d) the relationship between these volunteers' perceptions of their leadership and other variables associated with programmatic success.

Findings indicate that the therapist discourse was the most preferred discourse among county 4-H agents, but that agents' discourse scores were unrelated to county 4-H program success. Associations' levels of hierarchical and systemic thinking were also not related to county 4-H program success. Additionally, county 4-H association members reported that: (a) agents play a central role in decision

making and communication within the association; (b) association members rarely make decisions on programmatic matters; (c) associations are often not structured in accordance with 4-H's policy for associations; and (d) members are not provided opportunities for development in their roles as association members.

ABSTRACT (Public)

The one thing we know about leadership is that it changes. Who we recognize as a leader changes over time. What we recognize as leadership also changes over time. In the last 100 years, there have been four eras of leadership, which one researcher dubbed: controller, therapist, messiah, and eco-leader. The latter, eco-leader era, is a 21st century society's response to the technological and social changes taking place. As the world and its problems become more complex, so too have our ways of addressing them — and that requires a new kind of leader and a new kind of leadership.

But no one knows if this new form of leadership is more effective than any other. There is no scientific evidence, in other words. Rather, most claims are theoretical — it *should* be better, in theory. This study sought to link the eco-leader era's approach to actual programmatic success and verify that it is effective. I studied county 4-H programs, which, it is generally believed, subscribe to the eco-leader approach. I surveyed two groups involved in 4-H, categorized the counties as high or low scoring based on their program's success, and then followed up with small-group discussions in six counties.

What I found is that one group, agents, actually preferred an older era of leadership: therapist. The other group, volunteers, had a variety of views. Regardless of either group's views, neither seemed to be related to program success. It seems any type of leadership could lead to success or failure. When we met for small-group discussions, however, the three high-scoring counties did tend to describe a more eco-leader style organization, while the low-scoring counties tended to favor older approaches to leadership in which the person in charge makes most of the decisions and the rest carry them out.

This is important to investigate because leadership is, at its root, the way in which people accomplish things in groups. Understanding how we as humans change those ways to meet the demands of our time and determining if they are effective, and, if so, how can we share those strategies with others, is important work to help people grapple with the challenges of an ever-more-complex world.

Acknowledgments

If there is one thing studying ecological forms of leadership for four long years has taught me, it is that I did *not* do this on my own. I have been fortunate to share an academic ecosystem with some tremendous people that deserve a great deal of credit — and a great deal of gratitude.

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CHAPTER 1 INTRODUCTION TO THE STUDY

Our understanding of leaders and the role they play within organizations is changing. One traditional definition of leadership is: "a process whereby an individual influences a group of individuals to achieve a common goal" (Northouse, 2013, p. 3). Our society has a tendency to focus on the individual and his or her effects. Our own cognitive and evolutionary biases cause us to perceive these leaders as directing and controlling an organization; and, consequently, we overestimate their effect on organizational events (Wielkiewicz & Stelzner, 2005). However, defining leadership only as the actions of positional leaders (i.e., those individuals holding a formal position of authority within an organization) is limiting to the organization and its mission (Allen, Stelzner, & Wielkiewicz, 1999).

During the last decade, a new understanding of leaders and leadership has developed. Leadership is increasingly understood not as the actions of an individual, but as a collective process (Avolio, Walumbwa, & Weber, 2009). This approach "shifts the focus from individual leaders to leadership" (Western, 2010, p. 36). Leadership is increasingly seen as an emergent *process* involving both leaders and followers who co-create leadership within an organization. In this way, leadership is thought of not as something individuals *have*, as though it were a proprietary characteristic, or something individuals *do* to others, but, rather, a thing individuals do together. From this perspective, leadership is detachable from those individuals in an organization who hold formal positions of authority. This perspective also rejects the notion of the traditionally bifurcated and mutually exclusive roles of leader and follower (Gronn, 2008). Rather, leadership is said to "arise from the human interactions that make up the organization" (Wielkiewicz & Stelzner, 2005, p. 18).

Leadership does, of course, include the individual leader, but it is expanded to include collective groups and teams assuming leadership within an organization. Today, those individuals who do possess

positional authority are encouraged to “assist in the emergence of leadership rather than creating change through executive orders and decisions” (Wielkiewicz & Stelzner, 2005, p. 331). This approach enables organizations to harness the talent, creativity, and energy of all employees and stakeholders (Western, 2008). Allen, Stelzner, and Wielkiewicz (1999) write that in a rapidly changing world, “waiting for great individual leaders to guide and direct organizations ... is no longer possible” (p. 63).

A New Discourse of Leadership

After critically examining this shift in society’s understanding of leadership, Western (2008, 2010, 2013) has identified an emerging eco-leader discourse, which is characterized by collective decision-making, collaboration, shared leadership, and grassroots organization (Figure 1-1). Eco-leadership, as Western describes it, redistributes power from the center to the edges, opening opportunities for greater participation in the collective process of leadership (Western, 2010). This allows a greater number of individuals to influence the leadership process; it also allows organization to “harness the energy and creativity of the whole system” (Western, 2010, p. 44).

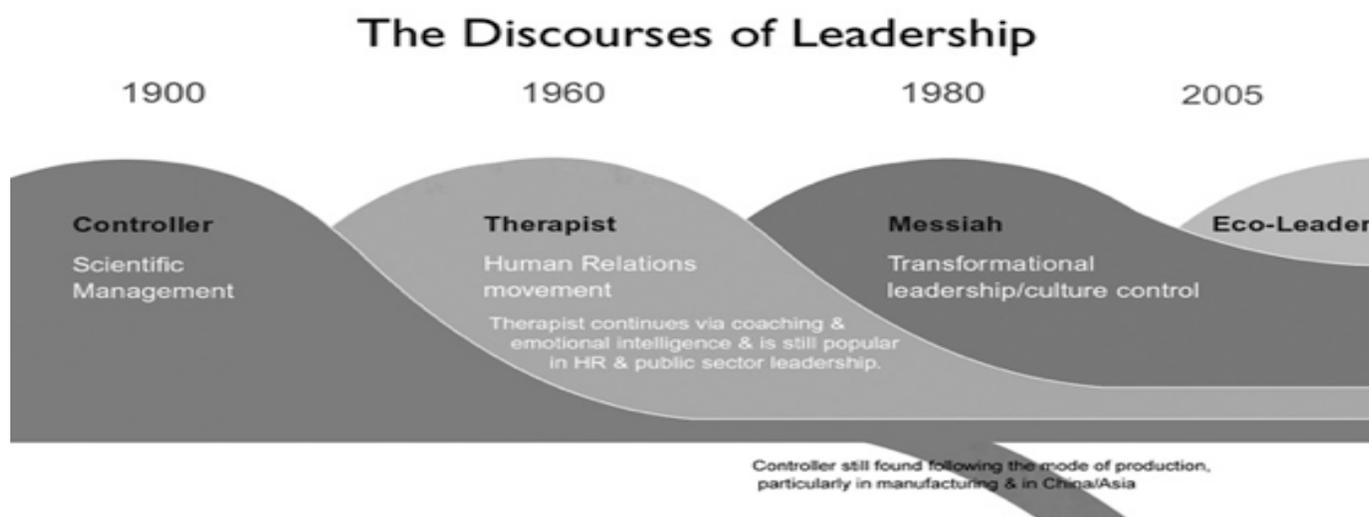


Figure 1-1. Approximate timeline of leadership discourses. From *Leadership: A Critical Text* (p. 82), by S. Western, 2007, Thousand Oaks: SAGE. Copyright 2007 by SAGE Publications.

Based on a meta-analysis of leadership from historical, socio-political, and economic perspectives, Western (2007) has identified four discourses of leadership (Figure 1) in Western Europe and North America during the past century: (a) controller, (b) therapist, (c) messiah, and (d) eco-leader. Each of these four discourses dominated a particular historical period, but all continue to exist concurrently in varying degrees in both public and private organizations. Each was largely a reaction to what came before, each has its own strengths and weaknesses, and each is now familiar and normative (Western, 2008).

Controller Discourse. For much of the last century, our understanding of leadership has been heavily influenced by the effects of the Industrial Revolution. The first scientific studies of leadership were conducted during the early decades of the 20th century, and the resulting industrial paradigm of leadership emphasized the “preeminence of leaders and the machine-like qualities of organizations” (Wielkiewicz & Stelzner, 2005, p. 236).

The shift from an agrarian society to an industrial society allowed for greater specialization and expertise. Society believed this specialization could bring about greater efficiency and productivity. Efficiency, it was believed, would create nothing short of a modern utopia. Typified by Frederick Taylor’s scientific management approach and Max Weber’s Iron Cage metaphor, the controller leader was the appropriate fit for an era of scientific rationalism and industrial revolution (Western, 2008). The controller discourse came to dominate the early part of the 20th century. During this era, leaders were viewed as “technocrat leaders focusing on efficiency” (Western, 2008, p. 162). Fayol (1949) drew heavily on nature, of all things, for metaphors to describe this industrial leadership style: “Specialization belongs to the natural order; it is observable in the animal world, where the more highly developed the creature the more highly differentiate its organs” (p. 20). Followers were relegated to worker status, and

reduced to “cog[s] in a machine, mirroring [the] standardization and mechanization within the mass production of the factory” of the time (Western, 2008, p. 162)

The relationship between leader and follower in this dynamic centered on the tension between manipulation and non-manipulation, as well as control and autonomy. The relationship was nearly exclusively transactional: a system of coercive control using reward and deprivation where people traded time and labor for money (Western, 2008). Despite work conditions, the division of labor and increased efficiency wrought by controller leaders lifted millions out of poverty through higher salaries, greater consumption, and the modernization of society (Western, 2010).

However, during World War II, the Western world suffered devastation by authoritarian regimes, which also subscribed to the controller discourse. Perhaps the single greatest case was the Jewish Holocaust. The Nazis drew heavily on scientific management theory to carry out the systematic extermination of Europe’s Jews. Following this revelation, the Western world began to question the notion that scientific management would always yield societal progress, and the leadership discourse that had held the promise of a modern utopia became synonymous with dystopian world orders. The controller leadership discourse slipped into decline in most contexts (Western, 2010).

Therapist Discourse. Several major societal shifts took place following WWII. Those who returned home from war wanted a “life fit for heroes” (Western, 2010, p. 30). At the same time, political leaders and business owners in the West worried that a return to right-wing dictatorships and the continued poor treatment of workers would provoke a socialist backlash as it had in Eastern Europe (Western, 2010). With scientific management no longer meeting the needs or expectations of society, leaders went to work democratizing society and the workplace. Calls for a more democratic society resulted in a shift that bet on the “principle that ‘happy workers are more productive workers’” (Western, 2010, p. 39). This approach made leadership more people focused, reflecting the “wider social trends of atomization,

self-concern, and the post-war individualistic expectations of being fulfilled, successful and happy” (Western, 2008, p. 163).

The therapist leader seeks to maximize production by increasing the motivation of workers through promoting personal growth. During this time, the first human resource departments were formed. The role of leadership was to encourage workers to create their identities and find fulfillment through work, which increased their motivation and productivity. However, though the approach had changed, the underlying purpose was still to control, maximize productivity, and shape individuals to fit desired norms (Western, 2010).

The therapist discourse continues in many people-oriented sectors, such as non-profits, academia, and public administration. However, this approach fell from favor in the corporate world, as it could not keep pace with the increasing economic output demanded in an era of globalization (Western, 2008). Truly global corporations required leaders who could provide leadership to an organization without having a close, personal relationship with its worldwide membership. In short, the therapist leader was not scalable.

Messiah Discourse. During the late 1970s and early 1980s, the messiah discourse emerged “with the aim to create strong, dynamic organizational cultures under the vision and charisma of a transformational leader” (Western, 2010, p. 40). This new “covenantal leadership” style drew on the lessons of the more collectivistic culture of Japan, which focused on eliciting loyalty and commitment from employees, as well as tying personal success to that of the organization (Western, 2010, p. 40). During this era, the organizational leader became a social character of influence, leading through his or her own symbolism and status (Western, 2008). Business schools, corporations, civic organizations, and churches embraced this transformational (Messiah) leader who could offer “vision and passionate

leadership” to create inspired, loyal, and committed followers (Western, 2008, p. 40). It was an era of ubiquitous airport leadership books.

However, this discourse relied heavily on “normative control,” which is defined as “self- and peer-control through surveillance and internalization, emotionalism and cultural norms” (Western, 2008, p. 164). This often led to highly conformist, cult-like followings, such as in the archetypical case of Enron (Western, 2013). So-called non-believers, or dissidents, were jettisoned. Those who were willing to commit whole-heartedly to the company and its culture were rewarded. Over time, this often leads to highly homogenous organizations that lack the ability or desire to critically reflect on their own operation. These conditions resulted in the dramatic downfall of many such organizations.

While the messiah leadership discourse remains strong, the evangelical leaders it produced are sometimes revealed to be a facade, as they frequently fail to deliver results. As the world becomes increasingly complex, interconnected, and interdependent, the heroic individual leader is incapable of serving as the sole source of vision and direction for an organization (Rost, 1997).

Eco-Leader Discourse. In the beginning of the 21st century, we find ourselves facing numerous complex and interconnected challenges: climate change, finite fossil fuel resources, global financial crises, and terrorism — truly adaptive and wicked problems (Grint, 2005; Heifetz, 1998). Western (2010) waxes poetic, citing William Butler Yeats’ poem, *The Second Coming*, when he writes that the “center cannot hold” (p. 42). The nature of an ecological approach to leadership is that it redistributes leadership and power from a centralized, hierarchical structure throughout the organization in an attempt to leverage the energy and creativity of the entire system (Western, 2010). Under this paradigm, the role of the positional leader is to bring together people, ideas, and organizational structures so that organizations can develop strategies to address adaptive challenges (Allen, Stelzner, & Wielkiewicz, 1999). Positional leaders within this paradigm must recognize their limited role in bringing about

change: productive leadership ecosystems can be cultivated, but they cannot be created and controlled (Western, 2013).

The eco-leader discourse was heavily influenced by grassroots social and environmental movements in terms of both form and function. It was also a reaction to the failure of messiah-style leadership to live up to its hype. It was, and is, an effort of leadership to adapt to a new worldview — to meet new expectations and needs. The emergence of the eco-leader discourse was facilitated by the convergence of three societal changes. First, complexity science challenged the linear view of the world, which led to a general shift in worldview from the mechanistic understanding of Descartes and Newton, to a more holistic and ecological conceptualization (Western, 2010). Second, globalization and technological advances have succeeded in shrinking the world. Third, the environmental movement succeeded in bringing to the forefront the finite nature of our resources, and the calamity that might ensue as they diminish.

It should be noted, however, that “eco” does not necessarily refer to the natural environment, or any environmental cause. Instead, it refers to the environment, or ecosystem, in which leadership occurs. Where the controller, therapist, and messiah discourses viewed leadership as a linear, mechanistic phenomenon, the eco-leader discourse borrows from nature its organizational metaphor of an ecological system. Further, “we do not say organizations are *like* ecological systems; we say that they *are* ecological systems” (Wielkiewicz & Stelzner, 2005, p. 336). Organizations are finally seen not as closed systems, or even voluntary actors in a network, but rather as social organisms that are interconnected with other organizations, governments, localities, societies, and the natural environment (Western, 2010).

Measuring Eco-Leadership

According to the ecological theory of leadership, as described by Allen, Stelzner, and Wielkiewicz (1999), the various characteristics of eco-leadership described above can be plotted in their degree on two continua: (a) hierarchical thinking, and (b) systemic thinking. Hierarchical thinking refers to the degree to which a person believes an organization should be arranged in a hierarchical fashion, with both power and control concentrated in the hands of an upper echelon of leaders or a single leader. A highly hierarchical viewpoint stresses rules, procedures, goals, and a general dependence on the leader (Wielkiewicz, 2000). Moreover, adherents to a highly hierarchical view of leadership attribute the responsibility for the success or failure of an organization to positional leaders, as well as charges them with the responsibility for ensuring the safety and security of an organization's members (Wielkiewicz, 2000). This description of a highly hierarchical view of leadership is consistent with a more mechanistic/industrial view of leadership, while a low hierarchical view of leadership is consistent with an ecological view of leadership (Rost, 1997).

Systemic thinking refers to the degree to which an individual has the "ability to relate a variety of ideas and concepts to organization success, such as ethics, the need for cooperation of all individuals to help the organization accomplish goals, the need for long-term thinking, and the need for organization learning" (Wielkiewicz, 2000, p. 341). Individuals with a higher degree of systemic thinking would be "least likely to see themselves or positional leaders in the organization as having the capability of single-handedly making all of the key organizational decisions" (Wielkiewicz, 2000, p. 345). According to Allen, Stelzner, and Wielkiewicz (1999), organizations with a high number of systemic thinkers should be most successful and adaptive. A high degree of systemic thinking indicates a more ecological view of leadership, while a lower degree of systemic thinking indicates a more mechanistic viewpoint (Rost,

1997). These two scales — hierarchical and systemic thinking — are measured on Wielkiewicz’s (2002) Leadership Attitudes and Beliefs Scale III (LABS-III), which is discussed in detail in Chapter 3.

Theoretical Framework

Eco-leadership is rooted in complexity science, which is often used to explain emergent, adaptive, and self-organizing systems (Davis, 2004). Frequently defined by the objects of study rather than the methods of investigation, complexity science has been used to explain: the fall of the Soviet Union, trends in the stock market, the emergence of life on Earth, and even the movements of flocking birds (Davis, 2004). These complex systems are all characterized by two traits. First, they are adaptive; they can alter their own structures in response to pressures both internal and external. In this way, they cannot be described in terms of physics — where laws govern action and reaction — but, rather, are better described in evolutionary terms. Second, the system is emergent; meaning, it is “composed of and arises in the co-implicated activities of individual agents” (Davis, 2004, p. 151). In this way, the phenomenon is not merely a sum of its parts, but rather the product of both its parts and their interaction with one another (Davis, 2004).

By being both adaptive and emergent, phenomena are able to transcend their component parts. They may be at once “coherent unities, composed of coherent unities, and (possibly) subagents to grander unities” demonstrating the nested, interconnected nature of complex systems (Davis, 2004, p. 151). Further, complex phenomena are capable of arising without stated goals, clear plans, or even so-called leaders. Organization is “bottom-up, as emergent macrobehaviors ... arise through the localized rules and actions of individual agents, not through the imposition of top-down instructions” (Davis, 2004, p. 152). For complexity to arise, a system must have: (a) redundancy among actors to facilitate interaction, (b) some diversity among actors to enable novel responses, (c) the ability for actors to affect one another, and (d) a distributed, decentralized method of control (Davis, 2004).

Lichtenstein and colleagues (2006) write that complexity science has the potential to: (a) expand leadership from role-based actions to every interaction in a social system, (b) increase the accuracy of leadership studies by focusing on complex interactions rather than simplistic “independent” variables, and (c) provide a foundation for explaining how the actions of individual actors construct global behaviors.

Complexity Science in Organizations

It is easy to see how complexity science supports eco-leadership’s explanation of leadership as an emergent process co-created by both leaders and followers operating in fluid roles. Additionally, many organizations, which exist as macro-level manifestations of these interactions, could be described as complex adaptive systems that also require: redundancy, diversity, interaction, and decentralization. However, the conventional understanding of leadership as emanating from individual positional leaders undermines these four requisite factors of complex systems. By relying on few positional leaders to provide leadership for an organization, redundancy is reduced, diversity is limited, interaction is lessened, and power is centralized, all of which reduce the capacity for the organization to learn and adapt as an organism.

Cooperative Extension

One quintessential example of an organization functioning as a complex adaptive system is the Cooperative Extension Service. As a federal, state, and local partnership, Extension brings educational programming to diverse communities (Bonnen, 1998), Extension represents the interconnected, nested systems described by Western (2013). Among its programs is the 4-H Youth Development Program, which, in addition to existing at the federal, state, and local levels, also consists of innumerable connections with local communities, organizations, non-profits, businesses, schools, and families. The 4-H program is led in each county by an Extension Agent (i.e., a positional leader), with the support

from a cross-section of the program's participants and stakeholders, organized in the form of the county 4-H association (Diem & Cletzer, 2011). These 4-H associations maintain a roster of members with deep ties to the community in which they live. These associations exist to provide input and assistance to the 4-H Agent, who is typically understood as a traditional, positional leader.

This view of Extension Agents as positional leaders, however, is problematic for aspects of the program — most noticeably turnover. The National Association of State Universities and Land-Grant Colleges identified retention of Extension agents as a “challenge area” (ECOP LAC, 2005). The 4-H program especially has been disproportionately affected, with turnover rates among 4-H agents outpacing that of their colleagues in other Extension disciplines (Rousan & Henderson, 1996).

Turnover among county Extension faculty results in “disrupted educational programs, unmet citizen needs, low morale among remaining Extension professionals, and wasted financial and material resources dedicated to Extension agent on-boarding and in-service training” (Safrit & Owen, 2010, para 4). In addition to programmatic impact, replacing an untenured Extension agent can cost between \$7,185 and \$30,000 (Chandler, 2005). Even when positions are re-filled quickly, new agents still require time and training to become effective, which negatively affects program momentum (Rousan & Henderson, 1996).

Efforts to reduce the effects of turnover on Extension programs have primarily focused on addressing agent: burnout, salary and benefits, work-life balance, skills and competencies, or job satisfaction (Castillo & Cannon, 2004; Chandler, 2005; Ensle, 2005; Ezell, 2003; Kutilek, Conklin, & Gunderson, 2002; Long & Swortzel, 2007; Mowbray, 2002; Strong & Harder, 2009). Unfortunately, each of these approaches to addressing turnover fails to acknowledge an emerging generational shift occurring in the workforce and its long-term effects on the retention of new agents and program resiliency.

As Baby Boomers begin to exit the workforce, organizations are beginning to grapple with the challenges of a new variety of employee: Millennials. Within the next 10 years, Millennials will make up 75% of the global workforce, and more than 36% of the American workforce (Schawbel, 2013). Where Baby Boomers sought employment stability, only 18% of Millennials report expecting to stay with their current employer long term; 74% report expecting to have as many as five or more employers in their lifetime, and 38% of those currently employed are actively searching for a new position (PRICE WATERHOUSE COOPERS, 2011). Millennials also differ from Baby Boomers and Gen-X'ers in what they value in the workplace; collaborative decision-making and fast-track leadership programs are both requirements of the Millennial employee (Glass, 2007). They want to make a difference, and they want to make it right now.

Unfortunately, organizations are often unprepared to meet those needs. More than 60% of Millennials leave their positions in fewer than three years (Schawbel, 2013). Turnover is both costly and damaging to program momentum, leaving employers facing an expensive revolving door (Schawbel, 2013). The Cooperative Extension Service is particularly affected by this generational shift in the workforce and faces continued turnover among 4-H agents. Still, efforts to mitigate these effects focus on preparing the heroic positional leaders through skill and competency development, despite evidence that generational trends point to continued turnover among this generation so prevalent in the 4-H Extension agent positions. The effect is a leadership development approach focusing almost entirely on the positional leader when, in fact, the problem is systemic in nature.

Problem Statement

Our understanding of leaders and the role they play within organizations and society is changing. Increasingly, leadership is understood as an emergent process where leaders and followers co-create leadership through interaction (Avolio, Walumbwa, & Weber, 2009). This paradigm shift detaches the

responsibly for providing leadership from individuals in formal positions of authority and distributes it throughout an organization in an effort to harness the talent, creativity, and energy of all employees and stakeholders in an organization (Western, 2008). Reflecting on this shift in our understanding of leadership, Western (2013) has identified an emerging eco-leader discourse, which is characterized by collective decision-making, collaboration, shared leadership, and grassroots organization. This discourse reflects a 21st century society's attempt to adapt in face of increasingly complex and interconnected challenges that require the resources of whole organizations (Wielkiewicz & Stelzner, 2005). This view of leadership "does not in any way diminish the importance of leadership as an organizational phenomenon; rather, it recognizes that leadership transcends the individual by being fundamentally a system phenomenon" (Lichtenstein, Uhl-Bien, Marion, Seers, & Orton, & Schreiber, 2006, p. 3). The individual, positional leader does still play a key role. Rather than creating change through directives or revealing his or her singular vision to followers, positional leaders act as organizational architects, bringing together people, ideas, and organizational structures so that organizations can flourish (Allen, Stelzner, & Wielkiewicz, 1999).

However, a current problem is that a majority of leadership development programs continue to focus on individual positional leaders who function in a top-down, hierarchical manner. The goal of these programs is typically to make these individuals better leaders, and, fittingly, "much of empirical research on leadership focuses on predicting outcomes that reside at the individual level of analysis" (DeChurch, Hiller, Murase, Doty, & Salas, 2010, p. 1069). However, organizations would be more successful in adapting to environmental changes if they were to "draw on ecological principles to match the complexity of the environment in which organizations function" when enacting organizational leadership (Wielkiewicz, 2000, pp. 108-109).

This is particularly relevant in the case of county 4-H programs, where leadership development is largely focused on the individual Extension 4-H agent — a position which suffers considerable turnover. Retention of Extension agents has been identified as a “challenge area” by the National Association of State Universities and Land-Grant Colleges (ECOP LAC, 2005), and 4-H agent turnover, especially, outpaces other Extension disciplines (Rousan & Henderson, 1996). Add to that a generational trend where more than 60% of Millennials leave their positions in fewer than three years, and a fixation on individual leaders can lead to considerable disruption of county 4-H programming (Safrit & Owen, 2010; Schawbel, 2013).

A second problem is that “the vast majority of published work [on ecological views of leadership] relies on a conceptual approach rather than an empirical one” (San Martin Rodriguez, Beaulieu, D’Amour, & Ferrada-Videla, 2005, p. 133). This is likely due to the difficulties associated with studying leadership from an ecological perspective where the fundamental unit of analysis is not the individual but, instead, the complex adaptive system (Uhl-Bien, Marion, McKelvey, 2006). Consequently, there have been few, if any, empirical studies linking an ecological approach to leadership with organizational success (Lowhorn, 2011; Wielkiewicz, 2000, 2002). Finally, an associated problem is how little is known about how leaders with an eco-leader discourse preference put into practice an eco-leader approach within their organizations.

Purpose Statement

This study explored the relationship between an ecological approach to leadership and the programmatic success of county 4-H programs. An explanatory sequential mixed methods design was used, involving the collection of quantitative data first and then explaining the quantitative results with in-depth qualitative data. In the first, quantitative phase of the study: (a) the Leadership Attitudes and Beliefs Scale – III was used to collect data from volunteer members of county 4-H associations in

Florida to determine levels of systemic and hierarchical thinking; (b) the Western Indicator of Leadership Discourse questionnaire was used to analyze data from county Extension 4-H agents in Florida to determine their leadership discourse preferences; and (c) 4-H program data was analyzed to determine levels of success of county 4-H programs. Quantitative data was used to determine the nature of the relationship between leadership discourse preference, levels of systemic and hierarchical thinking, and county 4-H programmatic success. The second, qualitative phase was conducted as a follow-up to the quantitative strand to help explain the quantitative results. In this follow-up strand, counties that scored in the upper and lower quartiles on the county 4-H program success index were studied to determine leadership practices used, and to what degree volunteers attribute programmatic success to their use.

Research Questions

Four research questions guided this study:

1. What is the nature of the relationship between the preferred leadership discourse of Extension 4-H agents and programmatic success?
2. What is the nature of the relationship between systemic and hierarchical thinking levels and programmatic success?
3. To what extent do volunteers perceive their leadership approach as affecting programmatic success?
4. How do volunteers' perceptions of leadership help us better understand the variables associated with programmatic success?

Significance

By studying the ecological approach to leadership in action, we expand our understanding of leadership from “the isolated, role-based actions of individuals to the innovative, contextual interactions that occur across an entire social system” (Lichtenstein et al., 2006, p. 2). We also “increase the relevance and accuracy of leadership theory by exploring how leadership outcomes are based on complex interactions, rather than ‘independent’ variables” (Lichtenstein et al., 2006, p. 2). Also, by obtaining qualitative data, we can draw on participant perspectives to better explain the mechanisms behind an ecological approach to leadership in an organization. Finally, by linking an ecological approach to leadership with long-term organizational success, we provide credence to this here-to-fore only conceptual phenomenon.

The findings of this study also have implications for Extension and county 4-H programs; specifically, how 4-H: (a) understands its connection to the communities served and stakeholders engaged; (b) addresses training and support of Extension 4-H agents; (c) addresses the workplace satisfaction of Millennial agents; and (d) seeks to mitigate the effects of turnover among Extension agents. The study provides an in-depth empirical assessment of the leadership culture and processes of the Florida 4-H program.

Workers today — particularly Millennial workers — value collaborative decision-making processes and a workplace characterized by more distributed leadership. Accordingly, an eco-leader approach to leading in 4-H contexts may reduce turnover by providing a workplace more amenable to the dominant workplace generation of the near future (PRICE WATERHOUSE COOPERS, 2011; Schawbel, 2013). Additionally, an ecological approach to leadership processes may also mitigate the effects of turnover when turnover does occur by distributing leadership power and processes throughout the organization. Traditionally, Extension program leadership is understood to emanate from the county agent, and so

efforts to reduce turnover and enhance program efficacy historically focus on developing the skills and competencies of the individual agent. However, it may add to our understanding of the success or failure of county 4-H programs to assess the leadership of the program from an ecological approach, which would include volunteers, advisory members, and other stakeholders engaged in providing leadership to the program. The findings of this study could affect Extension's approach to training, education, and governance; the findings may also influence who receives such leadership development opportunities. By positioning Extension and 4-H to both reduce turnover among 4-H agents and lessen the effects of turnover on 4-H programs, it "builds into organization the ability to be adaptive to fluctuations and constant change" (Western, 2007, p. 186).

Methods

Research Design

This study followed an explanatory sequential mixed methods design. This design first calls for collecting quantitative data from two populations identified below; second, qualitative data is collected, analyzed, and then used to explain the quantitative data in a comparative process (Creswell & Plano Clark, 2011).

Sample

The primary research population of this study was all registered, adult, volunteer members of Florida county 4-H program who serve on a county 4-H association. Florida's 4-H program was chosen because of its 4-H associations, which offer the unique opportunity to compare leadership between homogenous groups across all counties. The county 4-H association system represents a cross-section of volunteers within the county 4-H program, including: expansion and review committee members, fundraising volunteers, club leaders, advisory members, and other members at large (Diem & Cletzer, 2011). Adult volunteers are considered 18 or older. This sample did not include youth 4-H members. Nor will it

include episodic volunteers, such as field day volunteers or classroom teachers. Individuals were identified for participation in this study by their respective county 4-H agent or Extension director.

A secondary research population were all full-time FTE Extension 4-H Agents in the Florida 4-H program. The sample frame for this population was provided by the University of Florida's Dean for Extension.

Data Collection. In the quantitative phase of the study, the Leadership Attitudes and Beliefs Scale III (LABS-III), developed by Wielkiewicz (2000), was used to collect data from members of county 4-H association members. The LABS-III is a 28-item questionnaire that assesses respondents' attitudes and beliefs on leadership and plots them on an orthogonal diagram with axes for hierarchical thinking and systemic thinking (Wielkiewicz, 2000). Additionally, the Western Indicator of Leadership Discourse (WILD) questionnaire was used to determine the preferred leadership discourse of county 4-H agents.

The qualitative phase of the study relied on focus group sessions to provide greater understanding of the quantitative results. Focus group participants selected were determined by the results of the quantitative phase of the study. A focus group protocol was developed using *a priori* propositions (Appendix A). No multi-county focus groups were convened; all participants in a given focus group were volunteers of one county.

Limitations

A primary, overarching limitation of this study is the nature of ex post facto research. The ex post facto research design presents several concerns of validity because it cannot control the independent variable. Therefore, an ex post facto research design "does not provide the safeguards that are necessary for making strong inferences about causal relationships" (Ary et al., 2013, p. 333). This can lead to the post hoc fallacy, where the researcher mistakenly determines causation based on the relationship between variables, but, in fact, the relationship is spurious (Ary et al., 2013). Though this is still a

concern, it should be noted that the quantitative strand of the study is not intended to determine a causal relationship between variables.

To address this limitation, this study applied correlational statistics and statistical controls to explore relationships between variables in an effort to better understand the phenomenon. These statistical analyses can be used to detect patterns and make predictions (Pedhazur & Schmelkin, 1991). This correlational evidence, while not able to determine causation, is significant because of its ability to reveal possible causal models that can later be investigated through experimental research (Pedhazur & Schmelkin, 1991). This strand is also not intended to generalize to a larger population. The population under study was not sampled, but, rather, a census.

A second, more strategic concern is nonresponse error in county 4-H program volunteers. Should county 4-H agents act as gatekeepers, preventing their volunteers from participating in the study by not providing a membership roster or agreeing to forward recruitment emails, this would effectively black out whole county 4-H programs. However, low response rates do not automatically constitute nonresponse error in the same way that high response rates do not rule out nonresponse error. Rather, response error occurs when “the characteristics of respondents differ from those who chose not to respond in a way that is relevant to the study results” (Dillman et al, 2014, p. 5). If response rates are low among county programs, or within county 4-H programs, several steps can be taken to ensure nonresponse error is not occurring. First, early responders can be compared with late responders on both levels described above to determine if there is any statistically significant difference, which might indicate nonresponders are different in a way that might be relevant to survey results. Second, if a significant difference is found, a special, follow-up effort to recruit nonresponders could be made to compare nonresponders with responders (Dillman, et al. 2014).

Definitions of Terms

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

Complexity Science: A collection of individual theories explaining the nature of complex, interacting systems in a non-linear, non-reductionist perspective (Regine & Lewin, 2000).

Discourse: A taken-for-granted state of being, or a “cultural set of normative assumptions” that affect society’s understanding of what leadership is and what a leader should be (Western, 2010, p. 37).

Ecological (view of leadership): A view of leadership as “a web of connections, networks that operate like ecosystems” rather than a simple influence relationship (Western, 2013, p. 245).

Mechanistic (view of leadership): A view of leadership as a linear, bounded, role-based set of actions that originated during the Industrial Revolution (Rost, 1997).

Program Success: Program success in this study is determined by a composite measure of 4-H program enrollment data that captures per capita enrollment trends across several aspects of the program, such as club enrollment or volunteer enrollment.

Chapter Summary

The way we understand leadership is changing. Leadership is increasingly viewed as a collective process involving both leaders and followers co-creating leadership. This has implications for how leadership is enacted in county 4-H programs and may impact current issues, such as turnover. The chapter also introduced Western’s (2013) four discourses of leadership, including the emergent eco-leader discourse. The eco-leader discourse’s central tenets, however, have yet to be empirically validated. Also, the ecological approach to leadership has yet to be linked to programmatic success. This study attempts to address each of these problems.

This chapter also presented an overview of the literature, problem statement, purpose statement, and significance of this mixed methods study.

CHAPTER 2

REVIEW OF SELECTED LITERATURE AND THEORETICAL FRAMEWORK

This chapter provides a detailed review of the topics and theories central to this study. It is divided into three major sections: (a) discourses of leadership in the last century, including the eco-leader discourse; (2) explanation of complexity science, on which eco-leadership is based; and (c) description of the organizational structure of Cooperative Extension and the organizational challenges it faces.

Discourses of Leadership

There are many ways in which scholars categorize leadership. Many organize their taxonomies to mirror the chronological progression of academic research on the topic. Northouse (2013) typifies this approach by categorizing types of leaders and leadership into various approaches (e.g., traits approach, skills approach, style approach, and situational approach) and major theories (e.g., Contingency theory, Path-Goal theory, Leader-Member Exchange theory, and Transformational Leadership) in largely chronological order. Jackson and Parry (2011) organize the literature based on the primary focus of the research, such as leader-centered perspectives, follower-centered perspectives, and distributed perspectives. However, these methods of organization — along with a majority of others during the past century — have failed to discuss our understanding of leadership in relation to the broader social, historical, and economic changes that have so greatly influenced that understanding (Western, 2010).

To address the challenge of contextualizing our evolving understanding of leadership, Western (2008, 2010, 2013) drew on historical, socio-political, and economic perspectives to conduct a meta-analysis of leadership literature. He tracked the adaptations of leadership in the Western world during the last century and identified four discourses of leadership: (a) controller, (b) therapist, (c) messiah, and

it becomes difficult to think or act outside of them, citing gender as one example. Discourses are so pervasive and powerful that they impact our very own worldviews and self-perception; and, while they may appear helpful, discourses can actually be detrimental. Western (2013) provides the example of counseling as a taken-for-granted helpful practice:

Someone in distress is offered a counselor, who is seen as unquestionably good. However, the therapeutic discourse which produces counseling can have the impact of making people more vulnerable and more self-obsessed, and it is argued that counseling can reinforce individualism and professionalize helping and caring relationships, that previously would have been an essential part of community life, and that therefore community itself is undermined. (p. 151)

Halperin (2002) explains that it is not the power of a discourse itself that is detrimental, but, rather, that this norm-shaping force often goes unexamined. Acknowledging and naming discourses “can itself be liberating” and beneficial to the study of a topic (Western, 2013, p. 151). For, “once a discourse is revealed it can be resisted, shaped, or simply lose some of its power over us” (Western, 2013, p. 152).

To offer his taxonomy of leadership by discourse, Western (2010, 2013) applies a critical theory approach to identifying normative discourses related to leadership in an effort to examine the changing ways in which society has conceptualized leadership throughout the previous century. A critical theory approach, in this case, refers to a specific school of thought, or research tradition (e.g., positivism or constructionism). It consists of two broad components: (a) deconstruction, refers to the examination of taken-for-granted, normative conditions surrounding a phenomenon, especially with regard to power, the naturalization of a social order, and overreliance on positivistic and rationalistic perspectives; and (b) emancipation, refers the idea that critique is important but should also be used to promote a progressive agenda by offering radical alternatives (Alvesson & Deetz, 2006). Western (2013) offers four tenets to his particular critical examination of leadership: (a) emancipation, or the promotion of social justice,

ethics, and autonomy; (b) depth analysis, or the use of methods of psychoanalysis to examine underlying patterns and structures; (c) looking awry, or disrupting the normative view by examining a topic from an alternate angle; and (d) network analysis, or taking a complex, systematic view of leadership.

The discourses identified by Western (2013) — controller, therapist, messiah, and eco-leader — are “not rigidly fixed, either historically or in any given setting, and nor do they occur in isolation from one another” (Western, 2013, p. 152). Nor do discourses exist simply in dominant and non-dominant forms, but, rather, exist in a “multiplicity of discursive elements that can come into play in various stages” (Foucault, 1978, p. 100). This means across decades, societies, and societal sectors, no one monolithic discourse rules. Rather, there is a tension between the multiplicities of discursive elements that must be continually navigated by individual leaders and societies alike. To better illustrate the concept of the leadership discourse, Western (2013) offers the concept of characters of leadership.

Characters of Leadership

When scholars address the topic of leadership, they usually fail to provide a connection between the abstract discussion of leadership theories and the practical actions of individual leaders. To link these two facets of leadership, Western (2013) offers the concept of a leadership ‘character’ (e.g., Leader as Controller, Leader as Therapist, Leader as Messiah, and Leader as Eco-Leader). The effect is twofold. First, by presenting a character — or archetypical leader within a discourse — it serves to illustrate “how an individual leader embodies and performs a particular discourse” (Western, 2013, p. 153). This approach also allows for providing examples of familiar leaders in history, which helps to demonstrate a discourse’s role in world events. Second, it provides a means of demonstrating how insidiously a discourse can trap an individual leader in a particular role by examining the constraints on an individual leader’s actions as he or she leads within a discourse.

Western (2013) bases his conceptualization of leadership characters, in part, on MacIntyre's (1985) book, *After Virtue*. As Western (2013) describes them, a leadership character is more than an individual who has assumed a particular leadership position and employs a particular leadership style. Rather, it refers to someone who unconsciously internalizes a leadership archetype that exemplifies a particular discourse. Meaning, when a person is recognized as a 'leader,' that title conveys a specific meaning within an organization or society. The current discourse of a society or organization "defines and limits this meaning" (Western, 2013, p. 152). For the individual leader, the discourse's effect is a double-edged sword. The shared meaning instilled in the leadership character is beneficial because it helps followers quickly orient themselves to the leader by dictating the social norms that will govern the leader-follower relationship. Also, the followers' familiarity with the leadership character helps them to interpret and assign meaning to the leader's actions (MacIntyre, 1985). For example, a controller leader character is expected to embody a transactional and coercive discourse of leadership, while a therapist leader character is expected to embody a more transformational and relational one (Western, 2013). In each of these examples, the discourse dictates the expectations of both leader and follower, and, when an individual embodies the leadership character, a kind of stasis is achieved. However, these leader characters also constrict individual leaders, and can negatively affect an organization or society. Suppose an organization that is firmly rooted in the controller discourse — with its command-and-control hierarchical power structure — is faced with threats from the economy that necessitate a rethinking of how the company should be run; the leader decides that distributing power and requiring employees to act more autonomously may help the company be more nimble and adaptive in the face of change. In such a case, the eco-leader character might perform best for the organization. Unfortunately, as long as the employees (i.e., followers) of the organization remain entrenched in the controller

discourse, this limits the leader's ability to act outside of the controller leader character. Employees may say, in effect, 'I show up and do the work assigned; thinking of new ways to do it ain't my job.'

Finally, it should be noted that while the leader character ascribes social norms surrounding the leader-follower relationship, each leader is different. Western (2013) writes, "Each individual brings their specific attributes to the leader character: embodying and performing the discourse, they represent it in their personal way" (p. 154).

By combining the characters of leadership and leadership discourses, Western (2013) illustrates the evolution of modern societies' understanding of what has constituted leaders and leadership during the previous century.

Now that we have discussed the definition of a discourse and the use of the leader character in this analysis, I will explain in greater detail the historical, socio-political, and economic factors that gave rise to each of the four discourses of leadership occurring during the past century.

Controller Discourse

Our modern world emerged at the dawn of the 20th century, exploding along with the one-and-a-half billion shells of World War I (Beardsley, 2007; Fussell, 1975). The four-year conflict that left 17 million Europeans dead also decimated Europe and North American societies' notions of an aristocratic, elite, class-based system of leadership (Fussell, 1975; Western, 2013). Alfred Lord Tennyson's 1854 poem, *Charge of the Light Brigade*, describes the gallantry of 600 doomed cavalrymen in the Battle of Balaclava during the Crimean War ("Theirs not to reason why/theirs but to do and die"). It is often quoted in history to lend juxtaposition and a macabre irony to historical accounts of the British and French armies' early battles of World War I. The French army, in particular, was pre-modern in both leadership and equipment — soldiers were festooned with the white gloves, royal blue pants, and gold epaulets of the Napoleonic wars from a century before; they revered the bayonet charge as a glorious

and romantic climax of battle. Their understanding of leadership was similarly antiquated, “rooted in the ‘great man’ heroic tradition, where leadership was associated with elitism, privilege and class” (Western, 2013, p. 162).

This discourse of an elite, class-based leadership succumbed to the rational, scientific controller discourse during the early part of the 20th century. Where the courageous men of the 19th century light brigade perished on the field of battle while striving to vanquish their foes, the 20th century British and French armies of early WWI simply died, futilely, in astounding numbers. The mechanization of the Industrial Revolution wrought tremendous carnage on both WWI combatants and the long-held romantic notions of leadership. Perhaps the combatants of WWI would have been similarly acclaimed had their struggle been only against a nation-state threat, rather than with modernity itself, and the way the modern age was to change what it meant to be a leader.

At its outset, however, the modern age was initially seen as the “true implementation of the Enlightenment” (Western, 2013, p. 164). It held the promise of societal progress, and, indeed, it slowly replaced the “feudal, epic and class” based systems that had reigned for centuries (Western, 2013, p. 164). The controller leadership discourse helped shape — and was shaped by — the emergence of the modern world (Western, 2013).

The modern world and the Controller leadership discourse alike were underpinned by two faiths: “the faith in the scientific method that advocates controlling an environment to minimize variants,” and “the faith in rationalism ... working on the principle that human progress and happiness depend on the capability to be in control of our passions and desires ...” (Western, 2013, p. 162). These two faiths amassed believers as the Industrial Revolution led to urbanization of the workforce, industrial factories, and the assembly line. New ways of working together required new forms of leadership, and the discourse of control developed to meet those needs (Western, 2010).

The first faith of rationalism refers to using reason “to understand, and therefore be in control of, the natural and social environment, overcoming unwanted passions and natural obstacles to progress” (Western, 2013, p. 162). Pre-modern man’s advancement — it was believed — was fettered by the natural environment, as well as his own animal nature (Western, 2013). Modern man, however, was able to exert control over the natural environment through the mechanization afforded by the Industrial Revolution. Similarly, rationalism offered a means of controlling human nature by subverting human passions and animal instincts to rational thought. Not surprisingly, rationalism’s triumph over the baseness of man imbues the controller leadership discourse with a certain moral prerogative: “When work is rationalized it improves performance and productivity, and also improves the moral good of workers by applying discipline and rules...” (Western, 2013, p. 163). Rules and discipline did increase production, which benefited the economy and therefore society (Western, 2013). However, it took more than just rationalism to bring out these benefits; rationalism needed a practical application.

Because workers were viewed as having a fundamentally base human nature, they required control by their leaders in order to ensure the efficiency and productivity that would benefit society (Western, 2013). The second faith of the modern age, the scientific method, provided the functional means to increase productivity, apply discipline, and drive progress. The early 20th century saw the first truly scientific studies of leadership. Frederick Taylor’s (1911) book, *The Principles of Scientific Management*, detailed the mechanics of a new form of leadership for the industrial age. Grounded in science, and justified by the morality of systematically exorcising base human nature for societal progress, Taylor’s scientific management became the first American business fad (Western, 2013). Such was the pervasiveness of Taylor’s approach that the Harvard Business School heralded it as the standard for modern management and declared that Taylor’s should be the foundational principles on which its business school’s courses should be organized (Western, 2013).

Scientific management was concerned with the study of time and motion (e.g., loading 47 long tons of pig iron per work day), the standardization of tools, division of work, centralization, and task allocation (Fayol, 1949; Western, 2013). Taylor (1911) believed that workers would act rationally (i.e., in their own self-interest) while on the job; this meant they were likely to search for ways to avoid work, rather than for ways to improve productivity and efficiency. This view of workers was one of the hallmarks of the controller leadership discourse; and the management practices of dividing work, allocating specific tasks, and timing those tasks were an effort to counter workers' self-interest and increase company productivity. Indeed, controlling the worker's physical labor was the primary mode of increasing productivity. Taylor (1911) describes at length a case where he observed that the average pig-iron gang worker at the Bethlehem Steel Company carried 12 tons of iron in a work day; however, his team concluded that "after studying the matter, a first-class pig-iron handler ought to handle between 47, and 48 long tons per day, instead of 12 and a half tons" (Taylor, 1911, p. 24). For Taylor, the task then became to ensure "the scientific selection of the workman" (Taylor, 1911, p. 25). He studied 75 workmen to assess the "character, habits, and the ambition of each of these men," and arrived at four men, one a Pennsylvania Dutchman named Schmidt, to whom he offers a raise in exchange for the higher load of pig iron (Taylor, 1911, p. 23). He refers to Schmidt as a "high-priced man" in this exchange, which, though long, captures the coercive, transactional relationship between leader and follower that typified the controller discourse:

"Vell, dot's all right. I could load dot pig iron on the car to-morrow for \$1.85, and I get it every day, don't I?" "Certainly you do — certainly you do." "Vell, den, I vas a high-priced man." "Now, a high-priced man does just what he's told to do, and no back talk. Do you understand that? When this man tells you to walk, you walk; when he tells you to sit down, you sit down."

Now you come on to work her to-morrow morning and I'll know before night whether you are really a high-priced man or not.” (Taylor, 1911, p. 26 -27)

Taylor (1911) admits that this “seems to be rather rough talk,” but that it was important to fix Schmidt’s “attention on the high wages ... which he wants, and away from what, if it were called to his attention, he probably would consider impossibly hard work” (p. 27).

While it is easy to see this behavior as manipulative or exploitative, at the time this manner of leadership was seen as essential for increasing efficiency, and, therefore, productivity for the company, society, and the country. It was also morally justified by rationalism, and supported by the nation’s top leaders. Taylor’s (1911) prologue references President Theodore Roosevelt’s address to governors at the White House:

We can see our forests vanishing, our water-powers going to waste, our soil being carried by floods to the sea...but our larger wastes of human effort, which go on every day through such of our acts as are blundering, ill-directed, or inefficient, and which Mr. Roosevelt refers to as a, lack of ‘national efficiency.’ (p. 1)

Roosevelt went on to say: “The conservation of our national resources is only preliminary to the larger question of national efficiency” (Taylor, 1911, p. 1). This is a remarkable statement from Roosevelt, who founded the first conservation organization in North America (Morris, 2010).

The controller discourse of leadership did do much to advance society and improve the lives of all classes during the Industrial Revolution. The division of labor and increase in efficiency led to higher salaries, mass production, greater consumption, and the modernization of society (Western, 2010).

Schmidt, though working harder than ever, also made 60% higher salary than his peers. Taylor describes the effect: “One man after another was picked out and trained to handle pig iron at 47 and a half tons per day until all the pig iron was handled at this rate, and the men were receiving 60 percent more wages...”

(Taylor, 1911, p. 20). Similarly, Henry Ford, through increased efficiency, was able to offer the Model T at a price of \$360 in 1914 — half the cost of only four years prior — a price even his assembly line workers could afford. This efficiency set off “a cycle of production and consumption, producing a new consuming class which has been the basis of expanding economies ever since” (Western, 2013, p. 168).

Yet, if Western society was lifted from an agrarian peasant existence, it was done so on the backs of industrial workers who suffered immensely under the scientific management of the controller leadership discourse. The relationship between leader and follower within this dynamic focused on the tension between manipulation and non-manipulation, as well as control and autonomy. The relationship was nearly exclusively transactional: a system of coercive control using reward and deprivation (Western, 2008). Perhaps the greatest criticism — and irony — of this discourse is that in the rationalistic endeavor to drive out the passions and animal spirits of workers’ base human nature, they lost their essential humanity. Taylor’s scientific management system was predicated on workers leaving “their sense of identity at the factory gate, and so be prepared to fit whatever ‘mould’ had been prepared for them by management” (Western, 2013, p. 168). Workers were reduced to “cog[s] in a machine, mirroring standardization and mechanization within the mass production of the factory” of the time (Western, 2008, p. 162). Their leaders became the familiar characters of the tough foreman and the “cold and efficient” bureaucratic manager (Western, 2013, p. 169). No more were the individual workers, craftsmen and skilled laborers; but rather, they “became faceless and mindless workers in overalls, and with this came disillusionment, alienation and ‘disenchantment’” (Western, 2013, p. 169).

The belief that the scientific method and rationalism would almost certainly produce an industrial, modern utopia began to unravel in new ways during World War II. Hitler was also an adherent of Taylor’s (1911) *Principles of Scientific Management*, and employed the same efficient methods to wreak destruction across Eurasia and commit genocide on an unprecedented scale (Western, 2013). Not only

did society begin to question the notion that scientific management would always yield societal progress, but the cold, unfeeling “science and rationalism became linked to the dystopia that was perpetrated by the Nazi regime” (Western, 2013, p. 172).

The controller leadership discourse would be made further unsustainable by changing social and economic factors. Following WWII, workers were better educated, higher paid, enjoyed more leisure time, and demanded a similarly rewarding society — “a land fit for heroes” (Western, 2013, p. 170). Political leaders also feared an outbreak of socialist revolution in America (similar to that in Eastern Europe following WWII) brought on by harsh working conditions and poor pay. The controller leadership discourse softened accordingly and found new applications.

During the 1950s and 1960s, the controller discourse was employed in the newly expanding white-collar office. Bureaucracy was the new machine, and the office worker was the new faceless, mindless laborer. With this came a generation of workers who saw the office as “a reliable place where if you kept to the rules, and were polite and obedient to the leadership, you were rewarded with a job for life and a pension” (Western, 2013, pp. 171-172). Directives were top-down; and even though working conditions improved, command-and-control style leaders still rewarded loyalty, compliance, and obedience (Western, 2013). The new controller leader character became the ‘company man’ who was primarily concerned with meeting performance objectives, maximizing efficiency, and creating a workplace with clear roles and tasks.

However, the sweeping social changes brought about during the late 1960s threatened the long-running controller leadership discourse as “social movements began to rail against hierarchies of power and the depersonalization created by faceless bureaucracies” (Western, 2013, p. 172). While the controller leadership discourse retained prominence in certain sectors of the economy, such as banking

and manufacturing, it gradually faded and is generally regarded as a “crude” way to run an organization (Western, 2013, p. 175).

Therapist Discourse

Society’s view of leadership in the post-World War II era was characterized by broad distrust of authority. The previous generation had placed tremendous faith in its controller leaders’ ability to usher in a modern utopia through scientific management, but that discourse also had “dangerous potential,” producing Hitler, Stalin, and Mao — leaders who would lead the world to question the unquestionable authority of leaders (Western, 2013, p. 189). The generation returning from war was also unwilling to endure the pre-war class and social divisions, as well as poor working conditions. The distrust of leadership was only compounded during the tumultuous 1960s and 1970s with events such as the resignation of President Richard Nixon and the escalation of the Vietnam conflict by Lyndon Johnson (Caro, 2012). During the 1960s, the “anti-authoritarian hippie movement and the liberation-focused social movements emerged, such as the youth, peace, feminist, and lesbian and gay movements” (Western, 2013, p. 189). The activists associated with these movements — and, indeed, much of America — protested against the authoritarianism, coercion, and manipulation so prevalent in the controller leadership discourse. Gradually, America and Europe began to desire a more democratic, participative form of leadership focused on the follower. Reformist political leaders who feared the spread of communism, fascism, and social revolution caused by poverty and poor working and living conditions went to work erecting democratic social structures and institutions (Western, 2013). They brought “reformist ideals of democratizing and improving society, and [tried] to offer a more democratic and collaborative leadership approach” (Western, 2013, p. 189). The therapist discourse of leadership “emerged as a people-focused, emotionally informed leadership within this changing social context” (Western, 2013, p. 188). The underlying ethos of this new understanding of leadership was that “to run

an organization successfully, it's the people you have to focus on, and it's the psychological and emotional that are important, not just managing people as function objects or 'human resources'" (Western, 2013, p. 188). Leaders and employers, for their part, saw this shift as an opportunity to provide better social *and* business outcomes by empowering a society previously indoctrinated to be passive followers during the controller discourse. It was hoped that this would bring about the dual benefit of increasing worker's satisfaction, and thus greater motivation and output. Efforts were made to challenge followers' "tendency to behave like compliant actors blindly following controlling leaders (as seen in fascism)" (Western, 2013, p. 189). For example, employees were given genuine decision-making opportunities, responsibility, and some autonomy — all in an effort to maximize production by increasing the motivation of workers through promoting personal growth. During this time the first human resource departments were formed. The role of the therapist leader character was to encourage workers to create their identities and find fulfillment through work, which increased their motivation and productivity. Perhaps cynically, the therapist discourse was based on the "principle that 'happy workers are more productive workers'" (Western, 2010, p. 39).

Underpinning this shift in leadership discourse was the broader trend Western (2013) calls therapy culture, which itself encompasses both the human relations and human potential movements. Therapy culture emerged from post-Freudian psychology and the rise of individualism in western contexts (Western, 2013). It was predicated on the 'subjective turn,' which has been described as "the defining cultural development of modern western culture" (Heelas & Woodhead, 2005, p. 2). Prior to the subjective turn, "life was 'lived-as', i.e. we belonged to an established order, and life was scripted by external forces; after the 'subjective turn', life was 'lived subjectively'" (Western, 2013, p. 188). Meaning, life was shaped by an individual's emotional experiences, rather than external forces. It is easy to see how a life 'lived-as' is compatible with the controller discourse, with its hierarchy, routines,

reliance on positional power, and close management of the employee's time and actions. However, the subjective life that developed in the 1960s required a new leadership discourse to meet the new societal expectation for a people-focused, emotionally intelligent, form of leadership (Western, 2013). This new therapist discourse of leadership was influenced, in part, by the human relations and human potential movements.

Human Relations and Human Potential Movements. Following the trials of the Great Depression and WWII, a new prosperity settled on America and the Western world. The modern era brought about during the controller discourse had afforded this new generation an easier life complete with leisure time. This “opened up new opportunities to reflect on the self” (Western, 2013, p. 191). Proponents of the human potential movement seized on that newfound society-wide opportunity for reflection to “[preach] the gospel of ‘human potential’... that we could achieve great things for ourselves, with the ultimate goal of finding inner happiness” (Western, 2013, p. 191). Such a goal as inner happiness would have been a laughable proposition in the pre-war era. However, in the 1960s, a growing chorus of voices — including Abraham Maslow, Jack Kerouac, and Aldous Huxley — brought this notion of “the re-awakening [of a] life of feeling” to the mainstream (Cobb, 2005, p. 256). Maslow, in particular, with his hierarchy of needs, capped by the idea of self-actualization, pioneered the human potential movement and spawned myriad research studies on human motivation (Western, 2013). An industry devoted to personal growth and personal identity sprang up.

The workplace corollary to the human potential movement was the human relations movement, which focused on an individual's motivations and his or her relationship with the group. Research began to recognize the existence of an informal organization that existed alongside the formal, hierarchical structure in most businesses (Barnard, 1945). This “dealt a blow to classic [scientific] management theory” (Western, 2013, p. 192). It also revealed the importance of employees' personal relationships

with each other and with those managers closest to them in a hierarchy: “a first-line supervisor was the most influential change agent in the workplace” (Western, 2013, p. 192). This dramatically upended the notion of central leader residing at the top of the organization; leadership became more democratic, distributed in varying degrees throughout the organization. The therapist leader character, therefore, became much more like a coach who “listens, cares and encourages ... [and] takes care of the team, creating a subtle therapeutic dependency ... lead[ing] through caring not charisma ... always trying to develop themselves and their team” (Western, 2013, p. 213). Employees were no longer thought of as cog-in-the-wheel, replaceable pieces. Rather, they were increasingly viewed as emotional beings in need of personal development to reach full productivity — productivity for the company. The Myers-Briggs, 360-degree feedback, and other psychometric instruments were developed as a result of this movement and sought to offer leaders and followers a means to better articulate their identities and feelings in the workplace. The workplace also became the modern venue for community. Where in the controller discourse, workers traded away their time and labor for money, in the therapist discourse people went to work to develop identity, self-esteem, and to be a part of a community (Western, 2013).

The underlying premise of the human relations movement was that happier workers are more productive workers. This focus on the individual was the antithesis of the controller discourse, which focused on efficiency and increased productivity for organizational, societal, and national common good (Western, 2013). However, because greater worker satisfaction and motivation was believed to yield greater production, this approach was viewed as ‘win-win.’

Yet, like the controller discourse before it, the therapist leadership discourse had several negative unintended consequences for society. First, the belief that happiness and company productivity (i.e., profit) could be linked leads to an inherent tension between promoting the welfare of the employee and ensuring increased profits for the company. It is a situation susceptible to manipulation by companies

and cynicism by employees. Just as the controller leader sought to control the physical labor of workers, the therapist leader can be viewed as attempting to control the emotions of the employee for company gain (and without the controller's moral prerogative of productivity for the common good). The so-called 'emotional labor' is when an employee is pressed upon to "create a public observable facial and bodily display" (Hochschild, 1983, p. 7), or simply to hide all emotion behind a "bland smiling and agreeable" public face (Jackall, 1988, p. 128). Oftentimes, this effort is referred to as the 'McDonaldization' of emotions: creating a monolithic corporate public persona by managing the emotions of individual employees. Western (2013) writes that emotional management can "mirror the Tayloristic, uniform and controlled production approach...eliminating global difference: give the customer a uniform burger with a uniform smile, and a uniform 'Have a nice day'" (p. 204).

A second negative affect of the therapist discourse was the way we understand human emotions. If the primary aim of the therapist discourse era was happiness and personal fulfillment, then emotions that are contrary to happiness become an illness to be treated. Emotions once understood as "grief, misery or melancholy became treatable illnesses, such as depression and anxiety..." and any other manner of "traumas, syndromes, disorders and addictions, which give rise to a culture of fear and vulnerability, and the pathologization of emotions" (Western, 2013, pp. 195-196). The therapist discourse saw the rapid expansion of diagnostic rates of stress disorders, attention deficit disorders, etc. Therapy culture entered heretofore 'healthy' parts of daily life and became "a way of thinking rather than a way of curing a psychic disorder" (Bellah, Madsen, Sullivan, Swidler, & Tipton, 1996, p. 113). Meaning, the self-help book becomes a best-seller, leaders are expected to cathartically express for us our emotions in times of grief and joy, and the concepts of self-esteem and support are universally accepted. Being a victim, in nearly every circumstance, merits social approval. Moreover, the very notion that everyone should be happy, of course, leads to failure, and the cycle continues on in perpetuity (Western, 2013).

Just as the therapist discourse gives society a broad array of disorders, traumas, and the like, a third negative aspect of the discourse is that it simultaneously takes away our ability to contend with them. The ‘subjective turn,’ with its attendant pathologization of emotions, led to a more complex life that required professionals, such as psychologists, social workers, therapists, and counselors (Western, 2013). The rise of these professionalized caregivers led to a disempowerment of the average person to contend with human emotion.

Lastly, while not an effect of the therapist discourse, but negative nonetheless, the workplace became the primary site for community in the modern world — as opposed to the community in which one lived. Employees sought better pay, better working conditions, meaningful relationships with fellow workers and leaders, and the opportunity for self-improvement (Western, 2013).

However, global economic competition during the 1980s led to the decline of the therapist discourse of leadership. Despite being the dominant economic and cultural force in the world, America began to fall behind Asian countries, particularly Japan, in the new global economy. The therapist discourse of leadership, with its individual focus and dependency on small, team-based units, simply was not scalable to the global corporation. The therapist discourse worked well in settings of stable teams and departments; this allowed expert therapist leaders to manage emotions and relationships among members of small units to maximize productivity. However, the new global cooperation was increasingly engaged in knowledge-based work that required flexibility and ad hoc teams, which meant the leader’s relationship with the unit was much less stable (Western, 2013).

The therapist discourse continues today in many people-oriented sectors that allow for stability, such as non-profits, education, healthcare, and public administration. Also, trace elements of the therapist discourse live on and can be found ingrained in the two upcoming discourses: we still expect our leaders to be caring, emotionally intelligent, and relationally skillful (Western, 2008). However, “the therapist

discourse alone would not be sufficient to deal with new challenges ahead” (Western, 2013, p. 214).

Leaders would need to motivate large numbers of people from a distance by articulating a compelling vision through symbolic acts and personal charisma.

Messiah Discourse

During the early 1980s, an economic recession in the U.S. and Europe led to mounting economic and political fears. With those came a growing desire to be rescued from societal ills (Gemmill & Oakley, 1992; Western, 2013). The rise of Asian companies, coupled with rapid globalization of a new, knowledge-driven economy, presented several practical challenges to leadership that would necessitate a major shift in order to maintain American dominance in the new global economy (Western, 2013). First, work teams became increasingly specialized. Employees possessed expert and highly technical knowledge, which afforded them greater autonomy and personal power. No longer could organizations be successful with workers functioning as unthinking cogs in the wheel. Second, the increasing autonomy of the individual employee led to flattened corporate hierarchies, which eliminated many of the middle- and lower-level managers and team leaders. These jettisoned managers had provided a close-by caring leader to ensure personal and relational development of the employee; they had been the foundation of the therapist discourse, but were no longer sufficient for success in a global economy (Western, 2013). Finally, the trend toward flattened hierarchies was hastened by new technology that allowed for global teams to meet virtually, which further eliminated opportunities for personal relationships (DeChurch et al., 2010; Gokel & Werth, 2010; Western, 2013). To combat these challenges, a new form of leader emerged that relied on individual charisma, vision, and the ability to appeal to, and motivate, the company men and women of the 1980s en masse. This new era of leadership was dubbed the messiah leader discourse, the name eluding to the desire to be saved by a visionary leader (Western, 2013).

Three important factors influenced the way in which the messiah leader discourse manifested itself in Western contexts. First, the rise of Asian companies — particularly Japanese — as viable competitors in the global economy. Japanese car makers, for example, began to rival America’s output of automobiles. Their success was largely attributed to their collaborative working methods, which grew from their more collectivistic culture (Western, 2013). The American individualistic society itself was being scrutinized, as was the therapist leader discourse that had for several decades promoted individualism. The Japanese approach, in comparison, had “emphasized strong [business] cultures focusing on family teams, flexibility, quality and service” (Western, 2013, p. 220). Many began to wonder if the loyalty and commitment that these collectivist cultures fostered in their employees could be replicated in the West.

The second major factor was the notion of workplace culture itself. Culture had always been something organizations were understood to possess, but in the late 1970s theorists began thinking of organizations themselves as cultures. Rather than viewing a company primarily as a brick-and-mortar structure — such as a factory or an office — that happens to need human resources to operate, organizations instead came to be viewed socially, “as cultures, and as constructed systems of meaning” (Western, 2013, p. 220). This led to change in how leaders should wield their influence, and the “emphasis changed from leaders working to control workers through transactional levers [controller leadership], or on the psychology and dynamics of influencing individuals and teams [therapist leadership], towards how to influence culture-as-a-whole [messiah leadership]” (Western, 2013, p. 220). Culture control provided the answer to the scalability problem that had limited the therapist leader. Where the therapist leader needed to maintain personal relationships with a small number of employees in order to lead, the messiah leader could lead large numbers of employees by establishing an organization’s culture through symbolic communication, and then allowing the culture to control the

employees (Western, 2013). Culture control allowed the educated, specialized worker to work independently and self-manage, all while being controlled by workplace culture: “motivation and control came from within individuals and from peers who shared norms set by the culture of the company” (Western, 2013, p. 218). The messiah leader’s job, then, became to establish, embody, and perpetuate this company culture. I like to imagine Leonardo DiCaprio’s character from *Wolf of Wall Street* as an example of this leader character.

The third factor that influenced the development of the messiah leadership discourse was the unprecedented number of expert consultants and applied researchers during this time period that were hired to study and provide advice for leaders in practice. The leadership best-seller became increasingly commonplace. The consensus among practitioners and researchers was the need for a *centralizing* leader figure in the sprawling, flattened hierarchy of the global corporation (Western, 2013). This cyclical process of study and publication served to bring about messiah discourse more quickly in public consciousness than the controller or therapist discourses before it, which emerged largely unexamined.

These three factors — increased global competition, a new conceptualization of workplace as culture, and the examination of leadership scholars and hacks alike — greatly shaped the emergence of the messiah leader discourse. It also gave new birth to the concept of leadership itself (Avolio, Walumbwa, & Weber, 2009).

The messiah leader discourse signaled a shift away from the bureaucratic control of the controller discourse and the therapeutic motivation of the therapist discourse. In many ways, it was revival of the 19th century ‘heroic leader’ figure. Indeed, the messiah discourse is credited with resurrecting leadership itself, as its focus on the individual leader challenged the “rhetoric of management” and “epitomized the new interest in leadership as a cure for the workplace ills” (Western, 103, p. 217). The messiah leader is considered largely synonymous with the transformational leader (Bass, 1985), and is characterized by

the ability gain the loyalty and commitment of employees by articulating a compelling common vision and establishing a strong sense of community among employees. If successful, it was posited that this approach would motivate workers to “work long hours and bring their whole selves to work” (Western, 2013, p. 218).

The notion of ‘whole selves’ was critical to the success of the messiah leader. Unlike the heroic leaders of the 19th century who could afford an unthinking, obedient followership, messiah leaders had the paradoxical task of encouraging workers to “bring their intellect and dynamism to the company” to help it compete in the hyper-competitive, knowledge-driven economy, while simultaneously limiting dissent and creating “homogenous, agreeable and hardworking employees who could provide conformity across different business sites” (Western, 2013, p. 218). In short, the messiah leader needs disciples — intelligent, engaged believers who bring their ‘whole selves’ to work, but who are also homogenous and ‘sold’ on the common vision and purpose, as described by the messiah leader.

Not surprisingly, the messiah leader included an element of morality. Perhaps stemming from a romantic notion of heroic leaders — or possibly out of fear of vesting so great a power in one individual — leadership scholars of the messiah discourse drew heavily on not only morality, but also on authenticity, spirituality, beauty, and inspiration as they described what a messiah leader should be: “Leaders are authentically transformational when they increase awareness of what is right, good, important, and beautiful...when they foster in followers high moral maturity and when they move followers to go beyond their self-interests for the good of their group...” (Bass, 1998, p. 171).

Burns (1978) cites this element of morality as a key distinction between the transactional leaders of the controller and therapist discourse, who had offered material or psychic tit-for-tat exchanges in order to extract productivity, and the transformational leaders of the messiah discourse, who led by uniting followers behind a common purpose (presumably a moral one). Bass and Avolio (1999) described four

characteristics of the transformational leader that also epitomize the Leader as Messiah character: (a) idealized influence, or the ability to project a trustworthy nature and set high standards for followers; (b) inspirational motivation, or the use of symbols, images, and emotional appeals to motivate followers toward desired goals; (c) intellectual stimulation, or the ability to encourage followers to question and establish values, beliefs, and expectations; and (d) individualized consideration, or the ability to make individual followers feel unique. By addressing these ‘four I’s’ leaders could promote a workplace culture, align values, and articulate a common vision (Western, 2013). As high-minded as this may sound, it is also easy to see the conflict inherent in using leadership’s morality and inspiration to increase productivity and profit (Western, 2013). There is also, of course, Hitler, for whom Bass (1985) created the concept of the pseudotransformational leadership, or what would otherwise be considered transformational leadership except that it is decidedly lacking in morality.

Western (2013) identifies several other critiques — there are many — of the messiah discourse of leadership and the messiah leader. First, the belief that this savior leader is suitable for all situations is problematic: “transformational leadership is critiqued for ignoring the contingency theorists who argue that different situations determine the appropriate leadership approaches” (Western, 2013, p. 226). For example, employees of a manufacturing firm or government bureaucracy would likely not respond to a messiah leader’s attempts to establish cultural norms, as their work is so utilitarian and does not require high levels of involvement by followers. Therefore, an outgoing, charismatic, transformational messiah leader would be unnecessary and likely distracting for the rote work to be done (Western, 2013). A second criticism is that transformational leadership relies heavily on individual “personality traits or personal predisposition rather than a behavior that people can learn” (Northouse, 2013, p. 202). This, then, becomes difficult to train or develop in individuals. In addition, the nature of transformational leadership is that it should be distributed throughout an organization, not just at the top. A lack of

research to suggest that training is even possible also becomes problematic (Northouse, 2013).

Interestingly, this sets up a paradox: “transformational leaders should be both common (distributed everywhere) and at the same time exceptional” (Western, 2013, p. 227).

Perhaps the most interesting criticism of messiah leaders is that they often create massive learned helplessness among followers (Gemmill & Oakley, 1992). According to psychoanalytic theory, charismatic leaders fulfill an unconscious need for a savior figure, especially in times of crisis or uncertainty (Western, 2013). This criticism is based on the idea that “individuals become regressively infantilized when a charismatic leader creates a psychological dependency in their followers” (Western, 2013, p. 227). Groups presume that “the leader will protect and sustain the members and will make them feel good...group members avoid responsibility of developmental activity and individual responsibility due to a pathological dependency” (Western, 2005, p. 286). This is similar to a concept introduced by Heifetz (1998) known as “flight to authority,” which refers to habitually looking for solutions to problems in authority figures, such as political leaders. Heifetz (1998) writes that flight to authority is “perhaps the essence of maladaptive behavior” (p. 73). This is dangerous for two reasons. First, it allows a group to avoid the toughest problems, and, second, it disempowers individuals from acting, which “disables some of our most important personal and collective resource for accomplishing adaptive work” (Heifetz, 1998, p. 73).

The effect of a messiah leader is the creation of a cohesive, homogenous group culture that limits dissent. However, as mentioned above, it also can stifle the creativity and critical thinking of followers. This puts increasing dependency on the singular messiah leader for ensuring the success of the organization (Western, 2013). This cycle of follower dependency and reduced critical thinking is, perhaps, the chief criticism of the messiah discourse: “transformational leaders use the rhetoric of

liberating talent, whilst actually creating cultures that enforce conformity and limit dissent and creativity” (Western, 2013, p. 231).

A corollary criticism is the practice of culture control that is utilized by messiah leaders. Culture control is totalitarian in nature; it comes from the individual employee and his or her peers, rendering unnecessary the supervision required during the controller discourse. Western (2013) is particularly pre-occupied with the ‘modern’ open-plan office as an example of a physical structure that reinforces a given culture; heralded as transparent and non-hierarchical, the open office, with its rows of desks in an open space, offers no place for dissent to develop. Foucault (1977) writes: “He who is subjected to a field of visibility, and who knows it, assumes responsibility for the constraints of power...[becoming] the principle of his own subjection” (pp. 202-203). However, while we tend to think of this culture as being imposed by a leader, this form of control also applies to the leader, as his or her actions are often, too, subject to the gaze of employees. Western (2013) writes that messiah leaders are not above an organization’s culture, but are, in fact, also trapped by it.

Finally, researchers have never been able to establish if this type of leader is actually transformative of individuals and organizations (Northouse, 2013). No causal link has been found. Messiah leadership can also be elitist and anti-democratic. This is not an automatic concern, but rather it raises questions of the organization’s ability adapt and thrive in a rapidly changing world if an organization relies on an elite corps of transformational leaders to provide vision — the same leaders who, as a byproduct of their work, limit creativity among employees.

Ultimately, the messiah discourse of leadership has declined because it very often fails to deliver on its promise of transformation, salvation, or profit (Western, 2010). This failure became increasingly clear around 2005 as systemic calamities, such as the global economic crisis and climate change, threw into sharp relief the shortcomings of the overpaid CEO to single-handedly contend with the complexity

of an increasingly interconnected and interdependent world (Western, 2013). Organizations could no longer develop leader-dependent, conformist cultures and expect to be able to adapt and thrive. A new discourse of leadership would emerge to make sense of leadership in the 21st century.

Eco-Leader Discourse

In regard to the emerging eco-leader discourse of the 21st century, Western quotes Yeats' (1924) poem, *The Second Coming*, when he writes "Things fall apart; the centre cannot hold" (Western, 2013, p. 247). Originally written as a dirge expressing humanity's subconscious fears as it grappled with the modern age of the early 1900s, the poem proved to be prophetic at the end of millennia ("twenty centuries of stony sleep were vexed to nightmare by a rocking cradle") when the centralizing force of modernity began to unravel. What were once believed to be closed systems under the control of a human master, now appear to be vast, complex, interconnected networks beyond direct control by any individual or organization. The worldwide financial system, for example, suffered a crisis in 2008 dubbed the worst since the Great Depression. Though media focus centered on bursting housing bubbles, subprime mortgages, and the Lehman Brothers' investment firm, these did not 'cause' the crisis that rippled from the U.S. to Europe and beyond in the traditional sense; and though regulatory measures, such as the Dodd-Frank reforms, were taken to right the financial system, those measures are not a sure fix. Similarly, during 2010, the Tunisian Revolution sparked the so-called Arab Spring of 2011. Without a centralized leadership, or even prominent leader figures, protests and pro-democracy movements spread to Egypt, Libya, and Yemen (Hubbard & Gladstone, 2013). The eminent threat of climate change, too, demands a change in thinking. Western (2013) writes that in this emergent eco-leader discourse, our task is to shape a reality that acknowledges:

That in a globalized, networked world the centre can *never* hold, simply because there is no centre.

The myth of central control has been exposed: the Soviet bloc, the Arab Spring, the financial sector

— in each, central control has been undermined by informal networks that cannot be controlled. (p. 247)

The previous three discourses are all predicated on a belief in centralized control. Whether it is the physical control of workers in the controller discourse, the emotional control of employees in the therapist discourse, or the cultural control of followers under the messiah discourse, they all share a common assumption that centralized control is both possible and natural (Western, 2013). Equally true is their assumption that a leader has direct control within a closed system. This is largely due to the lingering influence of the Industrial Revolution on our understanding of leadership. Leaders are understood to exist within the factory, office, or even global corporation; they are at the head of a system that is believed to be largely insulated from outside forces. A factory, for example, could be conceptually cordoned off from the larger world except in certain aspects: inflows of raw materials, pressure from market forces, and public opinion, etc. There existed what might be called a normative ‘isolationist’ viewpoint among leaders of businesses and governments (Barnard, 1948).

In contrast, the eco-leader discourse can be conceptualized as a “network of distributed leaders” (Western, 2013, p. 244). Western (2013) claims to have named this discourse eco-leader to reflect the increased usage of ecological and network metaphors in leadership literature. During much of the 20th century, leadership studies were generally written from what Rost (1997) calls the industrial perspective, which emphasizes “the preeminence of positional leaders and the machine-like qualities of organizations” (Wielkiewicz & Stelzner, 2005, p. 326). Now, as crises like climate change, pollution, and poverty force society to grapple with the interdependences and interconnectedness of problems, leadership scholars have turned to ecological metaphors, describing organizations as “a web of connections, networks that operate like ecosystems” (Western, 2013, p. 245). The machine metaphors of the 20th century are for factories and bureaucracies; today, organizations are increasingly understood as a

complex conglomeration of parts that make up an interdependent whole. Changing one facet of an organization has varying impact throughout. This has implications for leadership; in this discourse, “organizations cannot be led top-down, for an ecosystem requires nurturing, not controlling” (Western, 2013, p. 245).

In this vein, the eco-leadership discourse contends that leadership is a collaborative process, rather than the influence of one individual on a group of followers. The eco-leader character is a “generative leader, who creates organizational spaces for leadership to flourish” (Western, 2013, p. 275). The eco-leader character thinks in terms of networks and connectivity, and works to redistribute leadership and power from a centralized, hierarchical structure throughout an organization in an attempt to leverage the energy and creativity of the entire system (Western, 2010). Under this paradigm, the role of leadership is to bring together people, ideas, and organizational structures so that organizations can develop strategies to address adaptive challenges (Allen, Stelzner, & Wielkiewicz, 1999; Wielkiewicz & Stelzner, 2005).

The eco-leader discourse’s rise was facilitated by the convergence of three important social changes. First, complexity science (discussed as a theoretical framework later in this chapter) and quantum physics challenged the dualistic or binary view of the world, which led to a general shift in worldview from the mechanistic understanding of Descartes and Newton, to a more holistic and ecological conceptualization (Western, 2010). Second, globalization and technological advances have succeeded in shrinking the world. New communications technologies have redefined the nature of human association and created “new cultures, new democratic potentials, new business and economic realities, and new challenges” (Western, 2013, p. 250). Third, the environmental movement succeeded in bringing to the forefront the finite nature of our resources, as well as the calamity that might ensue as they diminish. However, in the eco-leader discourse, “eco” does not necessarily refer to the natural environment, or any environmental cause. Instead, it refers to the environment in which leadership occurs. It borrows from

nature its organizational metaphor of an ecological system. However, “we do not say organizations are *like* ecological systems; we say that they *are* ecological systems” (Wielkiewicz & Stelzner, 2005, p. 336).

As an example, the environmental movement’s ecological model was later co-opted by several other so-called ‘leaderless’ movements, such as the Occupy rallies, Anonymous, and the Arab Spring (Western, 2013, 2014). A ‘leaderless’ movement is not without *leadership*; rather, it simply lacks a centralized positional leader, as would be expected under the previous three discourses. Similarly, compare the creation of the Model T by Henry Ford and his assembly line method (a single, positional leader with scores of followers carrying out a highly regimented plan), with the creation of the Internet, which was created by a hundred thousand people without central control or even a particular vision — literally a networked approach. This illustrates the difference between mechanistic and ecological perspectives on leadership.

The eco-leader discourse is still emerging, and so any analysis cannot be as neatly conducted as with the previous three discourses. However, Western (2013) has identified four essential qualities of eco-leadership: (a) connectivity and interdependence, (b) systemic ethics, (c) leadership spirit, and (d) organizational belonging.

Connectivity and interdependence refers to any number of theories of organization: deep ecology, systems thinking, complexity science, fractals, self-organizing systems, etc. I will examine complexity sciences in greater detail in the next section of this chapter. However, it should be noted that in the eco-leader discourse, the term ‘ecosystem’ not only describes physical connectedness, but also the “social world, natural world and the non-human world of machines and technology [that are] increasingly enmeshed in inseparable networks...” (Western, 2013, p. 255). This understanding reverses a century-long practice of placing humans at the center — and in control — of everything. Where the controller

discourse and its immediate successors used science and rationality in an effort to overcome nature, the eco-leader discourse shares more in common with premodern man, who understood the interdependencies of the complex systems around him, as well as his own limited place within it. The eco-leader discourse acknowledges that while a leader may heavily influence a system, few things are under his or her direct control.

Systemic ethics refers to the notion that as our understanding of leadership extends to complex systems, so too should our code of ethics. In the 20th century, the vast majority of leadership studies have focused on the individual leader; an Aristotelian conceptualization of morals and virtue has dominated the literature (Western, 2013). This individual-focused system of ethics can be described as “close,” meaning it accepts responsibility only for the ethical nature of those actions taken by an individual that may directly affect those close by or in his charge. Many of the leadership theories originating out of the messiah discourse focus on Aristotelian, individual systems of ethics: for example, servant leadership (Greenleaf, 1977) and transformational leadership (Bass & Riggio, 2006). These approaches focus on a simplistic moral individual leadership. However, as society begins to recognize the complex interconnected and interdependent nature of systems like the environment and economy, a system of ethics that accounts for ‘distant’ effects of systemic actions is gaining traction. Such a system can be applied to moral questions of complex nature, such as climate change and poverty; and it begins to take responsibility for the indirect consequences of both individual and collective actions.

Leadership spirit refers to a decidedly human and humanistic trend away from the rationalism and materialism that have dominated the last century (Western, 2013). It signals a shift toward a more holistic approach to leadership that values not only profit, but also employee well-being and the human spirit in general. Where the therapist discourse sought to create happy workers for the sake of increased productivity, leadership spirit, in the context of the eco-leader discourse, acknowledges a fundamental

and universal desire to work together for the betterment of society. Leadership spirit “inspires and awakens the human capacity to strive for beauty and the ‘good society’ ... to love, build community, and to be courageous and resilient...” (Western, 2013, p. 262).

Organizational belonging refers to the meaningful situation of individuals and organizations within a larger ecological system. It is the counterforce to modernity’s effect of individuation and alienation. Modernity is “premised on separation ... the private sphere was separated from the public sphere, the church separated from the state, the body from the mind ...the economy became separated from society, home became separated from work, and the concept of employment was born” (Western, 2013, p. 263). In *Nature*, Ralph Waldo Emerson (2010) warns of man’s separation from nature and its detrimental effects on the human psyche. Similarly, as businesses and other organizations become separated from the communities in which they are based, the effects can be disastrous: the “separation of business from the social frees them from responsibilities (e.g., tax avoidance, polluting, exploiting people who work in far-off lands)” (Western, 2013, p. 264). The concept of organizational belonging means to resituate organizations within a larger context for the benefit of both society and business.

As the eco-leader discourse continues to emerge in the 21st century, these four characteristics identified by Western (2013) are — in some sectors — beginning to tear down the modernist hegemony of centralized power and cause society to recognize the interconnectedness and interdependence of all things.

Complexity Science as a Theoretical Framework for Eco-Leadership

Throughout the 20th century, the traditional approach to leadership was based on “machine metaphors and machine-like assumptions” (Allen, Stelzner, & Wielkiewicz, 1999, p. 67; Rost, 1997). Leadership was seen as derived from position, vested in an individual, top-down in nature, and “driven by power for the purpose of control” (Allen et al., 1999, p. 67). The leader and his or her actions were

viewed as “more critical than those of any other member of the group” (Wielkiewicz, 2000, p. 335). Those individuals within an organization who were “most competent and loyal” were appointed to leadership positions and assumed responsibility for the organization’s overall success; they provided vision for the organization and direction to followers (Chemers, 1997, p. 11). The focus of leadership studies, then, became to make these individuals better leaders, and, indeed, “much of empirical research on leadership focuses on predicting outcomes that reside at the individual level of analysis (DeChurch, Hiller, Murase, Doty, & Salas, 2010, p. 1069).

However, in today’s rapidly changing, increasingly complex and interdependent world, our models of leadership simply have not yet fully caught up with the leadership dynamics of a 21st century, knowledge-driven society (Avolio, Walumbwa, & Weber, 2009). The traditional notion of leadership as “having a vision and aligning people with that vision is bankrupt...” (Heifetz & Laurie, 1997, p. 126). Relying on a few, elite positional leaders is “inadequate for dealing with the complexities of the modern world” (Wielkiewicz, 2000, p. 335). The romantic notion of a heroic individual leader may no longer be sustainable (Avolio et al., 2009). Such approaches leave us ill-equipped to meet today’s complex challenges because they fail to leverage the collective intelligence, energy, and creativity of all actors in a system. The complexity of new, adaptive challenges — along with the sheer speed of scientific, technological, and societal change — is simply too much to depend entirely on a small, upper-echelon of positional leaders to provide “the leadership” (Allen et al, 1999; Western, 2013). Wielkiewicz (2000) warns of an “urgent need” to radically rethink leadership in a way that “matches the complexity of the systems to which organizations must respond” (p. 335).

The eco-leader discourse described by Western (2013) in the previous section is society’s emerging response to the challenge of rethinking leadership in a 21st century, knowledge-driven society. Among the tenets of the ecological approach is that leadership is not the property, action, or effect of an

individual, but is instead an emergent property of a collective process created when individuals interact (Avolio, Walumbwa, & Weber, 2009).

More scholars are beginning to understand leadership as a complex social phenomenon — “an emergent property of a social system, in which ‘leader’ and ‘follower’ share in the process of enacting leadership” — rather than a set of traits, skills, or behaviors (Jackson & Parry, 2012, p. 105). The long-running, 20th century, mechanistic understanding seems to no longer be able to adequately explain leadership as the emergent phenomenon at the center of the more contemporary, ecological worldview described in the previous section (Western, 2013). Therefore, just as scholars turned from mechanical to ecological metaphors for explaining the phenomenon of leadership, they have also sought out — and been influenced by — new scientific paradigms in which to ground their theories. Capra (1996) writes: “New concepts in physics have brought about profound change in our worldview; from the mechanistic worldview of Descartes and Newton to [a more] holistic and ecological view” (p. 5). One such “new science” influencing worldviews is complexity science (Lichtenstein, Uhl-Bien, Seers, & Orton, 2006; Marion & Uhl-Bien, 2001; Regine & Lewin, 2000). Though a nascent science, Regine and Lewin (2000) write that complexity science represents a “Kuhnian shift” in the physical sciences, and is expected to have a similar impact in the social sciences (Marion, 1999). Specifically, complexity science is considered a “prime contender” for the top spot in the next era of leadership and management studies, possibly due to its wide variety of applications (Richardson, Cilliers, & Lissack, 2001, p. 6). Scholars who have studied business, politics, the fall of the Soviet Union, the rise of the Arab Spring, trends in the stock market, the emergence of life on Earth, or the movements of flocking birds have all co-opted complexity science when attempting to explain these complex adaptive systems (Davis, 2004). Parallels in economics and business may offer insight for leadership. For example, new computing and networked communication technological advances have brought about “unprecedented” changes in the economic

and business environments “rival[ing] the onset of the Industrial Revolution in its impact on society ...” (Regine & Lewin, 2000, p. 5). Those technologies have connected the world in ways unimaginable 20 years ago and changed the way we think about boundaries, interdependence, and interconnectedness:

Where once companies imagined themselves to be the masters of their own destiny, in a connected economy they are interdependent players in a fluid and vacillating economic web, where their fate, more than ever, is affected by the behavior of other members. (Regine & Lewin, 2000, p. 5)

This connectivity among actors within a system is one of the hallmarks of both the eco-leader discourse and complexity science; it also directly applies to leadership studies (Allen et al., 1999; Western, 2013).

Through the lens of complexity science — just as through an ecological approach to leadership — leadership is no longer viewed as a simple, rational exchange between leader and followers. This view “won’t fly in terms of explaining the full dynamics of leadership” (Avolio, Walumbwa, & Weber, 2009, p. 430). Instead, leadership is viewed as an “interactive system of dynamic, unpredictable agents that interact with each other in complex feedback networks...” (Avolio, Walumbwa, & Weber, 2009, p. 430). These interactions foster learning, innovation, and the dissemination of knowledge (Uhl-Bien, Marion, McKelvey, 2007). Moreover, according to complexity leadership theory, leadership is not necessarily the *intentional* actions or effects of leaders. Instead, leadership “can be enacted through *any interaction* in an organization ... leadership is an *emergent* phenomenon within complex systems” (Hazy, Goldstein, & Lichtenstein, 2007, p. 2). This means leadership, as conceived of by complexity science, is *not just the product of*, but, rather, *is* the interactions of these unpredictable agents. When levels of interaction “reach a critical mass, patterns begin to emerge and the group self-organizes...” giving rise to social movements, organizational initiatives, even governments (Gaustello, 2007, p. 606). This is a sea change in leadership studies.

Therefore, when organizations seek to foster leadership, they cannot rely on simple, rationalized structures that ignore the complexity of the context in which the organization and its members function (Mabey, 2013; Uhl-Bien et al., 2007). The traditional focus of leadership studies on “the leader, the leader and follower, the leader and group, and so forth...” is a reductionist approach that is not sufficient for understanding the full dynamics of leadership (Avolio, Walumbwa, & Weber, 2009, p. 430). Perhaps the most important impact of complexity science is its contention that the fundamental unit of analysis should shift from the individual leader to the complex adaptive system (CAS) in which leadership occurs (Uhl-Bien, Marion, & McKelvey, 2007). By studying the complex adaptive system (e.g., environment or ecosystem), researchers can gain a better understanding of leadership; indeed, “many of the situations where leaders are potentially most pivotal require complex collective interactions” that must be taken into account when studying leadership (DeChurch, Murase, Doty, & Salas, 2010, p. 1061).

Uhl-Bien and colleagues (2007) write that society is “on the precipice of an epoch [in which] knowledge is a core commodity and the rapid production of knowledge and innovation is critical to [the] ... survival” of an organization (p. 299). Complex, adaptive challenges must be met (Heifetz, 1994). Those challenges require leveraging the collective intelligence, energy, and creativity of all actors in a system (Western, 2013). This requires an approach that no longer views leadership as the property or effect of individual actors, but rather as the complex system in which those actors work and co-create leadership. Complexity science helps us achieve this goal of studying the emergence of leadership in a complex adaptive system.

This section addresses: (a) what complexity science is and how it works, including the concept of emergence, (b) how a complexity science lens views leadership; and (c) how organizations and leaders can develop leaders and benefit from this view.

Complexity Science Explained

At its core, complexity science is a repudiation of the reductionist approach to scientific inquiry. Richardson, Cilliers, and Lissack (2001) write: “Where we once focused on the parts of a system and how they functioned, we must now focus on the interactions between these parts, and how these relationships determine the identity, not only of the parts, but of the whole system” (p. 6). Complexity science is, therefore, typically applied to complex systems — social movements, flocking birds, the emergence of life on Earth — whose internal structure cannot easily be reduced to a mechanistic system (Allen, 2001). This is in contrast to the traditional approach to science, which involves trading the complexity of the real world for a simpler, reduced representation (Allen, 2001). This reduction, in traditional scientific approaches, occurs by means of four assumptions; the researcher assumes he or she can: (a) establish a system’s boundaries, excluding factors that are less relevant; (b) reduce the “full heterogeneity to a typology of elements”; (c) study individuals of average type; and (d) study processes that run at an average rate (Allen, 2001, p. 24). This process of reduction does take much of the “messiness” out of studying a complex phenomenon, such as leadership. However, as Finkelstein (2002) writes, “I understand that as researchers we need to simplify very complex processes to study them carefully, but what are we left with when we remove the messiness, the back-and-forth, the reality?” (p. 77). There is a sense that the use of reductionist approaches has led leadership scholars to fixate on the individual leader’s “symbolic, motivational, or charismatic” actions for too long (Lichtenstein et al., 2006, p. 2). As scholars begin to view leadership as an “an emergent property of a social system,” the next step then is to explain *how* leadership emerges (Jackson & Parry, 2012, p. 105; Western, 2013). Emergence is a central component of complexity science. Indeed, complexity science’s purpose is largely to explain emergence.

Emergence. Emergence has been described as “a phenomenon where global behavior arises from the interactions between local parts of the system” (De Wolf & Holvoet, 2005, p. 2). The study of emergence is not a new one. The concepts of gestalt (i.e., an organized and unified whole that must be perceived as more than merely the sum of its parts) and ‘whole before its parts’ (i.e., “to consider an explanation in terms of the global behavior more important than explaining how the system works in terms of local behavior”) date back to ancient Greece (De Wolf & Holvoet, 2005, p. 2). Similar concepts can be found throughout Western thought since. However, there is a key difference between ‘whole before its parts’ or gestalt, and emergence. Where both gestalt and ‘whole before its parts’ presume a pre-established, coherent system, emergence is “not pre-given but a dynamical construct arising over time” (De Wolf & Holvoet, 2005, p. 2).

It is also tempting to conceive of emergence as a simple cause-and-effect phenomenon; however, this would miss the point of complexity science and the nature of emergence entirely. Perhaps the fundamental tenet of emergence is that it does not explain events in a linear, cause-and-effect fashion. One of the first written explanations of this concept was by English philosopher G.H. Lewes (1875), who made the distinction between ‘resultant’ and a term he coined, ‘emergent,’ when writing on chemical reactions:

Although each effect is the *resultant* of its components, we cannot always trace the steps of the process, so as to see in the product the mode of operation of each factor. In the latter case, I propose to call the effect an *emergent*. It arises out of the combined agencies, but in a form which does not display the agents in action (Italics added)... (Lewes, 1875, as cited in De Wolf & Holvoet, 2005, p.

2)

Thus, emergence takes place in a complex system with a high degree of interactivity among agents; however, the interactivity is nonlinear in nature and contains numerous feedback loops (Richardson et

al., 2001). This makes establishing cause and effect nearly impossible — some would say irrelevant — leading Lewes to use the term emergent.

Lewes' new term, emergent, was co-opted during the 1920s to “form the backbone of a loosely joined movement in the sciences, philosophy, and theology known as emergent evolutionism or proto-emergentism,” which arose to counter reductionist science (De Wolf & Holvoet, 2005, p. 2). This movement would be the fore-runner of modern complexity science. Unfortunately, proto-emergentism was greatly contested because it lacked details on exactly how micro-level actions became macro-level actions during emergence. It was not until much later in the 20th century, following the development of such scientific fields as cybernetics, condensed matter physics, and evolutionary biology, that a second movement, dubbed neo-emergence — or complexity science — emerged (pun intended). This second-movement complexity science was better able to explain how emergence happens in complex systems and led to the development of several schools of thought on the subject. Complexity science today is actually comprised of a family of theories that attempt to explain emergence: (a) Far-from-equilibrium thermodynamics; (b) Synergetics; (c) Nonlinear dynamical systems theory and Chaos theory; and (d) complex adaptive systems theory (De Wolf & Holvoet, 2005). The latter of the four, complex adaptive systems theory, is the most applicable for this study; complex adaptive systems theory is the only approach to “explicitly [use] the term ‘emergence’ to refer to the macro-level patterns arising from interacting agents,” which, of the four theories above, best describes leadership (De Wolf & Holvoet, 2005, p. 3). Regine and Lewin (2000) write, “the avenue most relevant to understanding organizational dynamics within companies . . . is the study of complex adaptive systems” (p. 6). Further, as I will explain later, the idea of leadership taking place within the context of a complex adaptive system is one of few theoretical consistencies within leadership literature grounded in complexity science (e.g.,

Lichtenstein & Plowman, 2009; Lichtenstein, Uhl-Bien, Marion, Seers, & Orton, 2006; Marion & Uhl-Bien, 2007; Regine & Lewin, 2000; Marion, Uhl-Bien, & McKelvey, 2007; Uhl-Bien & Marion, 2009).

Emergence vs. Self-Organization. Because complexity science is a relatively new field of science, there are inconsistencies in the literature with regard to its basic premises — even definitions. One key distinction that must be addressed is how authors tend to use the terms emergence and self-organization interchangeably. These concepts are distinct, but they are also interrelated. You can have emergence without self-organization, and self-organization without emergence; however, “in most systems considered in the literature, emergence and self-organization occur together” (De Wolf & Holvoet, 2005, p. 9). That is why it is critical to understand the distinction so as not to conflate the two concepts.

Beginning with emergence, De Wolf and Holvoet (2005) propose the following working definition:

A system exhibits emergence when there are coherent emergents at the macro-level that dynamically arise from the interactions between the parts at the micro-level. Such emergents are novel [with regard to] the individual parts of the system. (p. 3)

De Wolf and Holvoet (2000) support their definition: “This definition resulted from an extensive literature study, which identified the most important characteristics found in the literature” (p. 3). Since emergence is so difficult to explain in its totality, it is often more easily understood by its characteristics: (a) micro-macro effect, (b) radical novelty, (c) coherence, (d) interacting parts, (e) dynamical, (f) decentralized control, (g) two-way link, and (h) robustness and flexibility (De Wolf & Holvoet, 2005).

Macro-micro effect is, perhaps, the most fundamental characteristic of emergence. The macro-micro effect refers to “properties, behaviors, structures, or patterns that are situated at a higher macro-level and arise from the (inter)actions at the lower micro-level of the system” (De Wolf & Holvoet, 2005, p. 4).

These properties are what is referred to, collectively, as ‘emergents.’ In simpler terms, the behavior of a

system at the global level (i.e., the emergent) is dependent upon the micro-level interactions of individuals within the system. This is different from self-organization, which is discussed later.

Radical novelty refers to the idea that individual actors at the micro-level bear no “explicit representation” of the global behavior (De Wolf & Holvoet, 2005, p. 4). In other words, any individual micro-level actor is not a microcosm, or even a component part, of the larger global behavior. This is the characteristic that causes emergence to defy reductionist science: “the macro-level emergents are not reducible to the micro-level parts of the system” (De Wolf & Holvoet, 2005, p. 4). However, this does not mean that the emergent, macro-level behavior is not representative of the interactions of micro-level parts. The global behavior is, in fact, “implicitly contained in the behavior of its parts” (De Wolf & Holvoet, 2005, p. 4). Radical novelty, for these reasons, dictates the manner in which emergence should be studied. The macro-level behavior cannot be studied by disassembling the system to study its parts, as none of the individual, micro-level parts would bear any explicit representation of the larger system. Micro-level parts are not component parts, as in a mechanistic system. Rather, it is their individual actions and interactions that form the larger system. Therefore, these individual parts can only be studied in the context of the entire system.

Coherence simply refers to the idea that macro-level emergents maintain a certain identity over time. That is to say, they maintain a persistent and consistent pattern of interactions. Coherence is needed for micro-level individuals and interactions to make an identifiable macro-level, global system (De Wolf & Holvoet, 2005). Interaction of parts refers to the need for micro-level interactions in order to generate macro-level emergents. Parallelism, or simply having a large number of redundant parts, is not enough. Emergence only occurs when there is interaction. The complex system also has the ability to evolve over time. A dynamical system, made possible by time and evolution, is one that, as the system evolves, is

able to generate new behavioral possibilities that were not previously possible (De Wolf & Holvoet, 2005).

Decentralized control is, ironically, central to the concept of emergence. In this case, decentralized control refers to the state that no one part of a system is able to direct the macro-level behavior of that system. While the parts of a system might be controllable, the global behavior of the system is not directly controllable. This characteristic is made possible by radical novelty. In order for centralized control to be possible, the controlling, central part of the system would have to be representative of the global system; according to radical novelty, this is not possible because no micro-level part can bear “explicit representation” of the global behavior (De Wolf & Holvoet, 2005, p. 4).

While it is clear that micro-level interactions can lead to the emergence of a macro-level, global behavior, it is equally true that the macro-level properties have causal effects on the micro-level actors (i.e., downward causation); this process is known as two-way link. De Wolf and Holvoet (2005) provide the example of a trail of ants. The micro-level interactions of individual ants form the path, but the emergent path also influences the movements of individual ants, as they begin to follow the pheromone trail.

Finally, the robustness and flexibility inherent in complex systems are a byproduct of decentralized control and radical novelty. Because no micro-level, individual actor can have control over the macro-level system, or be a representation of that global emergent, “such a single entity cannot be a single point of failure” for the system (De Wolf & Holvoet, 2005, p. 5). This promotes robustness and flexibility. Moreover, “emergents are relatively insensitive to perturbations or errors”; the macro-level emergent can ‘take a hit’ in that “the failure or replacement of a single entity will not cause a complete failure of the emergent” (De Wolf & Holvoet, 2005, p. 5). Such a failure of a single entity might decrease performance, but “degradation will be ‘graceful’” (De Wolf & Holvoet, 2005, p. 5). De Wolf

and Holvoet (2005) provide the example of a traffic jam. Individual cars may enter or leave the traffic jam, but the jam phenomenon will remain so long as there is a critical mass of interaction and radical novelty.

The above definition of emergence and its characteristics draw a sharp contrast with the concept of self-organization. However, scholars have often used the two terms interchangeably despite having few similarities. Self-organization, as the name implies, refers to “systems that appear to organise themselves without external direction, manipulation, or control” (Dempster, 1998, p. 41). Self-organization is a relatively modern term, dating back to the years immediately following World War II. Cybernetics pioneer W. Ross Ashby defined the term as when “the organization of a system is the functional dependence of its future state on its present state and its external inputs, if any” (De Wolf & Holvoet, 2005, p. 6). The critical contribution of Ashby was the notion that an entity was self-organizing only if it changed itself, rather than being directed by an external authority. De Wolf and Holvoet (2005) offer this more modern working definition: “Self-organization is a dynamical and adaptive process where systems acquire and maintain structure themselves, without external control” (p. 7). In their definition, “structure” can be understood as either a spatial, temporal, or functional structure; “external control” refers to any direction, manipulation, pressures, or involvement from outside of the system. This does not, however, include data from outside the system. Self-organizing systems can change their own structure in response to inputs from outside of the system, assuming those inputs are not any manner of direction or instruction (De Wolf & Holvoet, 2005).

The primary characteristic of a self-organizing system, however, is that it requires an increase in order that leads to “the arrangement of selected parts so as to promote a specific function” (De Wolf & Holvoet, 2005, p. 7). Organization can begin from either a random or semi-organized state. Also, an organization can devolve (i.e., become less organized) and still be considered self-organizing because its

condition still allows for increased order. Interestingly, self-organizing systems can “organise themselves into conditions so complex that no useable functionality can result from it” (De Wolf & Holvoet, 2005, p. 7). Therefore, the self-organizing system must find a balance between too much and too little organization — a concept we will revisit when describing Cooperative Extension.

Using our traffic jam metaphor example, you can see that while it certainly qualifies as emergence (i.e., the actions of micro-level individual actors leads to a macro-level behavior), it does not constitute self-organization, as the behavior of those individual cars does not lead to an increasingly organized traffic jam. However, an example of self-organization may be a social movement that, over time, becomes mainstream, and develops a nonprofit (i.e., a level of bureaucracy) to continue its mission (Everett, 1992).

In summary, “the essence of emergence is the existence of a global behavior that is novel [with regard to] the constituent parts of the system. The essence of self-organization is an adaptable behavior that autonomously acquires and maintains an increased order...” (De Wolf & Holvoet, 2005, p. 9).

The Logic of Complexity Science. The primary purpose of complexity science is to explain emergence. Having described the characteristics of emergence in the previous section, I now address how complexity science posits the phenomenon of emergence occurring. It is difficult to explain in a straightforward fashion, as emergence, of course, is a non-linear, non-causal phenomenon. It should also be noted that complexity science is a loose conglomeration of theories rather than a single, coherent theory. Of course, having a single, coherent theory of complexity science would be antithetical.

That said, complexity science contends that “emergent structures are produced by a combination of microdynamic ... and macrodynamic forces” (Marion & Uhl-Bien, 2001, p. 392). I will now discuss those two forces in depth.

Microdynamics. Microdynamics represents the bottom-up behavior that is created when individuals interact; these behaviors can be either coordinated or random. Small groups, dubbed “aggregates,” begin to form through interaction (Figure 2-2). The term, aggregates, was first used by John Holland — a computer scientist who helped create the field of complex adaptive systems in which this study is grounded — to explain structures that formed in his neural network computer simulations (Grimes, 2015; Marion & Uhl-Bien, 2001). In the social sciences, the term aggregates typically describes “small groups of directly interacting actors who have a sense of common identity” (Marion & Uhl-Bien, 2001, p. 400). Aggregates might be a department, work group, sports team, or even a family unit. Aggregates are inherently limited in size because they must be small enough to “work out conflicting constraints among themselves — if too large, there would be too many conflicting constraints to work though and common identity, or order, could not emerge” (Marion & Uhl-Bien, 2001, p. 400). Aggregates then interact with other aggregates to form meta-aggregates, which are defined as “clusters of aggregates that are somewhat less interdependent and directly related than are the units in an aggregate, but which are linked by direct dependence on common resources or events” (Marion & Uhl-Bien, 2001, p. 400). Examples of meta-aggregates include an organization’s clientele, stakeholders, or external board of directors. Much like aggregates, meta-aggregates are also inherently limited in size by the ability to contend with conflicting constraints (Marion & Uhl-Bien, 2001). Microdynamics is principally concerned with the interaction and correlation (the meaning here differs from statistical correlation) between aggregates and meta-aggregates. How this interaction is studied is one of the defining characteristics of complexity science.

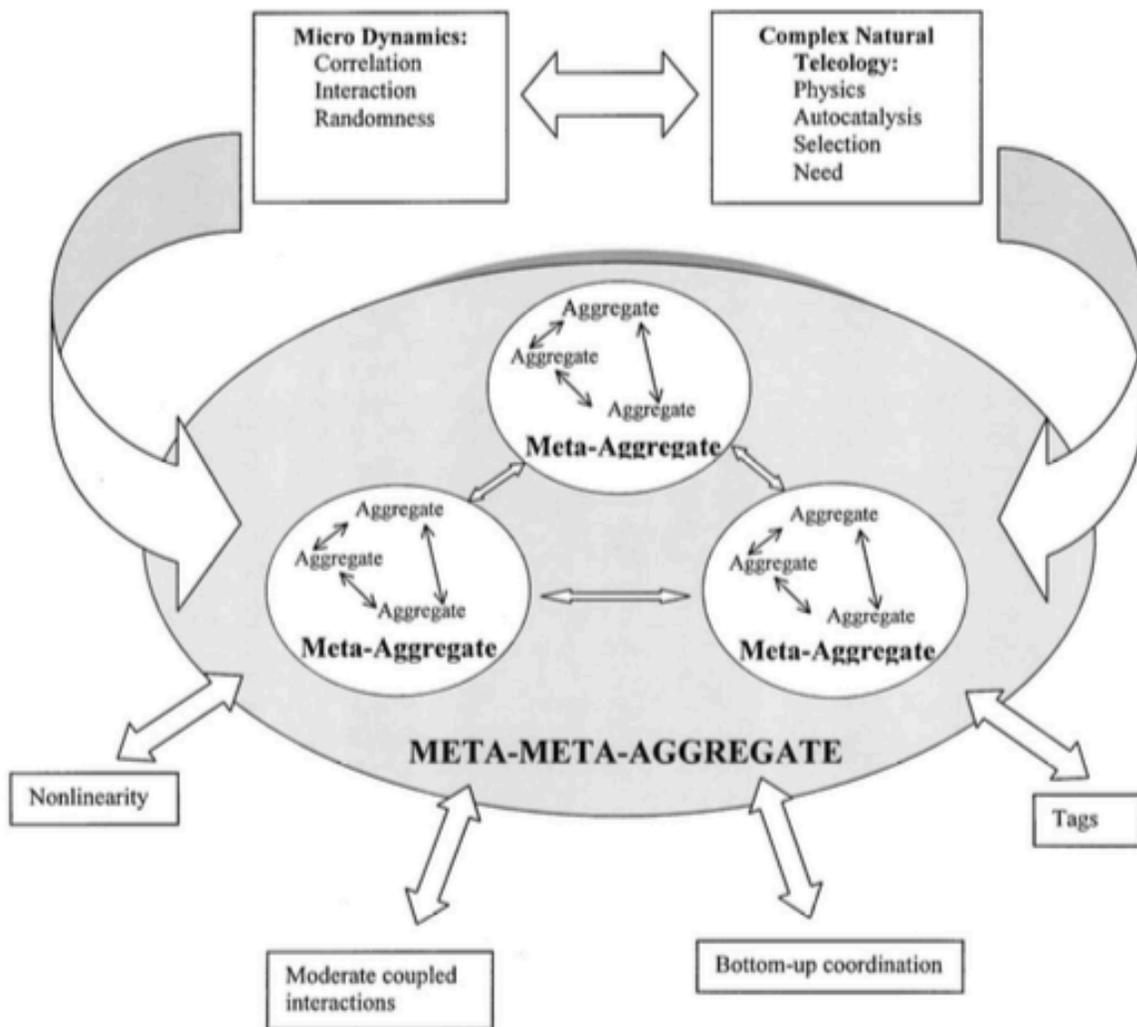


Figure 2-2. Microdynamics and complex natural teleology drive aggregation, or emergence to produce macrodynamics. In emergence, aggregates evolve into meta-aggregates, which, in turn, evolve into meta-meta-aggregates. From “Leadership in Complex Organizations,” by R. Marion and M. Uhl-Bien, 2001, *The Leadership Quarterly*, p. 392. Copyright 2002 by Elsevier Science Inc.

Traditional reductionist science has long contended that, if a researcher can understand the parts of a system, he or she can understand the system as a whole. Therefore, much of traditional research focuses on isolating and studying the trajectories of individual units, be they people or gas particles. However, at the turn of the 20th century some physicists began to argue that “the trajectories of physical particles are

prohibitively impossible to track” (Marion & Uhl-Bien, 2001, p. 393). Among these scientists were Einstein, Maxwell, Boltzman, and Gibbs. Gibbs proposed that scientists should instead track “ensembles,” which are defined as “a collection of identical systems with different initial conditions.” (Marion & Uhl-Bien, 2001, p. 400). Gibbs’ logic was that if a researcher could determine that the future behaviors of such ensembles were limited by present actions, then a system’s dynamics are “ordered and predictable” (Marion & Uhl-Bien, 2001, p. 393). Researchers would then just need to examine a system at some point in time, and then again following some intervention. However, Nobel Prize winner Ilya Prigogine pointed out the critical flaw in Gibbs’ argument: “the logic of certainty that underlies [Gibbs’] strategy is true only in simple, isolated systems — that is, they still ignore the complex interactions among ensembles themselves” (Marion & Uhl-Bien, 2001, p. 393). The effect of which is that an ensemble’s behaviors cannot be determined from a single ensemble’s initial conditions, but must take into account the effects of interaction between ensembles. Traditional research has not considered interaction among ensembles. Marion and Uhl-Bien (2001) posit that this may account for the “often-considerable amount of unexplained variance left over in statistical analyses” (p. 393). The reason being interactions among ensembles may have an amplifying effect on any differences in initial conditions of the various ensembles. Marion and Uhl-Bien (2001) offer this example:

Consider two balls in a pinball machine [each an ensemble] released separately with careful positioning and spring tensing. The two balls will follow different trajectories because minute, logically inconsequential differences in initial conditions change the dynamics of interaction with various curved surfaces [other ensembles]. Inexact positioning of initial conditions, however small, plus failure to consider interaction with other system leads to significant errors of prediction. The same is true of social systems. (p. 394)

A second phenomenon, similar to the interaction effect described above, is irreducible random effect. Irreducible random effect is a function of complex correlation, which is one of the two primary concerns of microdynamics described above. Irreducible random effect is when individual ensembles essentially share individual behaviors — dubbed resonance — with one another as a result of interaction. The effect of this interaction “imparts both a measure of stable order within and among ensembles and a collateral measure of unpredictability” (Marion & Uhl-Bien, 2001, p. 394). This tension between stability and unpredictability has implications for both leadership and the study of leadership, which I will discuss in the next section.

Macrodynamics. While microdynamics in complexity science is concerned with interaction, correlation, and random effects among the various levels of aggregates, or ensembles, macrodynamics in complexity theory is concerned with the resulting “structures and behaviors that emerge unbidden out of an interactive network of ensembles — behaviors that are self-generative, the products of interactive dynamics rather than external force” (Marion & Uhl-Bien, 2001, p. 396). In other words, macrodynamics is concerned with what emerges from the micro-level interactions of individual agents. Most interesting to the social sciences is that the result of these emergent structures and behaviors is often “innovation, dissemination [of information], and the emergence of order” (Marion & Uhl-Bien, 2001, p. 396).

Similarly, in the realm of leadership, “persistently interacting social networks create order, innovation, and fitness, but they ultimately elude control and prediction” because macro-level structures and behaviors arise in non-intuitive ways (Marion & Uhl-Bien, 2001, p. 396). However, uncertainty, unpredictability, and nonlinearity — while they may confound and conceal — are actually what afford complex systems the ability to be dynamic. Order and stability in a complex system are necessary and good, but they do not allow for the variation that is crucial to the ongoing survival of the system.

However, when you consider that these macro-level structures arise from the various interactions of multitudes of individual actors over time, that there is variety is not what is surprising. It is the emergence of order that is interesting and difficult to explain. Marion and Uhl-Bien (2001) have dubbed the collection of forces that enable this macro-level order “complex natural teleology.” Complex natural teleology is the mechanism that translates micro-level interactions into an order that is recognizable to humans as macro-level structures and behaviors.

Complex Natural Teleology. Complex natural teleology represents a consolidation of the many forces described in the complexity science literature that lead to the emergence of order in a complex system. Complex natural teleology is comprised of: (a) autocatalysis, (b) need, (c) physics, and (d) natural selection. Together, these forces are the requisite conditions for micro-level interactions to emerge into an ordered macro-level behavior or structure (Marion & Uhl-Bien, 2001). These concepts are easily applied to social systems, and, specifically, leadership.

Autocatalytic interaction “refers to a state of organization in which different units (people, departments, etc.) interact with one another within broad networks of interdependent behaviors” (Marion & Uhl-Bien, 2001, p. 398). By definition, a catalyst expedites or otherwise causes an interaction to occur that would not have happened otherwise. Autocatalytic interaction prefers a sort of medium of interaction. The number of individuals on which another individual is dependent must be limited, lest the system become unwieldy. It is also not hampered, or otherwise ordered, by leader directive (e.g., overbearing leadership vision, policy, agenda), or else the autocatalysis would lose its automatic nature and would be unable to “capitalize on surprise or the networked intelligence of its constituent units” (Marion & Uhl-Bien, 2001, p. 398). Because of its networked nature, autocatalysis can be encouraged but not directly controlled. This has implications for leadership discussed in the next section.

It is important to note that autocatalysis is a process, not a thing. However, it is spurred along by catalytic things. In his neural network studies, Holland discovered the presence of what he dubbed “tags,” or “any structure or information that catalyzes (enables or speeds up) certain social behaviors” (Marion & Uhl-Bien, 2001, p. 398). Tags can be new technologies, new ideas, group myths or beliefs, symbols and symbolic acts, or even leaders themselves. Marion and Uhl-Bien write this lengthy, but critical to this study, passage explaining leaders as catalysts within a complex system:

Leader tags emerge out of, and owe their existence to, interactive dynamics. That is, they rarely (and we suspect, never) create an interactive dynamic themselves; rather they are produced by the dynamic. Martin Luther King did not create the Civil Rights movement; rather he catalyzed its development. Churchill did not win the Battle Over Britain, but he symbolized British courage. Nonetheless, tags are of significant importance in the development and nourishment of emergent dynamics and they demonstrate how leaders can, and often are, involved in autocatalysis. (p. 398)

Whether it be present in the flocking of birds, the construction of cities, or a civil rights movement, autocatalysis is largely self-starting and self-perpetuating. It requires neither central coordination, nor outside direction. It is the essential element of emergence and complexity science. It is what leaders work to foster.

Need refers to the driving force behind emergence and is the second facet of complex natural teleology. In the social sciences, need is described as the “human drive to satisfy desires or needs,” which is like using the word in the definition; examples include “prestige, power, legitimacy, and resources...” (Marion & Uhl-Bien, 2001, p. 399). However, need itself is not the driver. Rather, the driving force is derived from needs arising that are at odds with one another — the tension that needs create — leading to “conflicting constraints that inhibit individual need satisfaction” (Marion & Uhl-Bien, 2001, p. 399). A certain order is derived from the interaction between individual actors seeking to

meet their needs; these needs are divided into two classes: (a) first-order needs refers to the need to accommodate the needs of both the individual and the network, and (b) second-order needs refers to the need to meet the need for fitness of an aggregate. As individuals work through conflicting constraints, individuals meet not only their own first-order needs, but also the first-order needs of aggregate. And, most importantly, because neither the individual nor the aggregate has all of its needs met, the second-order need for fitness maximization of the aggregate is achieved.

This “fitness maximization” results in a “nondeliberate control of the system’s present and future: a non-teleological teleology, so to speak.” (Marion & Uhl-Bien, 2001, p. 399). The misnomer is that teleology refers to “the deliberate pursuit of a desired end,” but in a complex natural teleology, the element of need imbues the complex adaptive system (CAS) with a *nondeliberate* drive for pursuing goals and meeting needs similar to Adam Smith’s concept of the ‘Invisible Hand’ in economics (Marion & Uhl-Bien, 2001, p. 399). According to complexity theorists, what results is a non-teleological system that can achieve both first- and second-order needs without relying on a macro-level, or global, coordination; this system “achieves a fitter future than could be achieved from top-down efforts” (Marion & Uhl-Bien, 2001, p. 399).

The third facet of complex natural teleology, physics, refers to “external and internal demands and restrictions that limit or enable system behavior” (Marion & Uhl-Bien, 2001, p. 399). These restrictions may be physical, such as technology, lack of resources, or group size. They might also be socially constructed, such as beliefs, mores, and social inertia (Marion & Uhl-Bien, 2001). In complex natural teleology, autocatalysis is driven by need, but is facilitated or hampered by physics. Therefore, the complex adaptive system can be manipulated by leaders who “control physical restraints by, among other things, identifying and acquiring enabling technologies and other resources” (Marion & Uhl-Bien,

2001, pp. 399-400). This is what Western (2013) refers to when he says ecosystems can be nurtured but not directly controlled.

Finally, the fourth element of complex natural teleology, natural selection, refers to “the selection of forms from among sets of possible forms (as restricted by physics),” which is similar to natural selection in the context of evolution (Marion & Uhl-Bien, 2001, p. 400). Here, however, scholars deviate on what facilitates natural selection in the context of a complex natural teleology. Proponents of natural selection contend that all of the variation from which to choose is provided by mutation. However, complexity scientists “see a role for mutation, but argue that mutations alone are not nearly sufficiently powerful to generate the diversity observable in the biological and social world” (Marion & Uhl-Bien, 2001, p. 399).

To summarize, we can think of the relationship between macrodynamics and complex natural teleology as similar to that of a car and its powertrain. We often focus on the car and its ability to get us from point A to point B, just as we focus on the behaviors and structures emerging through macrodynamics. However, what a car needs is a powertrain (i.e., engine, transmission, drive shaft) to have the effect of getting from point A to point B. In macrodynamics, the complex natural teleology fulfills this role. It is the mechanism that allows for the manifestations that are of actual interest.

The Complex Adaptive System. The complex adaptive system (CAS) is the environment in which the emergence of leadership occurs, according to complexity science. In recent years, scholars searching for a model to “more accurately reflect the complex nature of leadership as it occurs in practice” have employed the CAS as the fundamental unit of analysis for leadership — a shift away from the individual leader (Uhl-Bien & Marion, 2009, p. 631). The idea of a CAS is derived from Complex Adaptive System theory, which is one of four major schools of thought in complexity science (De Wolf & Holvoet, 2005). Levy (1992, as cited in Uhl-Bien & Marion, 2009) describes complex adaptive systems as:

A complex (adaptive) system is one whose component parts interact with sufficient intricacy that they cannot be predicted by standard linear equations; so many variables are at work in the system that its over-all behavior can only be understood as an emergent consequence of the holistic sum of the myriad behaviors embedded within. Reductionism does not work with complex systems, and it is now clear that a purely reductionist approach cannot be applied; ...in living systems the whole is more than the sum of its parts. This is the result of ...complexity which allows certain behaviors and characteristics to emerge unbidden. (p. 631)

Uhl-Bien, Marion, and McKelvey (2007) write that complex adaptive systems are “neural-like networks of interacting, interdependent agents who are bonded in a cooperative dynamic by common goals, outlook, need, etc.” (p. 299). Hedlund (1994) similarly characterizes CASs as “temporary constellations of people and units” (p. 92).

Complex adaptive systems can be found nearly everywhere: “ecosystems, the brain, ant colonies, stock markets, just to name a few” (Regine & Lewin, 2000, p. 7). It also provides a new paradigm for studying leadership in a way that “more easily explores issues that confound us from a traditional view — issues of shared, distributed, collective, relational, dynamic, emergent and adaptive leadership processes” — all approaches that fall within the emergent eco-leader discourse (Uhl-Bien & Marion, 2009, p. 631; Western, 2013).

What Constitutes a Complex Adaptive System? At its simplest form, the CAS “can be simply described as a system comprised of a large number of entities that display a high level of interactivity. The nature of this interactivity is mostly nonlinear, containing manifest feedback loops” (Richardson, Cilliers, & Lissack, 2001, p. 7). Richardson and colleagues (2001) have observed CASs to have all of the following qualities: (a) system memory, (b) diversity of behaviors, (c) chaos and self-organization, and (d) incompressibility.

System memory simply refers to the ability of a complex system to house a ‘history’ at both the micro-level (e.g., personal experience, conjectures, worldviews, or opinions of individual actors) and macro-level (e.g., value systems, culture, or ritual) (Richardson et al., 2001). This system memory plays a key role in the social inertia of the CAS; social inertia is an example of ‘physics’ with regard to complex natural teleology (Marion & Uhl-Bien, 2001). System memory is particularly important at the micro-level. The behaviors of the individual at the micro-level reflect “different beliefs of individuals based on past experience, and it is the interaction of these behaviors that actually creates the future” (Allen, 2001, p. 41). How does the interaction of individuals with varying information drive the complex system forward? This is a philosophical question. Invariably, some of these histories are wrong — erroneous information — creating a “web of imperfect information and diverse interpretive frameworks” (Allen, 2001, p. 41). This leads to a perpetual cycle of humans attempting to understand the world, failing, modifying their understanding, and so on in a “continual, imperfect learning process, spurred by the difference between expectation and experience, but rarely providing enough information for a complete understanding” (Allen, 2001, p. 41). While this seems defeating, it is, in fact, the very circumstance that puts the *adaptive* in complex adaptive systems. Because it is this “‘ignorance’ or multiple misunderstandings that generates microdiversity, and lead therefore to exploration and (imperfect) learning” that perpetually “induce[s] fresh uncertainties in the behavior of the system, and therefore new ignorance” (Allen, 2001, p. 41). (As a comparison, think of the difference between the human race, with all its fallacious thinking that leads to adaptive behavior, and Star Trek’s the Borg, with its hive mind of ‘perfect’ information.) As a result of the multitudes of ceaseless attempts at meaning making at the micro-level, “the behavior of the [macro-level] systems...are [sic] necessarily uncertain and creative, and is not best represented by some predictable, fixed trajectory” (Allen, 2001, p.

40). System memory, or history, is what makes a CAS at once coherent and dynamic. It also provides for the remaining three conditions.

Microdiversity and the nonlinear nature of interactions within a CAS lead to a diversity of behaviors, the second condition of CAS. A diversity of behaviors refers to a “rich diversity of qualitatively different operating regimes exist[ing] that the system might adopt” (Richardson et al., 2001, p. 8). Meaning, the sheer diversity of micro-level actors interacting creates varying behaviors from which the CAS may choose from in order to continue to adapt. This ‘choice’ is facilitated by the ‘need’ element of complex natural teleology. Moreover, in regard to a diversity of behaviors, Allen (2001) describes a “law of excess diversity” that contends that a system “in the long run requires more underlying diversity that would be considered requisite at any time” (p. 40).

Chaos and self-organization, the third condition of CASs, refers to a system’s ability to be sensitive to disturbances at the micro-level, but insensitive to disturbances at the macro-level (Richardson et al., 2001). Note that, as De Wolf and Holvoet (2005) pointed out, many scholars use the terms self-organization and emergence interchangeable, when, in fact, they are distinct phenomena. Richardson and colleagues (2001) are most likely referring to emergence when writing of chaos and self-organization. Specifically, I believe they are referring to emergence’s characteristic of “robustness and flexibility,” which holds that emergents are sensitive at the micro-level (e.g., a change in an individual actor will have influence on the CAS), but insensitive at the macro level (e.g., because of decentralized control and no single individual being representative of the global behavior, any degradation would be “graceful” and not result in sudden, global failure) (De Wolf & Holvoet, 2001, p. 5).

Finally, the condition of incompressibility of complex systems refers to the idea that “it is impossible to have an account of a complex system that is less complex than the system itself without losing some of its aspects” (Richardson et al., 2001, p. 8). This condition is “probably the single most important

aspect of complex systems when considering the development of any analytical methodology, or epistemology, for coping with such systems” (Richardson, et al., 2001, p. 8). At the crux of this idea of incompressibility is the concept of boundaries. In a complex system, everything is connected to everything else, rendering the idea of hard boundaries problematic. Humans tend to create arbitrary boundaries to aid in the sense-making process; they help us to establish order in daily life, but are probably not so good for science. Hard and permanent boundaries do not exist in nature; there is always more beyond the boundary that is connected to the phenomenon under study. What lies beyond the boundary would likely affect the complex adaptive system’s behavior. For this reason, “if a model of a complex system were to be constructed that captured all the possible behaviors contained (both current and subsequent) by the system being represented, then that model must at least be as complex as the system of interest” (Richardson, et al., 2001, p. 9). Therefore, the fundamental unit of study in complexity science is the complex adaptive system in its totality.

Thus far in this section, I have explained: (a) the need for a new ecological approach to leadership; (b) complexity science as a theoretical foundation for an ecological approach to leadership; (c) the concepts of emergence, self-organization, macrodynamics and microdynamics; (d) how complex natural teleology drives macrodynamics in emergence; and (e) how the complex adaptive system is the environment in which leadership takes place. However, thus far, I have only indirectly applied complexity science to leadership. In the next sections, I discuss the implications of viewing leadership through an ecological and complexity science lens. I also offer new approaches to leadership development, as well as strategies for leaders, that are suitable for this new understanding of leadership.

Implications of Grounding Leadership in Complexity Science

As the 21st century, knowledge-driven world becomes increasingly complex and interdependent, “there is a growing recognition that top-down theories of leadership are at best overly simplistic....

worse, the notion that a leader exogenously ‘acts on’ organizations in order to achieved the leader’s objectives may be misguided...” (Lichtenstein et al., 2006, p. 2). Similarly, there is an increasing view that “leadership does not necessarily reside within the leader’s symbolic, motivational, or charismatic actions” (Lichtenstein et al., 2006, p. 2). The pace of societal and technological change requires that organizations be more adaptive than ever before, which requires them to leverage the collective knowledge and creativity of the entire system rather than relying on an upper-echelon of positional leaders to provide leadership (Western, 2013). To meet these new realities of leadership, scholars have begun to employ complexity science as a theoretical underpinning for the phenomenon of leadership. Lichtenstein and colleagues (2006) write that complexity science has the potential to: (a) expand leadership from role-based actions to every interaction in a social system, (b) increase the accuracy of leadership studies by focusing on complex interactions rather than simplistic “independent” variables, and (c) provide a foundation for explaining how the actions of individual actors constructs global behaviors.

However, this changes our understanding of leadership, and what a leader does, in significant ways. Complexity science, and the ecological view of leadership it underpins, presupposes the following about leadership, which I will discuss at length: (a) the fundamental unit of study shifts from the individual leader to the complex adaptive system; (b) leadership is understood as an emergent behavior that results from the interactions of individual agents; (c) there is a distinction made between leadership and leaders; (d) adaptability, rather than stability, becomes the chief aim of organizations; (e) the leader’s role becomes facilitator of leadership within an organization, rather than sole provider of leadership.

From Individual to Complex Adaptive System. The majority of leadership studies have focused on the individual leader; however, “many of the situations where leaders are potentially most pivotal require complex collective interactions” (DeChurch, Murase, Doty, & Salas, 2010, p. 1061). Regine and

Lewin (2000) call this the “myth of autonomy” (p. 17). Leadership studies have a tendency to focus on the Lone Ranger-like CEO, or even a small group of top positional leaders, such as a board of directors. Meanwhile, there are nearly always multitudes of individuals behind their success or failure; the CEO or board of directors “are not apart from the system but part of it, and how they behave has far reaching effects in the connected web of complex systems” (Regine & Lewin, 2000, p. 18). In other words, they are part of a complex adaptive system (CAS).

These complex adaptive systems can occur in nearly any organization setting: bureaucracy, network structures, open source systems, markets, heterarchy, and starfish organizations (Uhl-Bien & Marion, 2009). They are the context in which leadership occurs. Uhl-Bien, Marion, and McKelvey (2007) write that a CAS is:

Not an antecedent, mediator, or moderator variable; rather, it is the ambiance that spawns a system’s dynamic persona...it refers to the nature of interactions and interdependencies among agents (people, ideas, etc.), hierarchical divisions, organizations, and environments. (p. 299)

This concept of a CAS in complexity science is nearly synonymous with the premises of an ecological approach to leadership described by Wielkiewicz and Stelzner (2010). It shifts the focus away from psychology and social psychology to systems thinking and interconnectivity as the basis for leadership studies (Marion & Uhl-Bien, 2001).

Leadership as an Emergent. For much of the history of leadership studies, leadership was thought to be the property of an individual — skills, traits, behaviors, etc. Even later, as leadership became more situationally or contextually grounded, the focus was still on the influence relationship of *the* leader and his or her followers (Northouse, 2013). An ecological and complexity science viewpoint rejects this notion, describing leadership instead as “an *emergent process*, that is, it emerges from the interactions and actions of individuals within an ecological system” (Wielkiewicz & Stelzner, 2010, p. 21). This

definition relies on the concepts of emergence, micro-macro effect, complex natural teleology, complex adaptive systems, and related concepts discussed above to explain the manner in which leadership arises out of group environments.

Basically, when combining all of the above concepts, leadership, from an ecological lens, arises in the following way. Micro-level interactions among individual actors (i.e., so-called leaders and followers), dubbed autocatalytic interactions, occur. These micro-level interactions are driven by need, enabled by human and technological catalysts (or tags), limited by physics, and culled by natural selection. These autocatalytic interactions cause the generation, or emergence, of macro-level structures and behaviors (i.e., aggregates, meta-aggregates, and meta-meta-aggregates) that yield order, innovation, and dissemination of information — things we would recognize as leadership and the products of leadership (i.e. organizations, movements, flocks of birds, etc.) (Marion & Uhl-Bien, 2001).

The implication of this viewpoint is that so-called leaders and followers, if not equally responsible for co-creating leadership, are at the very least more interconnected than previously thought. Who, then, is the leader? Gibb (1958) writes that a leader could very simply be selected by how often he or she engages in acts of leading, except for two problems. The first is that when leader and follower roles are more fluid, and the leadership is not always provided by one leader, then the observer has no better option in determining who is leader than to draw “an arbitrary line on a frequency continuum” — leaders are people who lead more often than follow (Gibb, 1958, p. 103) However, the second problem, Gronn (2008) writes, is that “there remain[s] the problem of reciprocity: a strategy of distinguishing leaders as group members who influenced their fellows more than they were influenced by them, [does not allow] for the cumulative influence of all the individuals on one another” (p. 147). In other words, influence is not a simplistic, one-way force, as it is often described in leadership studies. Reciprocal influence, Mary Parker Follett (1973) notes, is the notion that influence is more than “all the ways in

which A influences B, and all the ways in which B influences A,” it also describes how “A influences B, and that B, made different by A’s influence, influences A, which means that A’s own activity enters into the stimulus which is causing his activity” (p. 159).

Admittedly, this leaves us with a messy process, but as the original coiner of the term “emergent,” G. H. Lewes (1875) writes, “we cannot always trace the steps of the process, so as to see in the product the mode of operation of each factor” (as cited in De Wolf & Holvoet, 2005, p. 2). Finkelstein (2002) writes, “What are we left with when we remove the messiness, the back-and-forth, the reality?” (p. 77).

This approach does not deny the importance of positional leaders (Wielkiewicz, 2010). Rather, it simply changes their role, which I will discuss next.

Distinction Between Leaders and Leadership. If leadership is an emergent process in which leaders and followers’ roles are more fluid than initially thought, then clearly there is a distinction to be made between leaders and leadership (Day, 2001). This is self-evident. Through the lens of complexity science, so-called leaders are the individual agents or actors within an ecosystem. Through their interactions, they generate leadership. Their leadership is detached from position, and it is not considered a static state.

Adaptability Becomes the Chief Aim of Organizations. Assuming an organization can carry out its mission successfully, it will usually turn its attention to longevity. It is the primary role of the members of an organization to structure and position the organization for continued relevance and success (Selznick, 1997). This necessitates the organizational capacity to continually interpret and react to external environmental factors. Barnard (1948) writes that the external environment is comprised of “physical, biological, and social materials, elements, and forces,” and, further, is “at root the cause of instability and limited durability of organizations” (p. 6).

Though Barnard's (1948) description of an organization's need to contend with the external environment was appropriate for his time, how organizations seek to adapt has changed over time. During the time that Barnard wrote, organizations sought to find "equilibrium" with the external environment by enacting controlling internal policies governing employees' behavior. This model situated power and control in the hands of positional leaders and relegated employees to worker status (Western, 2013). This model may have been effective when the purpose of an organization was efficient physical production, but in today's knowledge-driven economy, "knowledge is a core commodity and the rapid production of knowledge and innovation is critical to ...survival" (Uhl-Bien, Marion, & McKelvey, 2007, p. 299).

To structure and position an organization for survival in a modern, knowledge-driven society, Wielkiewicz and Stelzner (2005, 2010) propose an ecological perspective that is characterized by four factors: (a) interdependence, (b) open systems and feedback loops, (c) cycling of resources, and (d) adaptation. This ecological model stresses the individual responsibility of actors in an ecosystem, developing the capacities of individuals within organizations, and a long-term perspective (Allan, Wielkiewicz, & Stelzner, 1999). Rather than chasing equilibrium, the goal becomes maximizing the *adaptability* of the organization to better contend with changing external factors. This ecological perspective posits that the long-term adaptability of an organization will be determined by the management of the tension between situating power and control in the hands of positional leaders, and having a "diverse sample of organization members influence the leadership process" (Wielkiewicz & Stelzner, 2005, p. 331). This is also described as the tension between the mechanistic or industrial paradigm, and the ecological paradigm, which is discussed below.

An ecological perspective is concerned with the way in which an organization interrelates to other parts of its ecosystem (i.e., society, economy, the environment), as well as inflows of information and

resources — all in an attempt to be adaptive (Western, 2013). Western (2010) sums it up, writing that the environment “change[s] so quickly these days that the adaptive companies with capability for change are the winners” (p. 49).

Leader’s Role in Enacting Leadership. If leadership is co-created by individuals in a complex adaptive system (CAS), and all actors could be considered a “leader” at some point, what then is the role of the positional leader in an ecological or complexity science approach to leadership? There is surprising agreement in the literature; positional leaders continue to play an essential role by: (a) influencing the structure of the ecological system, and (b) managing tension to create adaptive change.

First, rather than creating change through directives or selling their vision on followers, positional leaders act as organizational architects, creating the right conditions for leadership to flourish (Western, 2013). This is similar to the concept of physics with regard to complex natural teleology; physics refers to “external and internal demands and restrictions that limit or enable system behavior” (Marion & Uhl-Bien, 201, p. 399). Positional leaders who have control over distribution of an organization’s resources have considerable ability to shape its human decision-making processes. By apportioning resources and distributing power, positional leaders can influence the ecosystem in which they work. Further, Wielkiewicz and Stelzner (2010) argue that the focus of leadership studies should be on “the *way* that decisions emerge from interactions of positional leaders with all other members of the organization” rather than the traditional focus, which tends to focus on a leader’s decisions and their impact (p. 22). How the leader can manage these leadership processes is discussed in greater detail in the next section.

Second, positional leaders play a critical role in what Wielkiewicz and Stelzner (2010) call “optimiz[ing] the tension between the ‘Old School’/industrial perspective and the ‘New School’/ecological perspective” (p. 23). The tension is between structure and process, efficiency and adaptability, order and chaos. This need for balance has long been understood on some level in

leadership studies; examples of the yin and yang of this industrial/ecological tension abound: transactional versus transformational leadership (Pearce & Sims, 2002); organic versus mechanistic (Courtright, Fairhurst, & Rogers, 1989); democratic versus autocratic leadership (Gastil, 1994), the individual versus relationship orientation (Rost, 1997); etc.

The difficulty for the positional leader is in achieving a balance over time. Recall that Barnard (1948), writing from an industrial perspective, believed the purpose of leadership in an organization was to help achieve an equilibrium with the external environment through creating internal structures. Structure can create order, efficiency, and high productivity, but too much can also leave an organization unable to adapt quickly to a changing environment. Conversely, an ecological model, with its focus on process, can lead to disintegration if carried too far; should all structure and hierarchy be eschewed, the ecosystem becomes too chaotic (Wielkiewicz & Stelzner, 2010). To demonstrate the successful navigation of the tension between these two paradigms, Regine and Lewin (2000) provide the example of Andy Grove, then CEO of Intel. Facing the need to make adaptive challenges, he chose not to deliberately restructure the hierarchy of the organization in a top-down manner. Instead, he “pushed [the organization] into a degree of chaos by creating uncertainty and ambiguity” in order to free all the actors within the Intel ecosystem to generate their own order in response to the external adaptive challenge (Regine & Lewin, 2000, p. 11).

The benefits of nurturing an ecosystem and balancing the tension between structure and process is clear. Complexity science and the ecological approach it supports “dramatically expands the potential for creativity, influence, and positive change in an organization” (Lichtenstein et al., 2006, p. 8). Further, it provides a clear set of procedures for distributing leadership, fostering self-organization, and overall making an organization more adaptive.

Developing Leadership and Strategies for Leading in a Complex System

How to Develop Leadership? As described above, the primary role of the leader in an ecological approach to leadership becomes that of an influencer of an ecosystem's physics. Organizations cannot be designed with simple, rationalized structures that do not acknowledge the complexity of the system in which an organization and its actors must work and adapt (Uhl-Bien et al., 2007). In an ecological approach, positional leaders serve as organizational architects (Western, 2008). Today's organizations are increasingly flat hierarchically (DeChurch et al., 2010; Gockel & Worth, 2010), and organizations are no longer conceived of as closed systems (Western, 2008). In such organizations, positional leaders are encouraged to "assist in the emergence of leadership rather than creating change through executive orders and decisions" (Wielkiewicz & Stelzner, 2005, p. 331). Wielkiewicz and Stelzner (2010) put forward four principles for structuring organizations to nurture the creation of leadership: (a) interdependence; (b) open systems and feedback loops; (c) cycling of resources; and (d) adaptation. These four principles are "critical to understanding leadership and organizations" from an ecological viewpoint (Wielkiewicz & Stelzner, 2010, p. 18).

Interdependence. Both biological and social systems are comprised of interdependent component parts that have the ability to influence one another. Similarly, networks that generate leadership are interdependent systems. They consist of families, organizations, informal networks within organizations, communities, the natural environment, the economy, etc. The principle of interdependence holds that any attempt to understand or direct an organization by focusing on its positional leader is incomplete and bound to fail. Leadership must be understood in the complex context of the organization and its environment (Wielkiewicz & Stelzner, 2010).

Open Systems and Feedback Loops. No organization is a closed system. Each organization is dependent on inflows of information and other resources. Each organization is itself part of a larger,

more complex open system (e.g., economic, political, social). By treating an organization as a closed system, leaders deny the inherently human enterprise that is the organization. Additionally, organizations that squelch feedback loops place the organization at risk by lessening its ability to adapt to the environment (Wielkiewicz & Stelzner, 2010). For example, Barnard (1948) writes that, in times of crisis, positional leaders tend to communicate less with employees and often centralize control — generally to the detriment of the organization.

Cycling of Resources. Biological systems must utilize resources in the environment in an efficient and sustainable way. Similarly, leadership processes within organizations must also efficiently leverage the talent and capacity of the whole system. In this way, leadership can be developed on an ongoing, long-term basis. This principle rejects the notion that positional leaders should dominate the leadership processes of an organization. This does not mean an individual will not initiate key actions at a point in time; however, it contends that expecting a single individual to act as *the leadership* is unrealistic and inefficient (Wielkiewicz & Stelzner, 2010).

Adaption. Biological systems adapt through evolution. In this way, organisms can respond to the changing environment. Similarly, organizations must have in place structures that facilitate ongoing organizational learning in order to adapt to changing environments. The greater the adaptive learning, the greater the ability to respond to external threats (Wielkiewicz & Stelzner, 2010).

As organizations begin to re-think the 20th century machine metaphors of leadership, an ecological perspective offers a useful metaphor when viewing an increasingly interconnected and interdependent world (Allen et al., 1999). Similarly, the ecological approach to leadership necessitates a rejection of the traditional, reductionist approach to scientific inquiry. Rather, it is grounded in complexity science, which, among its central tenets is that macro-level behavior cannot be studied by disassembling the system to study its parts, as none of the individual, micro-level parts would bear any

explicit representation of the larger system (De Wolf & Holvoet, 2005). In an ecological approach, the role of the positional leader becomes to act as an organizational architect, structuring the organization to maximize adaptability (Western, 2013), and to optimize the tension between the need for the stable mechanistic view and the more adaptable ecological view (Wielkiewicz & Stelzner, 2010).

Cooperative Extension as an Ecological System

Not every organization is an appropriate venue to apply an ecological approach to leadership. Organizations like banking or manufacturing, which require specific tasks to be performed in an efficient manner, are predisposed to a controller discourse (Western, 2013). Schools and hospitals, which employ individuals in highly personal roles to provide the organizations' services, are often situated within a therapist discourse. An ecological approach, on the other hand, is well-suited to organizations that feature flattened hierarchies, a more educated workforce, and collaborative decision-making processes (Western, 2013). The ecological approach to leadership is also particularly suited to a knowledge-driven economy that requires rapid generation of new knowledge and innovation in order to be competitive; the flattened hierarchies and collaborative decision-making processes allow the eco-leader to harness the creativity, energy, and intelligence of the entire ecosystem to provide leadership for the organization rather than relying on a few positional leaders (Western, 2013). The ecological approach is also particularly well suited for organizations that purposefully seek out connections with other organizations and communities. Where the controller, therapist, and messiah discourses conceived of an organization as a bounded system, the eco-leader discourse views organizations as interconnected and interdependent (Western, 2013).

The Cooperative Extension Service fits the description of an organization predicated on an ecological worldview. Berrio (2003) ranks one state's Extension agents' preferred organizational structure; hierarchical was ranked lowest of all options, with clan control ranked highest. Clan control

places considerable importance on flexibility, concern for people, individual development, teamwork, and consensus (Cameron & Quinn, 1999). Similarly, the Extension Service in general features a flattened hierarchy, with Extension agents wielding considerable autonomy. It employs a highly competent and educated workforce. It is interconnected with larger organizations, such as the land grant system and federal, state, and local governments, as well as non-profit organizations and community groups (Peters, Alter, & Schwartzbach, 2008). It also purposefully seeks to be integrated with the local community through branch offices that partner with organizations, form advisory committees, and engage in advocacy related to critical local issues. Finally, in a knowledge-driven society, the Extension Service's very mission is, at least in part, the dissemination of knowledge (Peters et al., 2008). An ecological approach to leadership allows the organization to be more adaptive to meet the needs of clientele.

In this section, I argue that Extension is, perhaps, one of the longest running organizations built on an ecological model in America, and that an increasingly ecological approach to leadership will be beneficial to Extension, as well as the increasing number of organizations worldwide who also feature flattened hierarchies (DeChurch et al., 2010; Gockel & Werth, 2010). In this section, I will: (a) argue that the development of the land grant system, in which the Extension Service is nested, is historically an ecological organization; (b) describe the modern Extension service, its turn toward an industrial paradigm, and the need to return to an ecological approach; (c) explain its connection to the community; (d) explain the role of the Extension 4-H agent as an eco-leader, (e) explain the structure of county 4-H associations, which are the focus unit of this study; and (f) describe issues facing the Extension Service, such as agent turnover, particularly in light of a generational shift.

The Early Years of Land Grant

The idea of the land grant has been called “the one original contribution of American higher education” (Bonnen, 1998, p. 4). It is the declaration of a set of beliefs about the role of the university in contemporary society (Bonnen, 1998). These beliefs were formed largely as a reaction to the industrial revolution and an unwillingness of existing private colleges to address the emergent needs of Americans. Early American private colleges were built on the English elitist model (Martin, 2001) and were typically church sponsored, providing classical education to less than 1% of the population (Bonnen, 1998). However, the industrial revolution created new, complex problems and societal needs, such as the demand for trained professionals in the fields of engineering, nursing, public health, and agriculture. It also created an income gap, which led to an underclass of poor farmers and industrial workers “with no prospect of access to the skills and practical education necessary for a better life” (Bonnen, 1998, p. 3). Fears arose that the growing income inequality would erode democratic institutions and civil liberties themselves. Indeed, Justin Morrill, the primary congressional author of the act establishing the land grant system, sought broader access to higher education as a means of strengthening democracy itself (Bonnen, 1998) by making available widespread education as driver for socio-economic development (Martin, 2001).

Though there was not necessarily a coherent plan, by the turn of the century the consensus was that the land grant universities would be of service to society by:

- Educating and training professionals in an industrial, urban society;
- Providing access to higher education broadly, without regard for social status or wealth;
- Working to improve the welfare and social status of farmers and industrial workers, who were at the time among the most disadvantaged groups (Bonnen, 1998).

This approach is inherently in keeping with an ecological approach to leadership development. At the largest organizational level — the nation — society was rejecting the notion that leadership should be concentrated in the hands of the elite. The counter strategy was to create a learning organization in line with one of Wielkiewicz and Stelzner's (2005) factors of the ecological perspective of leadership, adaptation, which is based on the notion that “structures and processes for learning must be developed throughout an organization so that the system is capable of adaptation to changes in technology, social structures, or economies” (p. 2). By making practical education broadly available, America was able to leverage the collective intelligence, energy, and creativity of all actors in a system (Western, 2013).

Structured for Adaptability. It is important to note, first, that the modern land grant system did not come into being as a coherent and complete plan that was designed and then implemented (Bonnen, 1998). Rather, it evolved first as an idea, then as a series of institutions, then as a national system. The evolution took place over many decades between 1850 and 1920 (Bonnen, 1998). As Heifetz (2009) writes, “Because you don't know quite where you're headed as you build an organization's adaptability, it's prudent to avoid grand and detailed strategic plans. Instead, run numerous experiments. Many will fail ...the way forward will be characterized by constant midcourse corrections” (p. 3). Whether out of necessity, design, or general political disarray, the initiation of the land grant system followed an adaptive approach: “There was a lot of trial and much error...” (Bonnen, 1998, p. 3).

Part of that trial and error was developing the very institutions to contend with the goal of solving societal problems. The Morrill Act came first, not only creating institutions of higher education that were open to “ordinary people,” but, more importantly, making “all human endeavors legitimate subject matter for scientific investigation and scholarship” (McDowell, 1988, p. 18). It soon became apparent, however, that what was known would not be sufficient for addressing society's problems. In 1887 the Hatch Act was passed, adding agricultural experiment stations as an integral part of the system

(McDowell, 1988). These federal and state funded experiment stations were for the purpose of conducting basic and applied research in an effort to “provide scientific insight — and answers — to people’s problems on the farms and in the homes” (McDowell, 1988, p. 18). Finally, there was recognition of a need to extend the knowledge and resources developed and taught at the university to those who worked in the fields, kitchens, and machine shops — people who would never qualify for, or be interested in, the college classroom (McDowell, 1988). The Smith Lever Act of 1914 created the Cooperative Extension Service. The Extension Service is funded through federal, state, and local partnership (Bonnen, 1998). It links the field worker to the on-campus specialist in a way that had never before been imagined.

I review these institutions because I want to highlight the adaptive nature in which they were devised. From an ecological perspective, each of these institutions can be said to have come into being because of a response to an environmental force. There was no coherent, grand, strategic plan. Instead, there was adaptability. This also underscores the evolutionary nature of the so-called tripartite mission, or three-legged stool, of the land grant mission: teaching, research, and extension (Bonnen, 1998). Later, we will discuss how the three-legged stool structure, which arose to fulfill the mission of the land grant specifically in agriculture, became — because of its incredible success — conflated with the land grant mission itself; and how the subsequent ossification of the three-legged structure, and shift toward a more industrial paradigm, has hamstrung the land grant mission in the latter half of the 20th century (Bonnen, 1998). For now, though, we examine the key role Extension plays in maintaining the adaptability of the land grant system by looking at its programs, advisory committees, and agent roles.

Extension as a Feedback Loop. From an ecological perspective, organizations are part of larger systems (e.g., economic, political, social, and environmental), and an organization is completely dependent upon inflows of information and resources (Wielkiewicz & Stelzner, 2005). Viewing an

organization as an insulated, closed system does not acknowledge that it is, in fact, a human enterprise. Selecting relevant feedback loops, then, becomes key in facilitating the inflow of information. These feedback loops make possible the adaptability of an organization (Wielkiewicz & Stelzner, 2010).

What the land grant did that was remarkable was to create feedback loops that included the input of traditionally disenfranchised groups in determining the scholarly agenda of the universities. The land grant model was able to keep scientists' "feet to the fire" in terms of ensuring that the research focus and goals benefited rural people in practical ways (McDowell, 1988, p. 1). According to McDowell (1988), influencing the research agenda was one of the primary functions of Extension. This influence process is carried out in at least three ways. First, by providing practical application of research, Extension serves to "test" the knowledge generated by the land grant system. Philosopher Alfred North Whitehead (1936) wrote:

In the process of learning there should be present ... a subordinate activity of application. In fact, the applications are part of the knowledge ... unapplied knowledge is knowledge shorn of its meaning.

Careful shielding of a university from the activities of the world around is the best way to chill interest and to defeat progress. (p. 267, as cited in Bonnen, 1998, p. 6)

This "test" of the knowledge generated is perhaps best exemplified by the Extension agent's educational programs. These programs are based on the practical research conducted by university researchers, and represent the practical application of knowledge as Whitehead describes it.

However, the choice of what programs are delivered is based on interests and needs of lay people served by Extension (Adelaine & Foster, 1990). Extension helps to ensure there is a match between the needs and interests of people and the research being conducted at the university. This is the second aspect of the process of influencing the university's research agenda: the people communicate through

Extension the success or failure of the application of the knowledge generated by university research (McDowell, 1988).

This communication process is typically formalized into the familiar role of the advisory committee. And advisory committee is one of the key ingredients for the success of Extension programs (O'Neill, 2010). Its basic function is to aid local people in the process of identifying opportunities and solving problems by utilizing the resources of the university. Cole (1980) writes, "Well-trained advisory councils result in a cadre of individuals who are able to multiply the effectiveness of Extension programs by providing community leadership ..." (p. 9). As a byproduct of this process, feedback regarding the efficacy of programs, and the research on which they are based, is generated in hopes that it shapes the research agenda of the university, as a part of its mission to solve societal problems.

Finally, the remaining piece in the Extension feedback loop is the agent and his or her role as a connector in the community. Smith and Wilson (1930) described the early Extension worker as a "new leaven at work in rural America" (p. 1, as cited in Peters, 2002, p. 4). Extension agents organized rural people in an effort to address practical problems, such as improving crops, beautifying communities, and advancing health and nutrition (Peters, 2002). The agent was seen as facilitating "two-way partnerships, reciprocal relationships between university and community ... where the purpose of engagement is not to provide the university's superior expertise to the community, but to encourage joint academic-community definitions of problems, solutions, and success" (Kellogg Commission, 1998, p. 30). The early Extension agent was in an advantageous position to help universities engage with communities and serve as a catalyst for public work (Kelsey, 2002).

The early land grant system, including Cooperative Extension, was unwittingly built on the ecological principles put forward by Wielkiewicz and Stelzner (2010) and Western (2013). Its early actors recognized the *interdependence* between democratic institutions, income equality, and widespread

access to practical education, as well as between research, teaching, and extension in carrying out the land grant mission. The tripartite structure kept scientists' "feet to the fire" through accountability made possible by relevant *feedback loops*, such as those provided by Extension: application of research based knowledge, lay advisory groups, and the community organizing role of the agent. The three-part mission of the land grant system sought to initiate a *cycling of resources* in society by developing human, knowledge, and technological resources broadly in an ongoing, long-term basis, rather than relying on elite education to educate an elite leadership. And, finally, by distributing access to the resources of the land grant system broadly, society was made more *adaptive* by leveraging the collective intelligence, energy, and creativity of all actors in a system.

If this is not clear, I believe it soon will be. Oftentimes the way to see how a system functions is to see it in a state of dysfunction. In the next section we examine the effect of budget cuts and the changing society of the 1980s on the land grant system, as well as its reaction — a reaction that resulted in the ossification of the tripartite model, and the shift of the Extension agent's role from that of Leader as Eco-Leader to Leader as Controller.

The Land Grant System in the Last 50 Years

Changes Affecting the Land Grant. Following WWII, the land grant system saw tremendous growth in both scale and scope. New programs and institutions were created to keep pace with society's needs, including the anticipated expansion of the student population due to the Baby Boom (Bonnen, 1998). Unfortunately, the 1970s saw economic hardship. National budget deficits, inflation, and the end of Cold War-era defense spending left universities with programs and institutions they were unable to maintain on decreased state and federal funding (Bonnen, 1998). Another effect of the rapid expansion of the post-war years was the increasing degree of specialization in scholarship. This splintered academia into discipline-specific departments that became isolated from one another and from society;

this fragmentation led many in academia to believe they had no ability to impact the larger societal problems and, therefore, no obligation to attempt to solve them (Bonnen, 1998). This separation from the overarching mission of the land grant led discipline-specific departments to emphasize national level activities — especially publishing for peers — over efforts to address state and local problems when evaluating tenure-track faculty. A final trend was increased external funding sources that came to dictate university research priorities (Bonnen, 1998).

From an ecological perspective, the trends described above represent a significant shift in the environment in which the land grant operated in the latter half of the 20th century. Remember, ecological theory posits that the long-term adaptability of an organization will be determined by the management of the tension between the mechanistic and ecological ends of the continuum (Wielkiewicz & Stelzner, 2005). Too heavy and sustained an emphasis on the mechanistic side leads to constricted feedback loops, decreased communication, and the increased use of rules and formalized procedures. The effect is an organization more centralized, with a decreased capacity for adaption in the face of environmental changes (Wielkiewicz & Stelzner, 2010). On the other hand, if too great and sustained an emphasis is placed on the ecological end of the continuum, it can create an organization overly focused on process and the inclusion of increasingly diverse values and priorities. The effect is an organization that essentially unravels, unable to establish priorities, make decisions, or take action (Wielkiewicz & Stelzner, 2010). Next, I discuss the land grant and Extension's efforts to manage this tension in several important areas.

The Ossification of the Tripartite Mission. Teaching, research, and extension are almost always presented as *the* model for the land grant institution. However, this model was originally only for addressing agricultural issues. Such was the success of the tripartite model of on-campus instruction, experiment stations, and the extension service in addressing agriculture's problems that it became

synonymous with the land grant itself (Schuh, 1986). In many states, the model ossified, and the original land grant mission was institutionalized and tucked away in one corner of the university (e.g., the Institute of Food and Agricultural Sciences at the University of Florida). McDowell (2003) attributes this transformation of the agricultural model into *the* model for land grant institutions to the decline of the agricultural population in America. In 1862, at the outset of the land grant system, 60% of Americans were engaged in farming; today, less than 2% are involved in primary production (McDowell, 2003). Yet, a well-organized agricultural community has been able to maintain “control and influence over how the ever-declining pot [budget] is used” (McDowell, 1988, p. 21). Because of this control, universities are unable to redirect precious resources to engage non-traditional clients, even as their traditional agricultural client population continues to decline (McDowell, 1998). More than 47% of Extension’s national resources are still expended to address agricultural topics and reach agricultural clients (McDowell, 2003).

Ultimately, this continued success in the agricultural arena undermines the land grant systems’ long-term adaptability. The land grant system mismanaged the tension between mechanistic and ecological paradigms. Sunk costs, longstanding relationships with partner organizations, and organizational inertia led to a more mechanized, centralized organization unable to adapt in the face of a new environment (Bonnen, 1998).

Of course, the great tragedy is that the land grant idea was not created solely for solving agricultural problems (Bonnen, 1998). And while the so-called three-legged stool struggles under its own rigidity to carry the university’s land grant mandate single-handedly, great swaths of the university operate without the understanding of what it means to be part of a land grant institution (Bonnen, 1998).

Mission Drift in Research. The dramatic increase in external funding sources for university research has had disastrous effects on the land grant’s ability to control its own research agenda and address

societal problems (Bonnen, 1998; McDowell, 1988; Schuh, 1986). Schuh (1986) writes “more and more money goes to the individual faculty members with university administrators performing public relations and serving as keepers of the heating plant and parking lot” (p. 10). However, faculty members controlling the research agenda was not always the case. In the early years of the land grant, the relevance of research was determined by university leadership in regard to its benefit to broader society (McDowell, 1988). Now, the “test of appropriateness and relevance of agricultural science scholarship is left primarily to the scientists, to the norms they have internalized, and to the attitudes of the disciplinary communities” (McDowell, 1988, p. 19). This has led to what Schuh (1986) has termed a “malaise” (p. 6). This has been detrimental to problem-solving or multi-disciplinary research, as faculty members are increasingly under pressure to publish for their peers within their own discipline rather than do applied work (McDowell, 1988).

Interestingly, this mission drift on the research front has had a detrimental effect on Extension’s outreach efforts. When the land grant research complex does not generate practical knowledge for clients, it greatly disadvantages Extension agents. Agents continue to be evaluated based on their delivery of relevant research-based programs, even when researchers are not conducting relevant research. This leaves Extension administrators defending work that is “considered by peer review and university-wide policies [concerning tenure and promotion] to be parochial, non-rigorous, or somehow not at the ‘cutting edge’” (McDowell, 1988, p. 20). This has led to separate Extension departments and separate tenure systems (e.g., University of Florida’s “permanent status” designation for agents) that only reinforce the separation between extension and research, and make addressing real world needs of clients all the more unlikely.

The Role of the Extension Agent. The Cold War also changed the role of the Extension agent (Kelsey, 2002). The early Extension model for the county agent was that of a local resource for

organizing two-way partnerships between the university and the community (Peters, 2002). At the core of agents' work was the organization of rural people to solve "practical problems of public significance" (Peters, 2002, p. 3). However, the Cold War ushered in an era where heavy emphasis was placed on basic research in an effort to achieve technological superiority (Kelsey, 2002). Extension's role, thereafter, became the "one-way dissemination of research-based knowledge from the professor to the farmer and homemaker" (Kelsey, 2002, p. 1). The cause of solving societal problems was traded for promoting the research agenda of the university (Peters, 2002).

This shift from two-way collaborators to one-way disseminators of information represents a shift toward the mechanistic paradigm described by Wielkiewicz and Stelzner (2010). This shift closed valuable feedback loops with clients and university researchers, rendering the organization less able to respond to client needs, and therefore less adaptive for long-term survival. So, if the survival of an institution in a knowledge-driven society is dependent upon its adaptability, then the primary role of its leadership is to position the organization for survival and success by maximizing adaptability through the management of the tension between the mechanistic and ecological paradigms (Western, 2013; Wielkiewicz & Stelzner, 2010).

The Next 100 Years of The Land Grant

The early land grant system was positioned for long-term success, but sometimes success creates its own inertia, which can be detrimental. The latter half of the 20th century saw rapid and vast changes in the environment in which the land grant functioned, and its mismanagement of key challenges left it ill-suited for the new, knowledge-driven society. What is needed today for continued relevance of the Extension Service is not a new system, but a return to the basic principles that served it so well for its first 50 – 70 years; the land grant, deconstructed, if you will. What is needed is a rethinking of the way in which Extension connects to the community, as well as a rethinking of the Extension agent's role.

Extension and Research Need New Clients. The population engaged in farming has dropped from 60% of the population in 1862 to less than 2% of the population today (McDowell, 2003). Yet, nationally, Extension still expends 47% of its resources on addressing agricultural topics and reaching agricultural audiences. The control that production agriculture wields over extension and research — albeit in the benign form of financial support — is preventing Extension, in particular, from diverting resources to help agents reach out to non-traditional audiences (McDowell, 1988). Part of the issue in acquiring new audiences is that nonagricultural clients are not politically organized, and are a difficult source of political support (McDowell, 1988). New methods are needed for garnering political support from potential clientele. McDowell (1988) suggests creating coalitions that include both traditional agriculture clients as well as nontraditional in an attempt to broaden the base of support while simultaneously politically organizing nontraditional clientele groups. Extension agents must reach out to such diverse groups as “chambers of commerce, small business associations, planning agencies, and associations of local government officials, to increase the funding and control of the scholarly agenda” thus creating a “broad, non-student, public constituency” (McDowell, 1988, p. 21)

By not limiting Extension clientele to agricultural groups, it, again, creates a more open system and greater, more relevant feedback loops with previously unrepresented segments of the population.

Rethinking the Role of the Extension Agent. Finally, rethinking the role of the Extension agent is critical to the continued adaptability of the land grant system. When you consider the Extension agent’s relationship with researchers and the research agenda, and then consider her connection with agricultural clientele, local community leaders, businesses, elected officials, donors, and advisory members, it is clear that the Extension agent sits at “an optimal position to help the university reengage with communities” by acting as “catalysts for public work” (Kelsey, 2002, p. 2). Indeed, I believe agents should no longer be expected — or allowed — to be only Cold War-era disseminators of information,

planners of programs, or technical experts (Peters, 2002). Agents should play an active and somewhat political role in the community, inasmuch as they can be helpful in assisting decision-makers to allocate resources to solve problems. Whether it be called community organizer (Peters, 2002), catalyst for public work (Kelsey, 2002), or change agent (Hughes, 1998), the commonality is that agents should be engaged in organizing local communities in addressing problems and opportunities that affect the public good. They should foster “two-way partnerships, reciprocal relationships between university and community...” (Peters, 2002, p. 2). Agents should connect clientele with the university as “equal brokers of knowledge, each having something to learn from the other” (Kelsey, 2002, p. 2). The role of the agent then becomes to transfer knowledge between the community and the university for “mutual growth and development of a nation” (Kelsey, 2002, p. 2).

Engagement of Volunteer Advisory Members. One of the primary means of enacting this two-way partnership with local leaders is through the humble and ubiquitous advisory committee. Advisory groups create better decisions through deliberation and diversity of ideas. An ecological approach contends that diverse participation in an organization contributes to organizational adaptability: “The more diversity within a system, the more adaptable it will be because variability enhances the ability of the system to generate a wide range of adaptive strategies” (Wielkiewicz & Stelzner, 2010, p. 28). Therefore, if long term organizational success is desired, diversity of actors involved in leadership and decision-making processes enhances organizational adaptability and, thus, long term ability to respond to environmental changes (Wielkiewicz & Stelzner, 2010). The proper use of advisory committees extends decision-making power of the Extension agent to better serve the community.

County 4-H Associations

In Florida, the concept of the county 4-H association was created in 2011 when 4-H underwent a major shift in its county 4-H program structure. The shift was in response to the loss of federal income

tax exemption. County 4-H programs had previously received income tax exemption from the United States Department of Agriculture's group exemption number. However, that source of tax exemption was discontinued in 2010, leaving 4-H programs nationwide in search of a means of tax exemption (Diem & Cletzer, 2011). Several models available from the IRS allow for large, decentralized organizations to attain tax exempt status without needing to apply multiple times. Florida 4-H, a program of the Cooperative Extension Service, sought tax exemption through one such model dubbed the 'hybrid model.' This model required the creation of single, state-level entity that could maintain tax exempt status on behalf of unlimited, subordinate organizations. This necessitated the creation of a homogenous 4-H organization in each county in Florida, and thus the county 4-H association was formed (Diem & Cletzer, 2011). This is not important to this study in and of itself. However, its effect is that there now exists in every Florida county a 4-H organization that is the same and, therefore, comparable.

The county 4-H association combined several existing facets of the county 4-H program into one organization: (a) advisory, which helps the county 4-H agent plan, implement, and evaluate 4-H programs; (b) expansion and review, which is a state-mandated committee charged with ensuring county 4-H programs reach minority and underserved populations in a county; and (c) bookkeeping and fundraising committee, which is responsible for maintaining tax exempt status, as well as raising funds to support the county 4-H program. County 4-H associations may operate as a committee-as-a-whole, where one group of people fulfill all functions required of the association; or, sub-committees can be formed for each function, allowing different individuals to specialize in a particular function (Diem & Cletzer, 2011). Regardless, the effect is an organization that represents a cross-section of the full volunteer base of a county 4-H program and, through its advisory component, the community.

While the structure of the associations is homogenous, how the volunteers are engaged and empowered to lead the 4-H program is, undoubtedly, different county to county. The focus of this study is, in part, to assess the degree to which these individuals view their role in the leadership of an organization.

Adaptive Challenges Facing Extension

Today, Extension faces several adaptive problems —problems which require adaptation to overcome (Heifetz, 2002). Retention of Extension agents was identified as a challenge area by the National Association of State Universities and Land-Grant Colleges (ECOP LAC, 2005). Additionally, the problem of turnover is exacerbated by a generational shift. Millennials, which will make up more than one-third of the American workforce are less loyal to organizations and therefore more likely to leave (Schawbel, 2013).

Retention of County 4-H Agents. If you subscribe to the notion that the greatest resource of the Extension Service is its faculty, then the current rate of agent retention should give pause to the Extension administrator or stakeholder (Kutilek, 2000, para. 1). Today, the expected retention rate of the 4-H Agent is a dismal 3.5 years. This triennial changeover has led to nearly 40 percent of 4-H agents in Florida having fewer than five years of experience (Fogarty & Cletzer, 2009, p. 10). This low rate of retention, as well as the growing gap between the number of new agents and more experienced agents, has caused alarm among some Extension administrators. In 2005, the National Association of State Universities and Land-Grant Colleges' Extension Committee on Organization and Policy's Leadership Advisory Council formally identified agent retention as a challenge (Strong & Harder, 2009, para. 1).

Agent turnover is detrimental for several reasons. First, the direct costs associated with replacing and training an agent can range from \$7,185 to \$30,000 (Chandler, 2005). Strong and Harder (2009) place the actual cost much higher, at about 150% of an agent's annual income, or about \$60,000.

However, beyond the easily measured financial costs are the more intangible costs that accompany a vacancy, such as loss of program momentum, reduce of staff morale, and an increased workload for remaining staff and agents (Kutilek, 2000; Rousan & Henderson, 1996).

Many studies have been conducted to examine just why Extension agents stay, and why they leave. Strong and Harder (2009) posit that agents leave for multiple reasons, including: low pay, high stress, irregular hours, lack of administrative support, lack of acknowledgement for work well done, and few possibilities for advancement. Most cite a “lack of satisfaction” as their reason for leaving (Strong & Harder, 2009). Without a sustainable ratio of new agents to experienced agents, there will be a decrease in opportunities for mentoring relationships, fewer professional development in-service trainings, and a lack of qualified leadership for the statewide educational program — all of which have been identified as motivational factors in regard to agent retention (Strong & Harder, 2009).

Efforts to reduce the effects of turnover on Extension programs have primarily focused on addressing the agent: burnout, salary and benefits, work-life balance, skills and competencies, or job satisfaction (Castillo & Cannon, 2004; Chandler, 2005; Ensle, 2005; Ezell, 2003; Kutilek, Conklin, & Gunderson, 2002; Long & Swortzel, 2007; Mowbray, 2002; Strong & Harder, 2009). Unfortunately, each of these approaches to addressing turnover fails to address an emerging generational shift occurring in the workforce, and its long-term effects on the retention of new agents and program resiliency.

A New Generation in the Workplace. Born between 1977 and 1992, Millennials number 83.1 million and make up more than one-quarter of the population (Census Bureau, 2015). Within next 10 years, Millennials will make up 75% of the global workforce, and more than 36% of the American workforce (Schawbel, 2013). Millennials also represent a significant portion of Florida’s 4-H Agents (Forgarty & Cletzer, 2010). Millennials are probably best characterized as a high-tech generation. Cell phones, the Internet, ATMs, and computers in school, all became prevalent during the Millennial

generation's formative years. They are sometimes called the "most wanted generation" because they were conceived at a time when birth control and abortions were widely available, and their families still chose to have them (Glass, 2007). However, they have also seen tragedies, such as the September 11th terrorist attacks and the Oklahoma City bombing. Consequently, "this generation knows that the world they inherit is not just of new opportunities but of old problems..." (Sessa, Kabacoff, Deal, & Brown, 2007, pp. 51-52).

Millennials also have several characteristics that affect the workplace. First, they are less loyal to their employers than previous generations, which is likely due to the economic hardship they have witnessed during their formative years. Consequently, in 2011, more than one-quarter of Millennials report expecting to change jobs six or more times in their lifetime; this number has increased 15% from 2008 (Price-Waterhouse Cooper, 2011). Similarly, 38% of Millennials are actively searching for another role, and 43% report being open to opportunities with different employers. Only 18% reported expecting to stay with their current employer long term (PRICE WATERHOUSE COOPERS, 2011). Second, Millennials value teamwork and a collaborative approach to leadership (Myers & Sadaghiani, 2010). They also value the ability to move up the ranks quickly. Given the option, they choose opportunities for advancement in leadership positions over higher pay (PRICE WATERHOUSE COOPERS, 2011). Third, Millennials are idealistic, civic minded, and expected to be the first generation since the baby boomers to play an active role in social causes (Glass, 2007). More than 60% report an interest in public service (Myers & Sadaghiani, 2010). Many find that meaning in their work; in 2008, more than 88% were looking for work that matched their values (PRICE WATERHOUSE COOPERS, 2011).

Unfortunately, organizations are often unprepared to meet the needs of this growing demographic in workplace. More than 60% of Millennials leave their positions in fewer than three years (Schawbel, 2013). PRICE WATERHOUSE COOPERS (2011) reports 72% of Millennials feel they made some

compromise of values or demands in order to land a position, which may contribute to increased turnover among this generation as economic conditions continue to improve. The Cooperative Extension Service is particularly affected by this generational shift in the workforce. In Extension, turnover is both costly and damaging to program momentum, leaving employers facing an expensive revolving door (Schawbel, 2013). Still, efforts to mitigate these effects focus on preparing the heroic positional leaders through skill and competency development, despite evidence that generational trends point to continued turnover among this generation in the 4-H Extension agent positions.

Combatting this trend requires a twofold approach. First, in terms of retention, at the center of the issue is job satisfaction, which has been shown to be a key contributor to retaining employees and reducing intent to quit (Martin & Kaufman, 2013). An ecological approach to leadership — with its focus on collaborative and collective leadership approaches, ethics, and societal progress — is more in line with Millennials expectations (Avolio, Walumbwa, & Weber, 2009). An ecological approach may allow Millennials greater opportunities to provide leadership in various roles than would a more hierarchical leadership structure based on seniority.

However, second, and perhaps more importantly, PRICE WATERHOUSE COOPERS (2011) encourages employers to accept the fact that Millennials are going to leave more often than any other generation despite an organization's best efforts at retention. Therefore, organizations should structure themselves to mitigate that continued turnover. An ecological approach to leadership, with its greater reliance on teams, collective decision-making processes, and distributed leadership styles, spreads both the power and the ability to provide organizational leadership to a greater number of people, thereby reducing the negative effects of turnover among positional leaders (Avolio, Walumbwa, & Weber, 2009).

Chapter Summary

This chapter addressed in depth Western's (2013) four discourses of leadership — controller, therapist, messiah, and eco-leader — with particular attention paid to the eco-leader discourse. Complexity science, which provides a theoretical foundation for the eco-leader discourse, was discussed at length, and a succinct explanation of how leadership is enacted in a complex adaptive system was offered. Finally, the Cooperative Extension Service was discussed as an excellent candidate for an ecological organization. The benefits of promoting eco-leadership practices among county Extension agents was also discussed, most notably its potential mitigating effects on agent turnover and the benefits of considering an eco-leader approach to the agent's role in the community.

CHAPTER 3 METHODOLOGY AND PROCEDURES

In chapter one, I provided a brief introduction to the study, including a statement of the problem, research questions, theoretical framework, and an overview of the Extension Service as a context for this study. In chapter two, I detailed the three major theoretical and historical bases for this study: leadership discourses, complexity science, and the organizational structure of the Extension. This third chapter describes in detail the methods and procedures utilized to achieve each of the study's research questions.

Purpose Statement

This study explored the relationship between an ecological approach to leadership and the programmatic success of county 4-H programs. An explanatory sequential mixed methods design was used, involving the collection of quantitative data first and then explaining the quantitative results with in-depth qualitative data. In the first, quantitative phase of the study: (a) the Leadership Attitudes and Beliefs Scale – III (LABS-III) was used to collect data from volunteer members of county 4-H associations in Florida to determine levels of systemic and hierarchical thinking; (b) the Western Indicator of Leadership Discourse (WILD) questionnaire was used to collect data from county Extension 4-H agents in Florida to determine their leadership discourse preferences; and (c) 4-H program enrollment data was analyzed to determine levels of success in county 4-H programs. Data informed the nature of the relationship between leadership discourse preference, levels of systemic and hierarchical thinking, and county 4-H programmatic success. The second, qualitative phase was conducted as a follow-up to the quantitative results in order to help explain the quantitative results. In this follow-up strand, certain counties that scored in the upper and lower quartiles on the county 4-H program success index were studied to explore the leadership practices they applied, and to what degree volunteers attributed programmatic success to those leadership practices.

Research Questions

Four research questions guided this study:

1. What is the nature of the relationship between the preferred leadership discourse of Extension 4-H agents and programmatic success?
2. What is the nature of the relationship between systemic and hierarchical thinking levels and programmatic success?
3. To what extent do volunteers perceive their leadership approach as affecting programmatic success?
4. How do volunteers' perceptions of leadership help us better understand the variables associated with programmatic success?

Research Design

In order to investigate the phenomenon described in the research questions of this exploratory study, I used an explanatory sequential mixed methods design (Creswell & Plano Clark, 2011). I first conducted a quantitative strand of research and then followed up on specific findings with a second, qualitative strand. The qualitative strand is what makes this design unique, offering an opportunity to focus on specific quantitative results, investigate in greater depth participants' perceptions of leadership, and better explain initial findings. The explanatory design is best suited "when the researcher needs qualitative data to explain quantitatively significant (or nonsignificant) results, positive-performing exemplars, outlier results, or surprising results" (Creswell & Plano Clark, 2011, p. 82). The design is also well suited for instances in which the researcher wants to form groups based on quantitative results for qualitative follow-up. This design has also been called the qualitative follow-up approach (Morgan,

1998) and is most closely aligned with partially mixed sequential dominant status design (Leech & Onwuegbuzie, 2009) and sequential mixed design (Teddlie & Tashakkori, 2006).

More broadly, this study is considered an ex post facto research design. An ex post facto research design is an empirical method of social science research that studies how an independent variable that is present in participants prior to the study affects a dependent variable (Ary et al., 2013). The ex post facto design is predicated on two assumptions. The first assumption is the law of the single independent variable, which states that if two situations are equal in all ways except for the addition or removal of an independent variable, any difference observed between the two situations can be attributed to the independent variable. The second assumption is the law of the single significant variable, which states that if two situations are not equal, but it can be determined that no other variable except the independent variable is significant in causing the phenomenon being studied, or if all other significant variables besides the independent variable can be made equal, then any difference observed between the two situations after introducing the independent variable to one of the situations can be attributed to the independent variable (Ary, Jacobs, Sorenson, & Walker, 2013).

In ex post facto research, the independent variable (e.g., systems thinking) is not actively manipulated by the researcher; and the variable in question is presumed to have already occurred naturally in the group under study and is sometimes called the attribute independent variable (Ary et al., 2013). Because of this, the ex post facto design is similar to quasi-experimental in that randomization of participants does not occur.

The following is a detailed explanation of the research design, population and samples, instrumentation, data collection, and analysis procedures.

Research Design

In order to investigate the phenomenon described in the research questions, I used an explanatory sequential mixed methods design (Creswell & Plano Clark, 2011). This design begins with the collection and analysis of quantitative data. The findings of the first phase inform the collection and analysis of the second, qualitative phase. The purpose of this design is to use a follow-up qualitative strand of research to better explain the initial quantitative phase's results. This design is particularly appropriate and helpful when a researcher "wants to assess trends and relationships with quantitative data but also be able to explain the mechanisms or reasons behind the resultant trends," as is the case in this exploratory study (Creswell & Plano Clark, 2011, p. 82).

After analyzing quantitative data, I explored select participants' perceptions of their own leadership processes when enacting leadership in the county 4-H program setting. Through this additional qualitative strand of research, I was better able to explain the way in which eco-leadership is carried out (or not carried out) in practice.

Leadership studies, in general, benefit from a mixed methods approach because of the complexity of the phenomenon; Stentz, Plano Clark, and Matkin (2012) argue that multiple methodological approaches are, in fact, necessary to understand the complex processes involved in leadership. Indeed, the fundamental argument for a mixed methods approach is that the mixing of the two methodologies can provide a better understanding of the phenomenon under study than could either a quantitative or qualitative method alone (Creswell & Plano Clark, 2011; Green, 2007; Johnson, Onwuegbuzie, & Turner, 2007).

Additionally, six other practical considerations identified by Creswell and Plano Clark (2011) make the explanatory sequential mixed methods design best suited for this study. First, the researcher and research problem are more quantitatively oriented; in this case, a need exists for empirical research to

support the conceptual approach that dominates the literature on eco-leadership (San Martin Rodriguez, Beaulieu, D'Amour, & Ferrada-Videla, 2005). Second, the researcher has access to quantitative instruments for measuring the appropriate variables; in this case both the LABS-III (Wielkiewicz, 2000) and WILD questionnaire (Western, 2013) are freely available and have not yet been used with this population or for the purpose of exploring the relationship between an eco-leader approach and organizational success. Third, the researcher has the ability to return to participants for a second round of qualitative data collection. Fourth, the researcher has time to conduct the two phases. Fifth, the researcher has limited resources and needs a design where only one type of data is being collected and analyzed at a time. Finally, the researcher develops questions for the qualitative portion that could not have been formed without quantitative results. For example, relationships existing between programmatic success and levels of systematic and hierarchical thinking, or with leadership discourse preference, informed the questions utilized in the qualitative strand of this study.

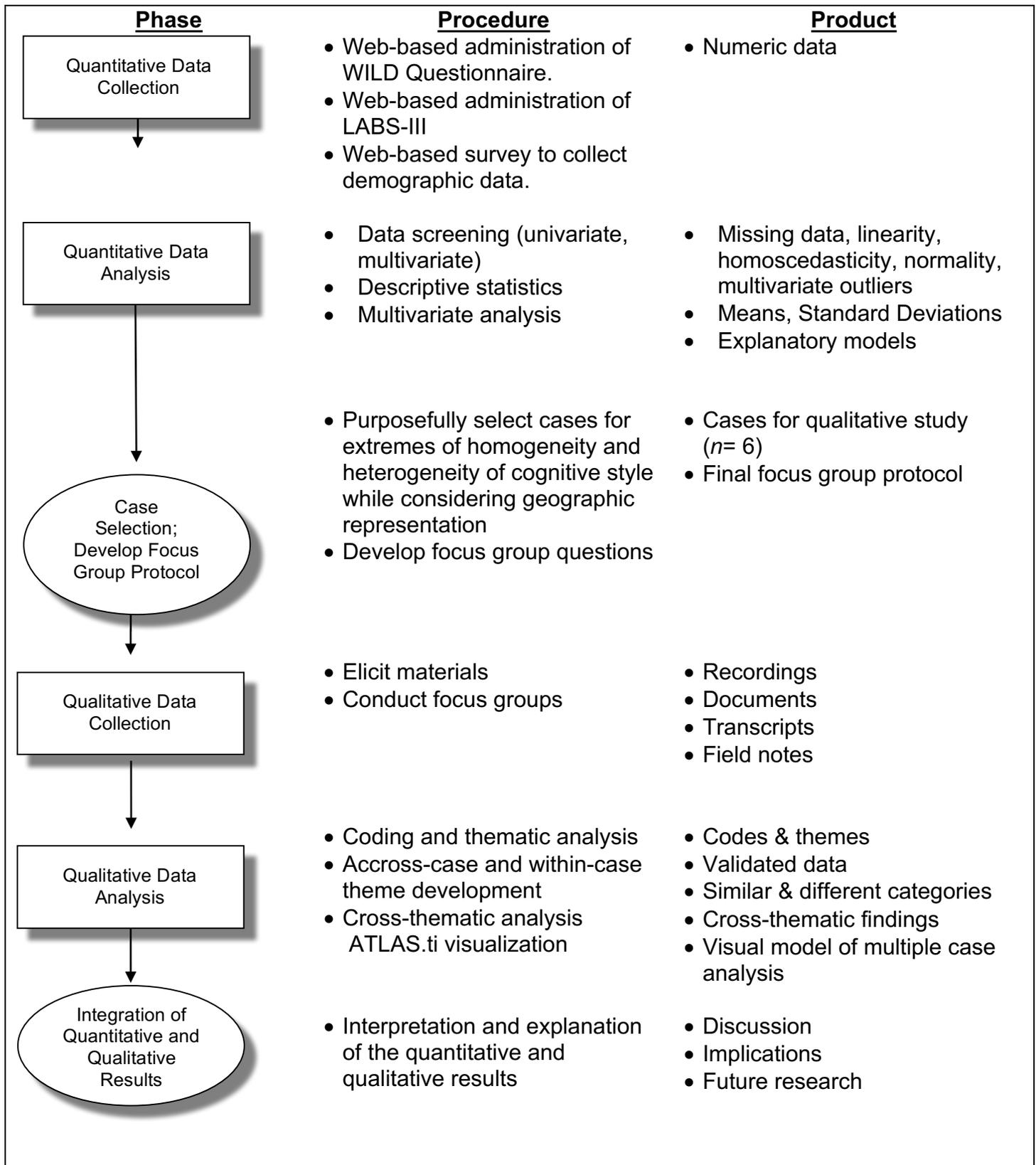
More generally, Bryman (2006) offers five additional points for justifying for the selection of a mixed methods design in this study. First, the quantitative and qualitative strands in the research design allow for the triangulation, or corroboration, of findings. Focus group data analysis may confirm and explain the initial findings of survey data analysis. Second, qualitative data have the ability to illustrate quantitative findings, providing examples of participants' lived experiences, which make the findings of a study more meaningful and insightful. Third, the use of both qualitative and quantitative methods in this way also adds to the completeness of our understanding of the phenomenon; meaning, in this study neither quantitative nor qualitative alone would adequately explain the use of eco-leadership in county 4-H programs. Fourth, using a mixed methods design also furthers the development of the survey instrument. Qualitative findings of focus group sessions help to explain, give context, provide insight, and explore the meaning behind the quantitative findings of survey instruments. The quantitative

findings in the study, therefore, also serve to support the continued validation of the LABS-III instrument through its use with a new and larger population than has been previously reported (Wielkiewicz, 2000). Finally, Bryman (2006) also writes that, together, the added ability to triangulate, illustrate, present complete data, and explain quantitative findings, also contributes to the overall credibility of the study.

Essential Elements of a Mixed Methods Design

Mixed methods designs are often organized by typologies (Creswell & Plano Clark, 2011; Leech & Onwuegbuzie, 2009; Morgan, 1998; Teddlie & Tashakkori, 2006). These typologies provide the researcher with “a framework and logic to guide the implementation of the research methods to ensure that the resulting design is rigorous, persuasive, and of high quality” (Creswell & Plano Clark, 2011, p. 68). Typologies also help the field of mixed methods by providing distinct guidelines for research that differentiate mixed methods from other paradigms. This helps to legitimize mixed methods research as a paradigm independent of the qualitative and quantitative paradigms (Collins & O’Cathain, 2009). Additionally, typologies are useful for: (a) establishing a common language for the field; (b) providing the field with organizational structure; and (c) providing the field with pedagogical tool for comparing and contrasting various techniques (Teddlie & Tashakkori, 2006).

Mixed methods typologies are organized by several factors, each of which the researcher must consider when designing a study. Authors have developed myriad typologies (e.g., Creswell & Plano Clark, 2011; Leech & Onwuegbuzie, 2009; Morgan, 1998; Teddlie & Tashakkori, 2006). However, this study follows Creswell and Plano Clark’s (2011) explanatory sequential mixed method design (Figure 3-1).



*Figure 3-1. Steps in an Explanatory Sequential Mixed Methods Design. From *Designing and Conducting Mixed Methods Research*, by J. W. Creswell and V. L. Plano Clark, 2011, Thousand Oaks, California: SAGE. Copyright 2011 by Sage Publications, Inc.*

The typology system used by Creswell and Plano Clark (2011), who developed the design used in this study, is primarily concerned with the relationship between qualitative and quantitative strands of research. To address the relationship between strands across these stages, Creswell and Plano Clark (2011) have put forward a “parsimonious and functional” system of classifying typologies based on several design factors (p. 68). These factors are organized around four key decision points concerning the relationship between strands: (a) level of interaction between strands; (b) relative priority of strands; (c) the timing of the strands; and (d) procedures for mixing strands.

Level of Interaction Between Strands. The first key decision point in designing this mixed methods study was the level of interaction between strands — whether the strands are kept independent or interact with one another. Greene (2007) believes this question to be the “most salient and critical” (p. 120). A strand is a phase of a study that itself includes three distinct stages: (a) the conceptualization stage, where research purposes and questions are formed; (b) the experiential stage, which includes data generation, collection, and analysis; and (c) the inferential stage, where theories emerge and explanations are made (Teddlie & Tashakkori, 2006). This study is fully integrated at the conceptualization, experiential, and inferential stages. Meaning, in terms of the interaction between strands, the mixing of methodologies in this study occurs at all three points at which mixing may occur. This represents the highest degree of the mixing of quantitative and qualitative designs. First, the research questions of this study were conceptualized with both qualitative and quantitative strands in mind. Second, the sequential design allows for the results of the quantitative strand to inform the qualitative strand, leading to an interplay between strands during the experiential stage. Third, the

explanatory design requires the qualitative strand's results to be interpreted in light of the quantitative strand's, creating an integrated inferential stage.

Relative Priority of Strands. The second key decision point is the relative priority of strands, which refers to the implicit or explicit importance placed on one strand by the researcher. Because this research design calls for an initial quantitative strand that is then explained by a follow-up qualitative strand, the quantitative strand is considered of greater importance. However, while the prioritization of strands may be unequal during the experiential stage, it remains more or less equal across the conceptualization and inferential stages: (a) research questions were established with both methods in mind, and (b) findings were interpreted and explanations made by drawing on both methodologies.

With regard to interpretation, conventional wisdom dictates that a mixed method study necessitates the mixing of epistemological or theoretical perspectives (Creswell & Plano Clark, 2011). Typically, the quantitative strand assumes a positivist or post-positivistic stance, while the qualitative strand assumes a constructionist one; and any interpretation requires a shifting between, and possibly integration of, the two stances during the study. However, this is not the case. While quantitative and qualitative designs are often portrayed as polar opposite methods, both can reside in either a post-positivistic or a constructionist epistemology (Crotty, 1998). This study is grounded in a constructionist theoretical perspective, which is applied to both strands.

Timing of Strands. The third key decision point is the timing of the strands, which refers to in what order the strands are implemented. However, timing is not limited to data collection alone. It also refers to the conceptualization and inferential stages of the study. This study is best classified as a sequential design because the strands are implemented in two distinct phases (Creswell & Plano Clark, 2011), with the collection and analysis of the quantitative data from the WILD questionnaire and LABS-III taking place before the collection and analysis of the qualitative focus group session data.

Procedures for Mixing Strands. The fourth key decision point concerns the procedures for mixing strands. Stages for mixing, in ascending order of difficulty, are: (a) mixing during interpretation, (b) mixing during data analysis, (c) mixing during data collection, and (d) mixing during design. First, the most basic level of mixing is during the interpretation stage: “All mixed methods designs should reflect on what is learned by the combination of methods in the final interpretation” (Creswell & Plano Clark, 2011, p. 67). This study mixes strands at the level of interpretation by drawing on both qualitative and quantitative data to generate findings not evident in either qualitative or quantitative alone. Second, mixing during data analysis refers to the process of merging two data sets from two methodologically different strands of research, which could, for example, entail generating a mixing table matrix or transforming one data form into another (Creswell & Plano Clark, 2011). This study mixes methods at the data analysis phase, in that the analysis of the quantitative stage informs the qualitative stage’s data collection instrument. Third, in a sequential design, such as this study, mixing methods during data collection refers to quantitative or qualitative strands being mixed during the *second* round of data collection. Usually, researchers mix by connecting the first data set to the second set such that the second strand builds on the first. This study mixes methods at the data collection stage; initial quantitative results from the analysis of data from the LABS-III, WILD questionnaire, and program success index inform the second, follow-up qualitative data collection by determining the priority of focus group sessions. Fourth, mixing methods at the level of design “occurs when the quantitative and qualitative strands are mixed during the larger design stage of the research process” (Creswell & Plano Clark, 2011, p. 67). There are several ways of mixing at the level of design. This study does mix at the design level by purposefully embedding a supplemental, follow-up qualitative strand within a larger quantitative strand. “The embedded nature occurs at the design level, in that the embedded method is conducted

specifically to fit the context of the larger quantitative... design framework” (Creswell & Plano Clark, 2011, p. 67).

Paradigmatic Stance

As research becomes increasingly complex and interdisciplinary, there is a growing recognition of the need for mixed methods research in order to gain meaningful insight (Greene, 2007). However, while advocating for a mixed methods approach is, in effect, advocating for “methodological pluralism,” it is not inherently a call for epistemological or paradigmatic pluralism (Greene, 2007, p. 68). Greene (2007) describes several paradigmatic stances on the mixing of methodologies in research. This research study is most firmly situated in the A-paradigmatic stance. On that stance, Greene (2007) writes:

Methods are mixed, even thoughtfully mixed, but all within just one philosophical framework or, perhaps even more commonly, the one mental model of the inquirer. Conscious attention to this model [A-paradigmatic stance], or not, is what differentiates the purist from the a-paradigmatic inquirer.” (p. 72)

The A-paradigmatic stance sees paradigms, rather, as abstract concepts that are useful in a general sense for developing a researcher’s understanding of methodologies. Similarly, in regard to practice, adherents of the A-paradigmatic stance see paradigms as describing the practices already occurring, rather than as the driving force affecting the selection of methods of inquiry. Under the A-paradigmatic stance, paradigms can be broken down, mixed, and matched according to the needs of the context (Greene, 2007). Context is important to the A-paradigmatic stance, leading Greene (2007) to draw comparisons to Patton’s (2000) utilization-focused evaluation theory, which, rather than approaching a given evaluation with a predetermined theory or paradigm, relies on the needs of the stakeholders of the evaluand to determine a guiding philosophy. For researchers, the “particular characteristics and demands of inquiry context,” as well as “inquiry purpose, questions, and sample characteristics may be most influential”

(Greene, 2007, p. 72). In this exploratory study, the quantitative line of inquiry probes the relationship between leadership attitudes and beliefs, and program outcomes. In the qualitative line of inquiry, specific participants are asked to describe their lived experiences with enacting leadership in the county 4-H program. Under a purist stance, these two methods would be irreconcilable because one is generally viewed as post-positivistic while the other is generally viewed as constructionist. However, the A-paradigmatic stance is largely an anti-purist stance, and contends that having a particular paradigm is not central to good research (Greene, 2007).

Quantitative Strand

The quantitative strand of this study was designed to explore the relationship between identified variables in order to gain a better understanding of eco-leadership and its relationship with indicators of organizational success in programs, such as Florida 4-H. Specifically, the quantitative strand addresses the following research questions:

1. What is the nature of the relationship between the preferred leadership discourse of Extension 4-H agents and programmatic success?
2. What is the nature of the relationship between systemic and hierarchical thinking levels and programmatic success?

This was accomplished through an ex post facto research design (Ary et al., 2010). This strand employs survey methods in which numeric data was collected using Qualtrics survey software. Data was analyzed using the Statistical Package for Social Sciences (SPSS) version 22 and version 23.

This strand of the study was not intended to determine a causal relationship between variables. The ex post facto research design “does not provide the safeguards that are necessary for making strong inferences about causal relationships” (Ary et al., 2013, p. 333). This can lead to the post hoc fallacy, where the researcher mistakenly determines causation based on the relationship between variables, but,

in fact, the relationship is spurious (Ary et al., 2013). Therefore, this strand of the study applied only correlational statistics and statistical controls to explore relationships between variables in an effort to better understand the phenomenon. These statistical analyses can be used to detect patterns and make predictions (Pedhazur & Schmelkin, 1991). This correlational evidence, while not able to determine causation, is significant because of its ability to reveal possible causal models that can later be investigated through experimental research (Pedhazur & Schmelkin, 1991).

The results of this strand are also not intended to be generalized to a larger population, as the Cooperative Extension Service and 4-H are structured and function differently state by state. This means there is not a larger population which the Florida Extension system represents. Additionally, because the unit of analysis in this study is not the individual respondent, but rather the county 4-H program, of which there are only 67, the population was not be sampled. Instead, because of the low population number and the desired confidence interval of .05, guidelines indicate a census must be conducted (Dillman, et al., 2009). The census focused on two populations: 4-H association members and 4-H Extension agents.

Population

This study assessed two populations within the Florida 4-H program: (a) 4-H association members, and (b) Extension 4-H agents. These two populations represent those individuals most directly responsible for the leadership and success of the county 4-H program. They were chosen largely because the Florida county 4-H association system represents a uniquely homogenous grouping of volunteers across counties, which allows for better comparison of county programs. Additionally, I am a former Florida 4-H agent and state 4-H headquarters specialist who was largely responsible for the county 4-H association system, and that familiarity with the system and its personnel afforded me easier access to collect data in Florida versus another state 4-H program.

4-H Association Members. The primary research population of this study were all registered, year-round, adult, volunteer members of Florida county 4-H programs who serve on a county 4-H association. The county 4-H association system represents a cross-section of volunteers within the county 4-H program, including: expansion and review committee members, fundraising volunteers, 4-H club leaders, advisory members, and other members at-large (Diem & Cletzer, 2011). Registered volunteers refer to those individuals who have completed the Florida 4-H volunteer application process and have appointed by the Extension 4-H agent or equivalent to serve on the county 4-H association. Year-round refers to volunteers with an annual appointment to a position and excludes episodic volunteers. Adult volunteers are considered 18 or older; this population did not include youth 4-H members who may serve on the 4-H association as youth representatives.

Individuals were identified for participation by their respective county 4-H agent or Extension director. The accessible population was dependent upon county 4-H agents' and Extension directors' willingness to share the contact information of volunteers meeting the identified criteria. County 4-H agents were requested to provide a membership roster of association members, including emails, with which to distribute links to the web-based survey. When county 4-H agents were unwilling to provide contact information, they were provided with an anonymous link and form recruitment emails at the appropriate times, which were then distributed directly to their volunteers. Some agents opted for this option because they believed it would garner a better response if the request came from the agent.

Extension 4-H Agents. A secondary population were all Florida county 4-H agents who had a 20% or greater full time equivalent (FTE) appointment to 4-H, as determined by the Dean for Extension. All county Extension agents in Florida have a 10% FTE appointment to 4-H. By setting the threshold at 20%, this excluded those agents who are not considered 4-H agents but who may have a small 4-H appointment. This includes both conventional agents, as well as "courtesy" agents employed entirely by

county governments. This population did not include regional specialized 4-H agents. This population frame was obtained from the office of Florida's Dean for Extension.

Instrumentation

Three survey instruments were used to collect quantitative data from the two populations under study: (a) Western Indicator of Leadership Discourse preference questionnaire (Western, 2013); (b) Leaders Attitudes and Beliefs Scale – III (Wielkiewicz, 2010); (c) a demographic information questionnaire; and (d) a composite index for scoring county 4-H programs. The WILD questionnaire addresses research question 1, which identifies an Extension 4-H agent's preferred leadership discourse score and compares it to the composite index score for a county 4-H program. The LABS-III survey address research question 2, which measures county 4-H association members' levels of hierarchical and systemic thinking and compares it to the composite index score for a county 4-H program. The LABS-III serves as a proxy for measuring levels of eco-leadership in an organization (Wielkiewicz, 2000). The WILD questionnaire, LABS-III, and demographic information were collected by survey via Qualtrics, a web-based survey program. Prior to collecting data, study approval was obtained from the university's Institutional Review Board (IRB); consent was obtained from participants prior to administration of the instruments (Appendix B).

Leadership Attitudes and Beliefs Scale – III. Traditionally, leadership studies have primarily focused on the characteristics or behaviors of the individual leader in a group (Wielkiewicz, 2002). However, new research has begun to focus instead on “the systems context in which leadership and organizational adaptation takes place” (Wielkiewicz, 2002, p. 108). Researchers posit that organizations are inherently resistant to change and rarely succeed in making the course corrections necessary to adapt to changes in the external environment (e.g., Dantensen, 2000; Hannan & Freeman, 1984). Indeed, the variation observed in organizations is due to evolutionary selection, rather than the adaptation of

individual organizations. As the pace of change in the external environment continues to increase, a variety of alternative perspectives on leadership have arisen, including Allen, Stelzner, and Wielkiewicz's (1998) ecological or systemic approach to leadership. The theory is based on principles of ecology and systems theory, rather than the more traditional mechanistic principles (e.g., Capra, 1996; Colarelli, 1998; Katz & Kahn, 1978; Kelly, Ryan, Altmann, & Stelzner, 2000). This ecological perspective on leadership put forward by Wielkiewicz (2002) contends that:

No single individual is capable of leading an organization in the sense that the word has traditionally been used because the amount of information that must be processed and the complexity of challenges from the outside the organization are too enormous. Instead, a successful organization must function like a complex adaptive system. (p. 108)

This means that instead of fixating on individual positional leaders who function in a top-down, hierarchical manner, organizations would be more successful in adapting to environmental changes if they were to “draw on ecological principles to match the complexity of the environment in which organizations function” (Wielkiewicz, 2000, pp. 108-109). These new constructs of an ecological perspective of leadership — diversity, feedback loops, increased organizational learning, and systemic thinking — necessitate new measures to help researchers and practitioners study and influence the development of beliefs and skills related to leadership (Wielkiewicz, 2000).

The Leadership Attitudes and Beliefs Scale (LABS-III) (Wielkiewicz, 2000) (Appendix C) was originally developed to measure the impact of leadership program interventions on college students' attitudes and beliefs about leadership “in a manner consistent with Allen et al.'s (1998) [ecological] leadership theory” (Wielkiewicz, 2002, p. 109). The LABS-III consists of 28 Likert-type questions on an ordinal, five-point scale ranging from *strongly agree* (1 point), *agree*, *neither agree nor disagree*, *disagree*, and *strongly disagree* (5 points). Both convergent and discriminative validity of the systemic

and hierarchical thinking scales have previously been established (Fischer et al., 2014). The instrument is different from most leadership assessments, such as Posner's (2004) Student Leadership Practices Inventory, or Avolio, Sivasubramaniam, Murry, Jung, and Garger's (2003) Team Multifactor Leadership Questionnaire, in that it assesses attitudes and beliefs independent of the individual's participation in leadership positions (Lowhorn, 2011). Respondents need not ever have held a leadership position in order to respond — nor is it tied to an experience in a particular organization, or with a particular team and team leader. This is in keeping with the ecological perspective of leadership, which contends that leadership should be distributed throughout an organization to include those individuals not holding what has traditionally been considered a "leadership position" (Wielkiewicz & Stelzner, 2010).

The LABS-III is comprised of two scales: hierarchical thinking and systemic thinking. The 14-item hierarchical thinking scale measures the degree to which respondents believe "organizations should be structured in a stable, hierarchical manner with power and control focused in the upper levels of the hierarchy" (Wielkiewicz, 2002, p. 110). This scale also measures the belief that those leaders at the upper levels of a hierarchy are responsible for "safety and security" of an organization's members (Wielkiewicz, 2000, p. 341). An example of a question from this scale is: "The main task of the leader is to make the important decisions for an organization."

The 14-item systemic thinking scale measures respondents' "ability to relate a variety of ideas and concepts to organizational success" or failure (Wielkiewicz, 2002, p. 110). Respondents with higher systemic thinking scores are more likely to believe: (a) a wide variety of feedback loops should be used to arrive at organizational decisions; (b) all of an organization's members share the responsibility for success, and (c) the ability of the organization to adapt to meet changes in the external environment is the key to its continued success (Wielkiewicz, 2002). An example of a question from this scale is: "Individuals need to take initiative to help their organization accomplish its goals."

The Leadership Attitudes and Beliefs Scale was originally comprised of eight dimension, but over time was reduced to the two orthogonal dimensions (Lowhorn, 2011). These dimensions load independently (Lowhorn, 2011), and the correlation that exists between the two is “clearly not statistically significant” (Wielkiewicz, 2000, p. 341). Lowhorn (2011) conducted a confirmatory factor analysis on the LABS-III and concluded that “discriminate validity did not exist for several questions in the LABS-III instrument; however, this most likely is attributed to the small sample size” (p. 10). Lowhorn recommends additional studies be conducted with larger samples. Finally, Lowhorn (2011) found content validity to be present, “in that the questions accurately reflected the two dimensions of leadership being tested” (p. 10).

Western Indicator of Leadership Discourse. The Western Indicator of Leadership Discourses (WILD) questionnaire was developed by Western (2013) to reveal an individual’s underlying assumptions regarding how leadership should be enacted (Appendix D). These assumptions provide the basis of our beliefs about what leaders and followers should be, as well as influences or behavior when acting in both leader and follower roles.

This 20-question instrument consists of brief statements concerning leadership and then asks respondents to rank responses from number one, the answer you most agree with, to number four, the answer you least agree with. An example question would be:

Leaders of organizations should focus on...

- ___ Enhancing commitment to the common vision and success
- ___ Improving communication networks across the organization
- ___ Improving output and efficiency
- ___ Motivating individuals to achieve team goals.

Another example question is:

Successful leaders gain their independence from...

___ Developing people and forming well cooperating teams

___ The authority their position gives them

___ Building consensus and devolving power

___ Gaining loyal and dynamic followership.

An individual's score is apportioned among the four leadership discourses (e.g., Controller = 34%, Therapist = 12%, Messiah = 50%, and Eco-Leader = 4%) such that a dominant or preferred discourse is revealed — though it is possible to be equal in all four discourses. A pie chart graph is generated for each respondent. The WILD questionnaire was used with permission from Simon Western.

Demographics. A demographic survey questionnaire is the third portion of this study's instrumentation. The following demographic information was collected for 4-H volunteers: age, gender, race, education level, county, years as a 4-H volunteer, years in current position, primary volunteer role, and leadership position (if any) (Appendix E). This demographic information is based in part on the original LABS-III survey in order to compare the population score with previous publicized scores using the LABS-III (e.g., Fischer et al., 2015; Lowhorn, 2011). Additionally, I added county to delineate between county 4-H programs; I also added years as a 4-H volunteer and years in current position, as these could serve as important mediating variables in regression analysis.

Similarly, the following demographic information was collected for 4-H agents: age, gender, race, education level, county, years as a 4-H agent, and years in current county position (Appendix F). This demographic information is based on the original LABS-III survey. Additionally, I added county to delineate between county 4-H programs; I also added years as a 4-H agent and years in current position, as these, too, could serve as important mediating variables in regression analysis.

Index of County 4-H Program Success. In the absence of a standard, county program-level measure of success in 4-H, an index was created to assign each county 4-H program a score, allowing programs to be compared statistically (Appendix G). Scores were based on ES237 enrollment information provided by the Florida 4-H Headquarters. The ES237 is the federal enrollment report required of all county 4-H programs in the United States. County 4-H agents submit their county's report to the Florida 4-H Headquarters, which combines the data and reports it in aggregate to the United States Department of Agriculture. The ES237 tracks five program areas of enrollment in each county, which were used in this study: (a) 4-H club membership, (b) school program enrollment, (c) overnight camping enrollment, (d) adult volunteer enrollment, and (e) other program enrollment. Other program enrollment includes after school programs and summer day camps. To create the index, an eight-step procedure was followed to generate z scores for all Florida 4-H county programs.

First, for each Florida county, enrollment data was entered for the abovementioned five program areas for the four most recent program years: 2011-2012, 2012-2013, 2013-2014, and 2014-2015. Second, to estimate enrollment trends, the percent change in enrollment from one program year to the next is calculated for each of the five program areas using an Excel IF/THEN formula (e.g., =IF(((B5-E5)/E5)<1,(B5-E5)/E5,1)). For example, the 2014-2015 program year's 4-H club enrollment number is compared with the 2013-2014 program year's 4-H club enrollment number, and a percent increase or decrease is calculated. This is completed for the remaining program years, comparing each to the 2014-2015 program year as a benchmark. Steps one and two establish the data from which scores will be calculated.

Third, census data was taken from the U.S. Census Bureau to calculate the total eligible (i.e., ages 5 – 18) youth for each county. Fourth, each county's total youth enrolled was then divided by the total eligible youth. This is completed for each program area, and for each program year, in order to generate

a matrix of scores. Fifth, a weighting system was devised to assign relative priority to per capita enrollment and percent change in enrollment, as well between the five program areas (Appendix G). Sixth, using an Excel SUMPRODUCT formula (e.g., =SUMPRODUCT(B10:H10,B16:H16)/SUM(B16:H16), the matrix of per capita enrollment scores, along with the percent change in enrollment numbers, were multiplied by the weighting system to generate one score for each of the five program areas. Seventh, these scores were then added together to attain a single score for a county 4-H program. Eighth, all county program scores were aggregated and calculated into *z* scores.

Additionally, to prevent outsized enrollment trend spikes or dips caused by reporting error, the maximum percent increase from one year to the next was capped at 100%. For example, if a county failed to report school enrollment numbers in 2013-2014, but then reported 500 enrollees in 2014-2015, that would register as a 500% increase without a cap.

Validity and Reliability

In a census, issues of validity are “largely a question of the extent to which the instruments used actually measure the constructs of interest” (Ary et al., 2010, p. 374). The LABS-III has undergone several revisions, the most recent of which was subjected to a confirmatory factor analysis that determined “the questions accurately reflected the two dimensions of leadership being tested” (Lowhorn, 2011, p. 10). The WILD questionnaire has also been continually refined (Western, 2013). Concerns of validity and reliability of the overall quantitative strand follow.

Validity. Due to this study’s ex post facto research design, there is no manipulation of the independent variable by the researcher. This opens the study to concerns of validity, which must be addressed through the design. In this study, the primary concern is internal validity. One threat to internal validity is nonresponse bias (Ary et al., 2010). Participation in the study was entirely voluntary.

The study relied upon county 4-H agents providing a roster of county 4-H association members to survey, or by distributing the instrument to county 4-H volunteers within their respective programs themselves. Several agents opted for the latter, believing they would receive a better response.

However, the design of the study dictates that the unit of measure for this study is not the individual county volunteer, but, rather, the county 4-H program. Means within the county 4-H association are determined for the LABS-III scale, as well as demographic variables. Additionally, in order to achieve statistical significance using Florida's 67 counties, a census of all county 4-H programs must be conducted. Response rates are discussed later in this chapter.

A secondary concern of internal validity is experimenter effect. As a former 4-H Agent from Indian River County Florida, I have close relationships with many county 4-H agents in Florida. This may inadvertently illicit varying responses from agents in terms of attitude and motivation to encourage participation in this study. According to Ary et al. (2013), the best way to reduce the experimenter effect is to standardize all procedures, such as recruitment and distribution of instruments. Standardized steps for recruitment are detailed under Data Collection Procedures.

Additional overarching controls were applied, including the collection of demographic information for the purpose of statistically controlling extraneous variables. These demographic extraneous variables were statistically controlled by including them in the explanatory regression analysis conducted (Ary et al., 2013). Homogenous selection is also applied. This was accomplished by selecting only 4-H volunteer members of county 4-H associations. The county 4-H associations are the only standardized leadership body in Florida 4-H, and their volunteer make-up is specified in a uniform set of bylaws adopted by each association (Diem & Cletzer, 2011).

Reliability. Reliability refers to the “the degree of consistency with which [an instrument] measures whatever it is measuring” (Ary et al., 2013, p. 236). A test of inter-item reliability, (reliability

coefficient), was conducted on each of the two measures: WILD questionnaire and LABS-III. The WILD questionnaire was tested for inter-item reliability by scale: controller, therapist, messiah, and eco-leader. The LABS-III was tested for inter-item reliability by scale: systemic thinking scale and hierarchical thinking scale.

Tests of inter-item reliability were conducted on the four scales of the WILD questionnaire. A 95% confidence interval was used. Table 3-1 contains individual scale scores for each of the four discourses. While the WILD questionnaire continues to be refined by creator Simon Western, there is not an established acceptable alpha level for the instrument.

Table 3-1

Cronbach's alpha test of inter-item reliability on WILD questionnaire (n=49)

Measure/Item	α
Controller scale	.789
Therapist scale	.578
Messiah scale	.582
Eco-Leader scale	.458

Note. $p < .05$

Tests of inter-item reliability were conducted on each of the two scales of the LABS-III. A 95% confidence interval was used. Table 3-2 contains individual scale scores for the sub-scales. The scores of .863 and .839 indicate good reliability among questions in each scale.

Table 3-2

Cronbach's alpha test of inter-item reliability on LABS-III (n=187)

Measure/Item	α
Hierarchical Thinking scale	.863
Systemic Thinking scale	.839

Note. $p < .05$

Data Collection Procedures

The quantitative strand's data collection procedures follow Dillman and colleagues' (2009) *Tailored Design Method*, which is based on Social Exchange theory and utilizes "multiple motivational features in compatible and mutually exclusive ways to encourage high quantity and quality of response to the surveyor's request" (p. 16). This method focuses on reducing survey errors — such as coverage, sampling, nonresponse, and measurement — and increasing response rates from participants (Dillman et al., 2009).

Recruitment of participants is best understood as three-tiered process: (a) Associate Dean for Extension and 4-H Specialist, (b) Extension agent contact, and (c) volunteer contact.

Associate Dean for Extension and 4-H Specialist. Initial contact with the associate Extension director and 4-H specialist was by email to solicit their support for Extension agent participation in the study. An email explaining the study and its importance was provided to send to the Extension 4-H agent personnel (Appendix H). This email served as a pre-notice letter for Extension agents; it was sent 3 – 6 days prior to the researcher's invitation to participate. This pre-notice email: (a) described the study and its implications for the 4-H program, (b) requested agents' participation, and (c) provided notice that agents would be receiving future communication from the researcher.

Extension 4-H Agents. Initial contact for this group was via the pre-notice email described earlier. Following receipt of the pre-notice letter, a first email from the researcher invited Extension 4-H agents to have their county 4-H programs participate in the study by sharing their association membership's contact information with the researcher, or by forwarding the survey link to their volunteers. This email (Appendix I): (a) explained that the survey is a census of Florida 4-H; (b) explained the role of the agent in facilitating the survey; (c) addressed confidentiality and the voluntary nature of the study; (d) explained to whom the survey should be administered; (e) explained how the survey is administered;

and (f) provided the researcher's contact information. Additionally, this email directed the Extension 4-H agents to complete the WILD questionnaire by following a hyperlink. The second (Appendix J) follow-up email, in the form of an email reminder was sent 10 days following the second email. A third and final contact via phone was conducted three days following the second email; a script was developed for this call (Appendix K).

4-H Volunteers. Contact with this group was made entirely via email. An initial pre-notice email was sent by the county 4-H agent explaining that the volunteer was selected to participate in the study and would be contacted by the researcher. This initial email notifying volunteers of the study included: (a) why the participant was selected, (b) an appeal for participation, and (c) a description of the study and its importance (Appendix L). The first request for participation was sent by the researcher 2 – 3 days following the introductory email. This email will include the items above, as well as: (a) directions for completing the online questionnaire, and (b) an explanation of confidentiality and voluntary participation (Appendix M). A second, follow-up email was sent by the researcher 10 days following the initial request for participation as a reminder to participate, or, if completed, a thank you was sent to those who participated (Appendix N). A third and final email five days later served as another reminder informing volunteers that the survey would close in three days and that their participation is important and encouraged (Appendix O).

The sequence began on different dates depending on when the agent responded to the initial request for participation by sending their county volunteers' contact information. However, the survey to volunteers remained open for a total of three weeks from the start date. All survey responses were collected via Qualtrics, a web-based survey service.

Participants

The quantitative strand of research involved two populations: county Extension 4-H agents and county 4-H association volunteers in Florida. Additionally, since the unit of study for this study is the county 4-H association, I will also provide demographic information for county 4-H associations.

Extension 4-H Agents. At the time of this study, there were 82 Extension 4-H agents in Florida who met the criteria of a 20% or greater FTE in 4-H. Of those, 70.7% ($n=58$) began the WILD questionnaire and 60.9% ($n=49$) completed the survey in its entirety. Of the respondents who completed the demographic portion of the survey (Appendix F), 52.4% ($n=42$) were female and 8.5% ($n=7$) were male. Of the total population of Extension agents, 39.1% ($n=33$) did not respond or complete the survey (Table 3-3).

Table 3-3

Frequencies of Extension 4-H agents' gender (n=49)

Measure/Item	<i>f</i>	<i>%</i>
Male	7	8.5
Female	42	52.4
Non Responders	33	39.1

The average age of 4-H agent participant is 40.9 years (Table 3-4); though, the distribution of ages is skewed toward younger agents (Figure 3-2).

Table 3-4

Descriptive statistics for Extension 4-H agents' demographics

Measure/Item	<i>M</i>	<i>SD</i>	<i>n</i>
Age	40.86	11.03	50
Tenure in current county	8.68	8.07	51
Tenure in 4-H	10.01	9.27	51

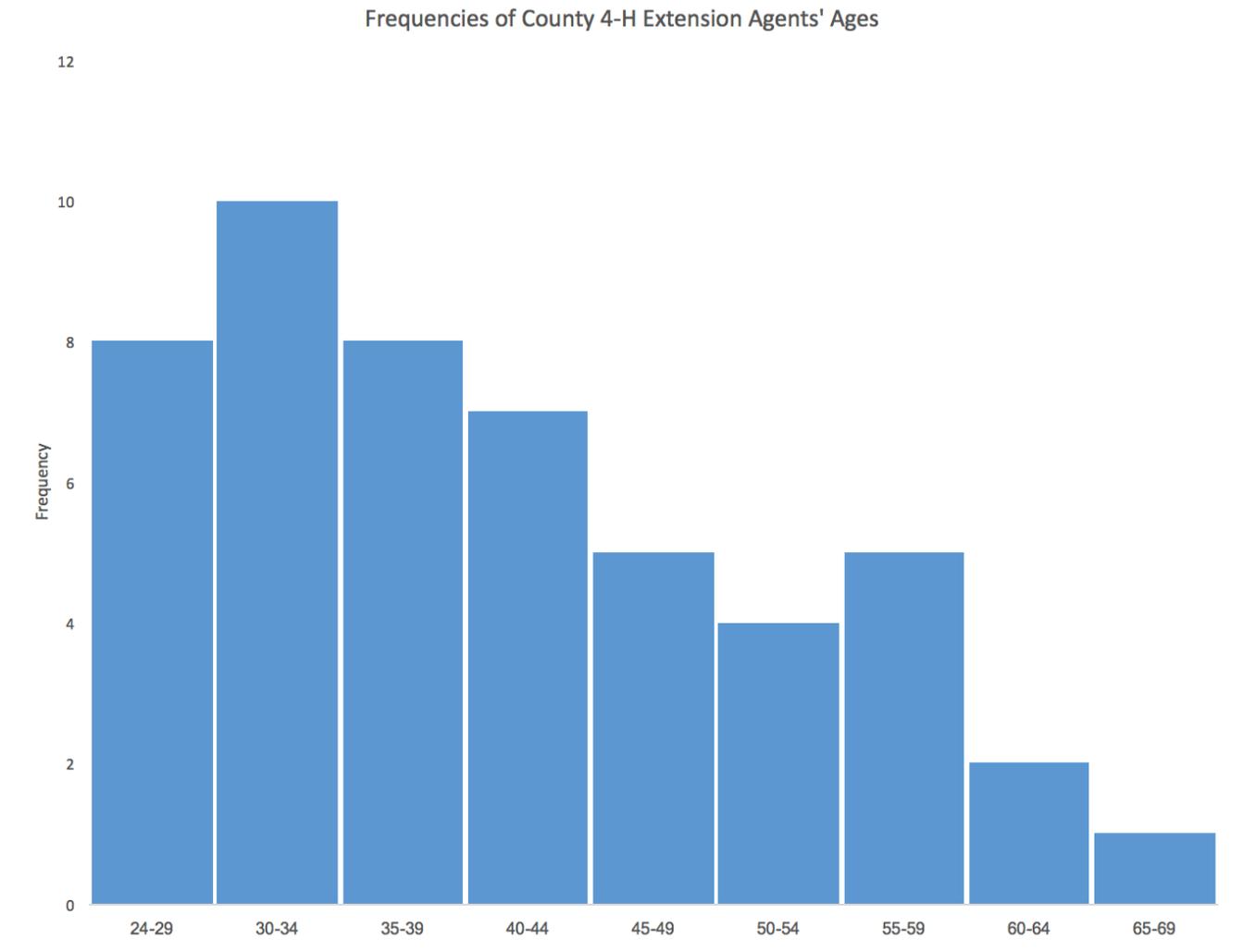


Figure 3-2, Frequency distribution of county 4-H Extension agents' ages.

Respondents reported having spent an average of 8.6 years in their current county, as well as having worked in 4-H an average of 10 years, most likely transferring between county or state 4-H programs (Table 3-4). Indeed, 29.4% ($n=15$) reported having spent time in another county 4-H program.

However, the distribution of agent tenure is heavily skewed, with 47.1% ($n=24$) having six or fewer years of 4-H experience (Figure 3-3). It is estimated that 58.8% ($n=30$) do not yet have permanent status as an Extension agent.

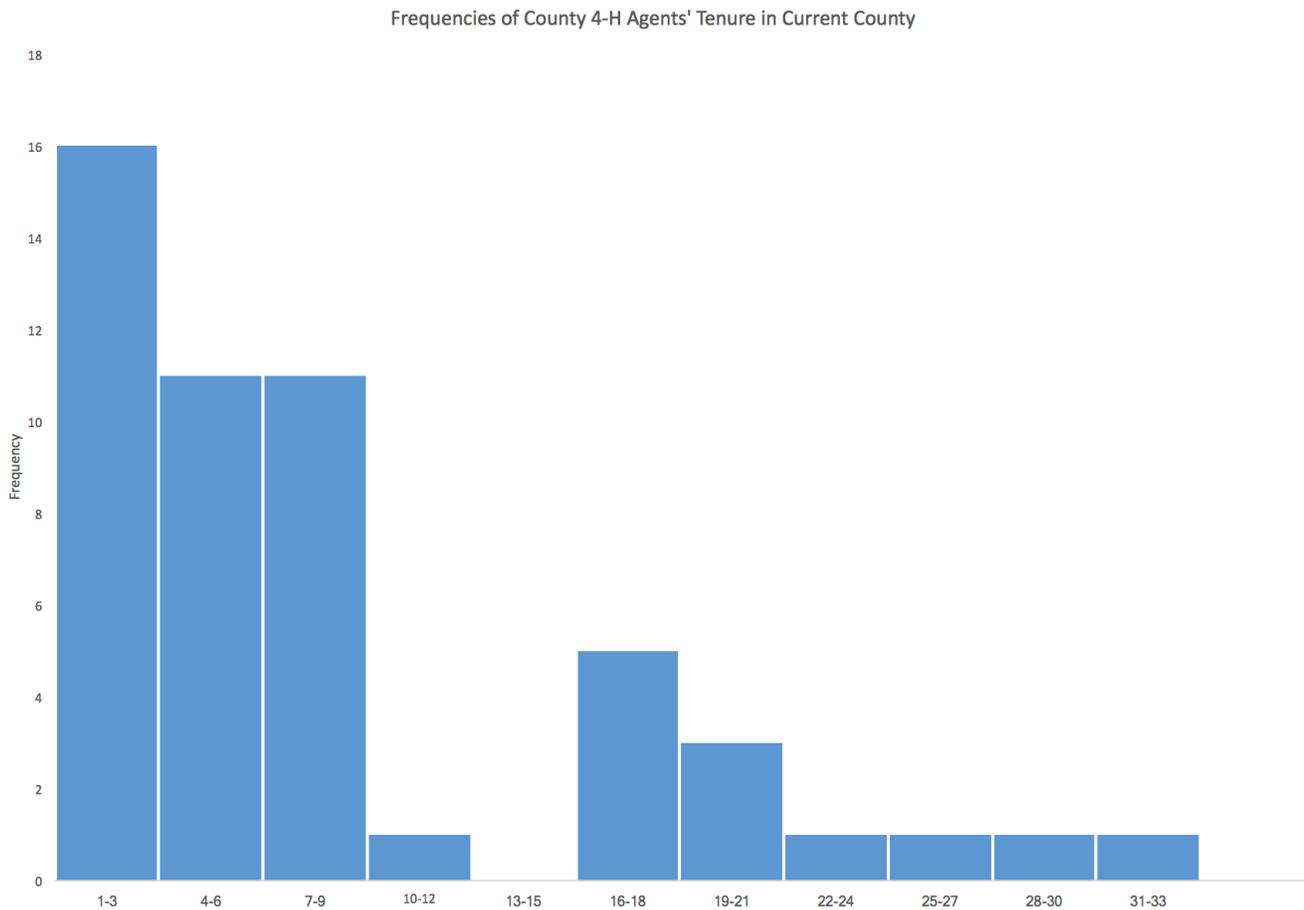


Figure 3-3, Frequency distribution of county 4-H Extension agents' tenure in current county.

All of the respondents held at least a four-year college degree, with a majority of Extension 4-H agents also holding master's degrees (67.3%, $n=33$), and a few holding the highest level, doctoral degrees (6.1%, $n=3$) (Table 3-5).

Table 3-5

Frequencies of Extension 4-H agents' highest degree attainment (n=49)

Measure/Item	<i>f</i>	%
Bachelor's Degree	13	26.5
Master's Degree	33	67.3
Doctoral Degree	3	6.1

Of the respondents, 86.3% (*n*=44) reported being white, 5.9% (*n*=3) were black, 3.9% (*n*=2) were Indian, and 2% (*n*=1) were Hispanic (Table 3-6).

Table 3-6

Frequencies of Extension 4-H agents' race/ethnicity (n=49)

Measure/Item	<i>f</i>	%
White	44	86.3
Black	3	5.9
Indian	2	3.9
Hispanic	1	2
Asian	0	0

A majority of respondents are considered Millennials (51%, *n*=26). Gen-X'ers were the next largest group (39.2%, *n*=20), and the smallest group was Baby Boomers (7.8%, *n*=4). No respondents were Traditionals.

Table 3-7

Frequencies of Extension 4-H agents' by generation

Measure/Item	<i>f</i>	%
Traditional	0	0
Baby Boomer	4	7.8
Gen-X	20	39.2
Millennial	26	51

Note: Data was calculated using agents' self-reported ages according to Glass (2007) age ranges for generations: 24-39, Millennial; 40-57, Gen-X; 56-75, Baby Boomer; and 76-96, Traditional.

County 4-H Association Volunteers. It is unknown how many 4-H volunteers serve on a county 4-H associations in Florida, or how many serve within a given county. However, 204 volunteers began the Leadership Attitudes and Beliefs Scale-III, and 187 completed it in its entirety. Of those respondents who completed the demographic portion (Appendix E), 74.9% ($n=140$) were female and 24.6% ($n=46$) were male (Table 3-8)

Table 3-8

Frequencies of county 4-H association members' gender (n=186)

Measure/Item	<i>f</i>	%
Male	140	24.6
Female	46	74.9

The average age of a county 4-H association member respondent was 50.1 years old, with the youngest members being 18 and the oldest 85 (Table 3-9). The distribution of ages is normally distributed (Figure 3-5).

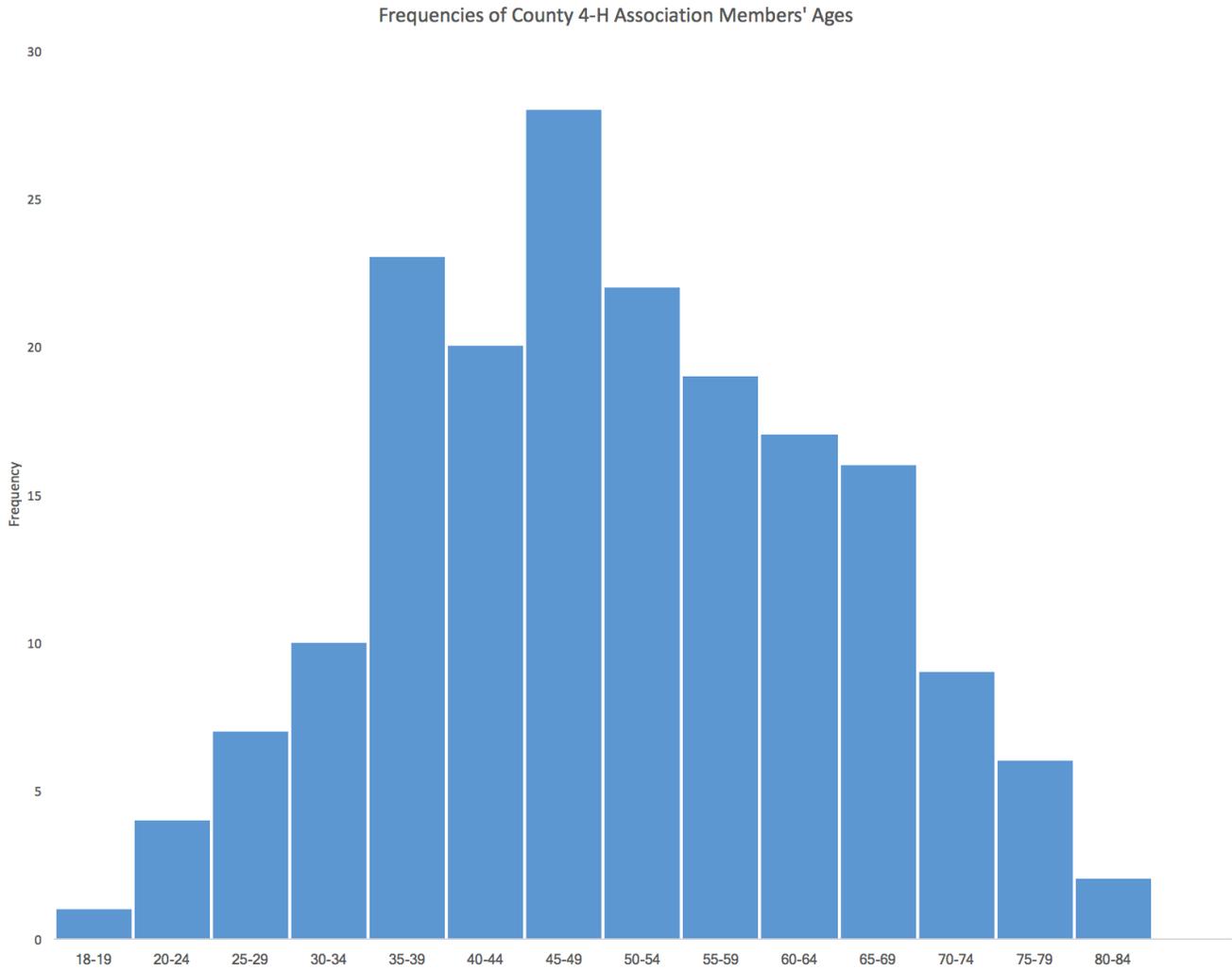


Figure 3-4, Frequency distribution of county 4-H volunteers' ages.

Respondents have volunteered with 4-H in some capacity (e.g., club leader, foundation member) an average of 11.9 years; however, the data is heavily skewed toward younger members, with 31.5% ($n=58$) having fewer than five years' experience (Figure 3-5).

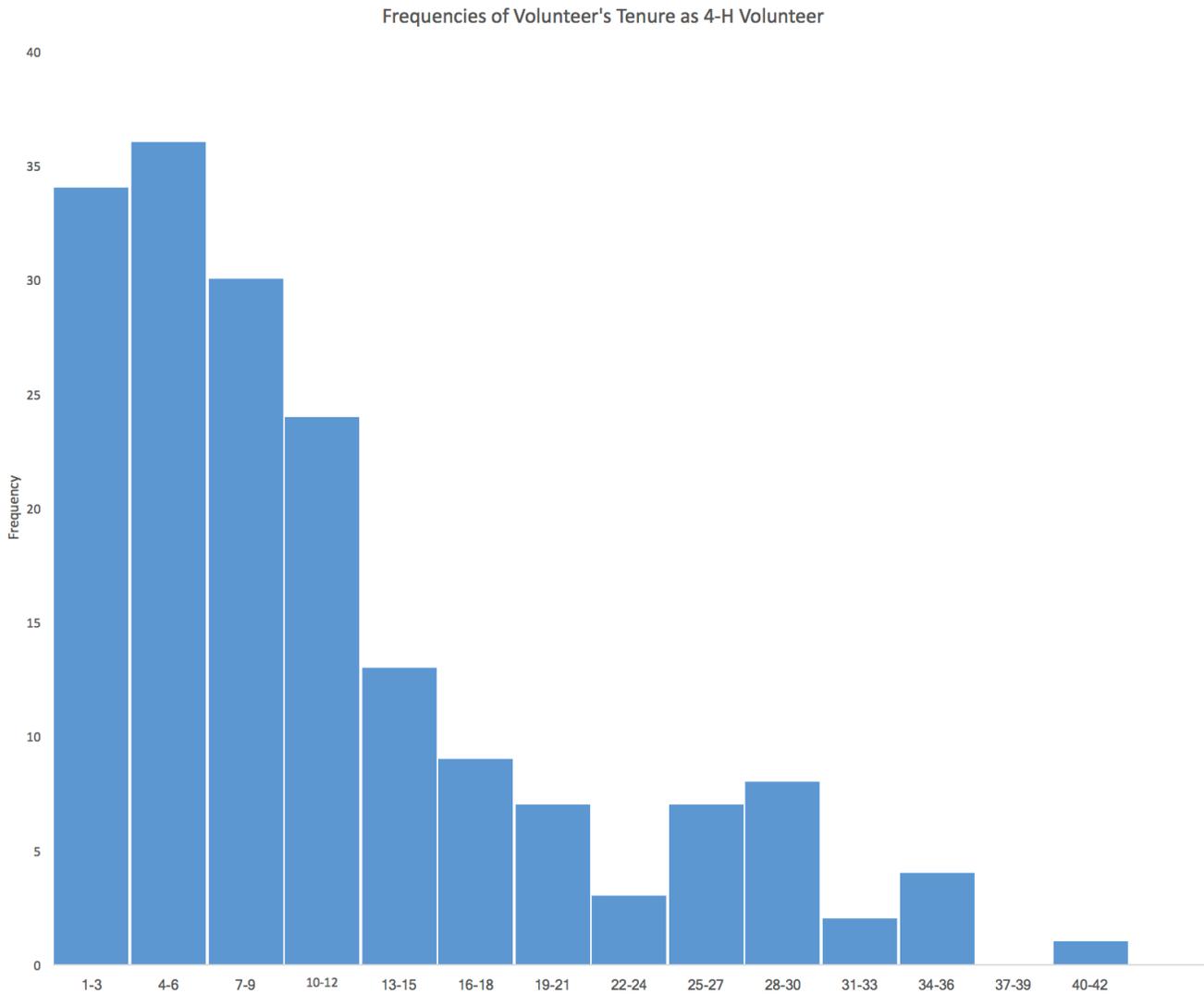


Figure 3-5, Frequency distribution of county 4-H volunteers' tenure as a volunteer.

Respondents also served on the county 4-H association (or a 4-H programming advisory committee before it) for an average of 10.1 years (Table 3-9).

Table 3-9

Descriptive statistics for county 4-H association members' demographics

Measure/Item	<i>M</i>	<i>SD</i>	<i>n</i>
Age	50.12	13.88	184
Years as county 4-H volunteer	11.90	10.25	184
Years as an association (or advisory) member	10.11	8.71	178

However, the distribution showed a gap in years of service, with 50.8% ($n=94$) having had fewer than five years' experience, but no one reporting 7 – 9 years of service (Figure 3-6). Interestingly, 9.1% ($n=17$) of respondents reported being in the highest age group, with 26 years of experience on the association.

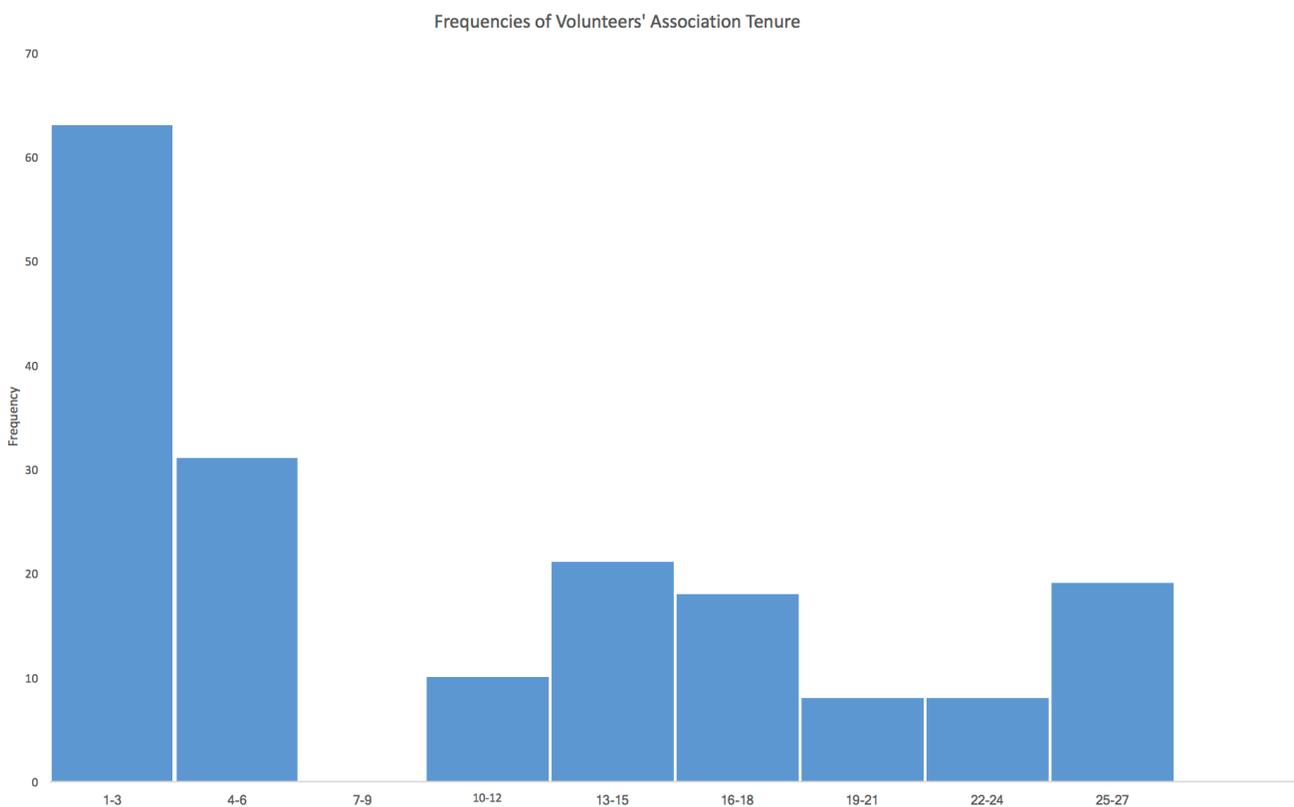


Figure 3-6, Frequency distribution of county 4-H association members' tenure on association.

All of the association members had completed high school, with the most common educational levels being some college or a bachelor’s degree (Table 3-10).

Table 3-10

Frequencies of county 4-H association members’ highest degree attainment (n=185)

Measure/Item	<i>f</i>	%
High School	16	8.6
Some College	45	24.3
Associate’s Degree	25	13.5
Bachelor’s Degree	45	24.3
Master’s Degree	39	20.9
Doctoral Degree	7	3.7
Other Professional	8	4.3

Of the respondents, 90.4% (*n*=169) were white (non-Hispanic), 4.8% (*n*=9) were black, 3.2% (*n*=6) were Hispanic, 1.6% (*n*=3) were American Indian, and .5% (*n*=1) was Asian (Table 3-11). Two individuals listed their ethnicity as “Pinellas” and “Why would this matter?”

Table 3-11

Frequencies of county 4-H association volunteers’ ethnicity (n=187)

Measure/Item	<i>f</i>	%
White	169	90.4
Black	9	4.8
Hispanic	6	3.2
American Indian	3	1.2
Asian	1	.5

County 4-H association members were also asked to select what they considered to be their primary role in the county 4-H program, and 64.2% (*n*=120) responded with something other than advisory member, which is the principal function of the association (Table 3-12). Additionally, of the 12.3% (*n*=23) who listed their primary role as “other,” five referenced a club leader function, bringing club leader as primary role category to 46.7% (*n*=86), which makes it the largest role represented on the association.

Table 3-12

Frequencies of county 4-H association's self-selected primary volunteer roles (n=184)

Measure/Item	<i>f</i>	%
Club Leader	81	44
Advisory Committee	67	36.4
Fundraising/Finance	12	6.5
Expansion and Review	1	.5
Other	23	12.5

Note: "Other" includes items such as, "Co-leader," "Finance," "Do-boy," and "Office Help."

Finally, Table 3-13 describes the county 4-H association members' generational diversity. Generation-X volunteers make up the plurality of association members across participating counties with 44% (*n*=81) association members. Baby Boomer (29.9%, *n*=55) and Millennial (24.5%, *n*=45) was a near tie. Only three (1.6%) Traditionals remain as 4-H volunteers.

Table 3-13

Frequencies of county 4-H association members by generation (n=184)

Measure/Item	<i>f</i>	%
Traditional	3	1.6
Baby Boomer	55	29.9
Gen-X	81	44.0
Millennial	45	24.5

Note: Data was calculated using agents' ages by Glass (2007) age ranges for generations: 24-39, Millennial; 40-57, Gen-X; 56-75, Baby Boomer; and 76-96, Traditional.

County 4-H Associations. Florida has 66 of 67 counties with functioning county 4-H associations. Monroe County (i.e., the Florida Keys) does not support 4-H programming. Of those 66 counties, 60.6% (*n*=40) provided complete data sets. Meaning, at least one county 4-H agent per county completed the WILD questionnaire, and volunteers from the same county completed the LABS-III. Of respondents, the average county 4-H association had 4.6 members (Table 3-14). The average association

is comprised of 71% females and 29% males, with 30% ($n=12$) of responding counties having all female associations. The average association also has an average tenure of 10.56 years of service among members, with the lowest having two years' experience and the highest having 26 years' experience among members.

Table 3-14

Descriptive statistics for county 4-H association members' demographics (n=40)

Measure/Item	<i>M</i>	<i>SD</i>
Average Number of Members	4.65	2.49
Gender	.71	.28
Tenure of service	10.56	5.69

Note: Gender was coded as 0=male, 1=female

The 40 participating counties were also geographically diverse, representing all five Extension administrative districts in Florida (Figure 3-7).

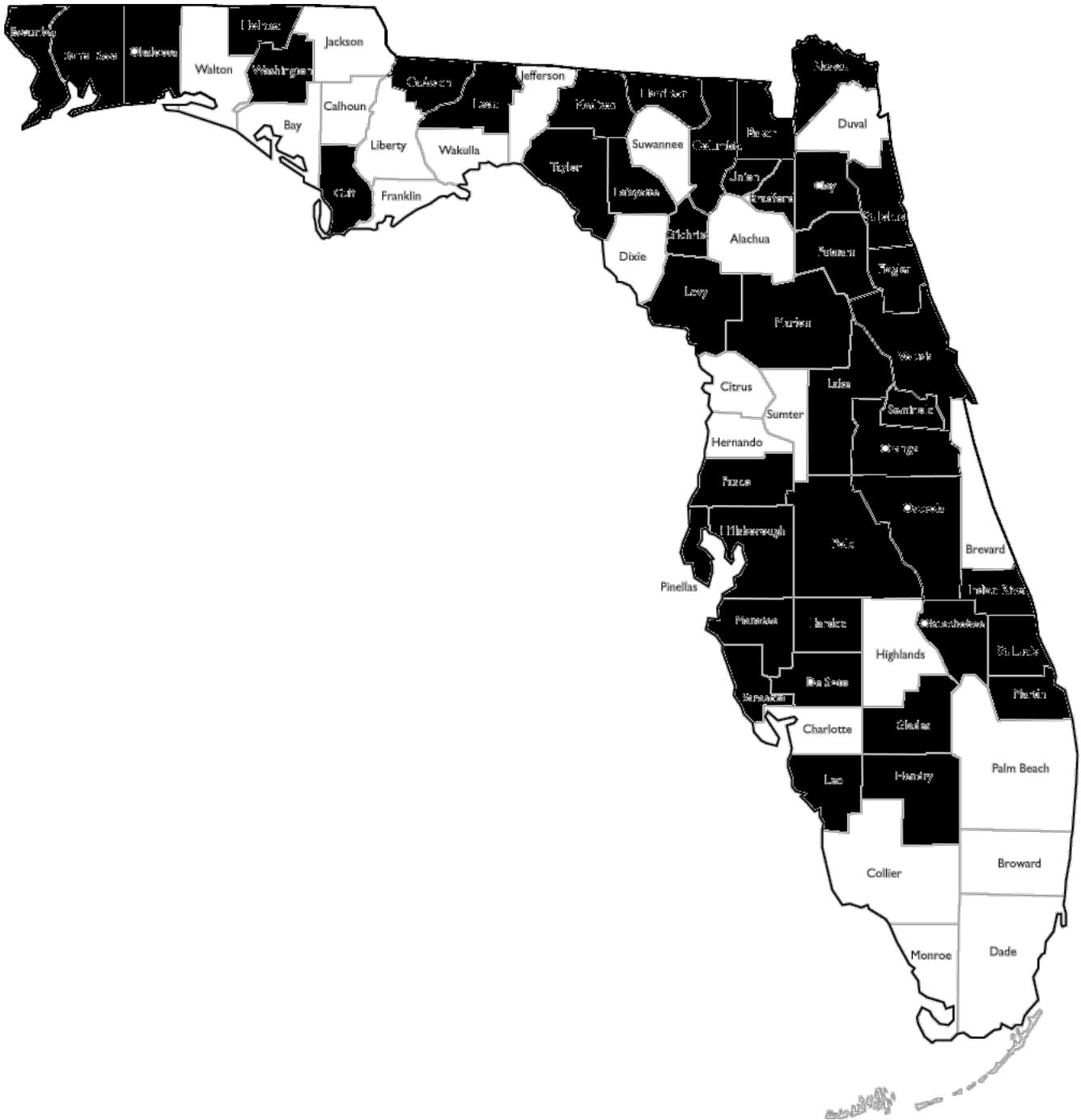


Figure 3-7, Florida counties participating in the quantitative strand. Darkened counties represent counties that completed both the WILD questionnaire and LABS-III questionnaire.

Data Analysis

Initial data screening of dependent and independent variables followed Warner's (2013) guidelines in order to identify and address potential problems with the data set, as well as prevent misleading results. This includes calculating descriptive statistics for all variables, as well as identifying missing values, normality, multivariate outliers, homoscedasticity, and multicollinearity.

A .05 level of significance was used to identify statistically significant results. The .05 and .01 levels of significance are the "most commonly used levels of significance in the behavioral sciences," and .05 is most common in exploratory social science research (Ary et al., 2010, p. 166). Statistical tests performed were: descriptive statistics, Cronbach's alpha test of inter-item reliability, bivariate correlation, analysis of variance, and multiple linear regression analysis for the purpose of determining independent variables' explanatory capacity of dependent variables.

An index of indicators of county 4-H program success was created. This index score combined all dependent variables related to 4-H program success. Other composite scores were calculated for the hierarchical thinking and systemic thinking subscales.

The following statistical test(s) were used to assess each research questions. The first question sought to determine if there was a significant relationship between the preferred leadership discourse of Extension 4-H agents and programmatic success. This was accomplished by comparing scores from the WILD questionnaire with scores from the program success index. Simple descriptive statistics (i.e., mean, standard deviation, and range) were used to summarize and present the results for each dataset. Pearson's product-moment correlation coefficient was used to determine the strength and direction of the relationship between scores on the WILD questionnaire and the index for program success (Ary et al., 2010). The Pearson's r is calculated using the z scores of each variable. Results can range from 0, indicating no relationship between the paired z scores, to -1 or +1, indicating a perfect negative or

positive relationship, respectively (Ary et al., 2010). Cohen's (1998) classification of effect sizes was used to describe the magnitude of relationships: .10 was described as a small effect size, .30 was described as a medium effect size, and a correlation of .50 or higher was described as a large effect size.

The second question sought to determine if there was a significant relationship between systemic and hierarchical thinking among 4-H volunteers and programmatic success. This was accomplished by comparing scores of 4-H volunteers completing the LABS-III instrument and the program success index. Simple descriptive statistics (i.e., mean, standard deviation, and range) were used to summarize and present the results for each dataset. Pearson's product-moment correlation coefficient was used to determine the strength and direction of the relationship between scores on the LABS-III instrument and the index for program success (Ary et al., 2010).

The third and fourth research questions are addressed in the qualitative strand section that follows.

Qualitative Strand

The purpose of the qualitative strand in this study was to “explain quantitative significant (or nonsignificant) results, positive-performing exemplars, outlier results, or surprising results” (Creswell & Plano Clark, 2011, p. 82). In this phase, data was collected using focus group sessions, which followed a semi-structured, open-ended format; a written protocol was developed (Appendix P). The resulting audio recording was transcribed and analyzed using the constant comparative method (Corbin & Strauss, 2008). This basic interpretive qualitative approach is often used to describe or interpret a phenomenon, understand participants' points of view, and identify themes (Ary et al., 2010).

Qualitative inquiry “seeks to understand and interpret human and social behavior as it is lived by participants in a particular setting” (Ary et al., 2010, p. 420). Where quantitative inquiry “strives for testable and confirmable theories that explain phenomena” and is rooted in the physical sciences, qualitative inquiry differs fundamentally, maintaining that “human behavior is bound to the context in

which it occurs, and that social reality cannot be reduced to variables in the same manner as physical reality” (Ary et al., 2010, p. 420). By adding a qualitative strand to the study, it allows the researcher to better describe the complex phenomenon under study in greater depth and detail than by using quantitative inquiry alone.

Qualitative inquiry does have limitations. Observation is made more difficult because it often requires interpretation by the researcher, such as when discerning a subject’s attitudes or values. Often, the “personal values and attitudes of social scientists may influence both what they choose to observe and their assessment of the findings on which they base their conclusions” (Ary et al., 2013, p. 17). This renders observations less objective than in the natural sciences. Qualitative inquirers generally believe that it is, in fact, “impossible to develop a meaningful understanding of human experience without taking into account the interplay of both the inquirers’ and the participants’ values and beliefs” (Ary et al., 2013, p. 422). However, this concept of “human as instrument” is actually considered beneficial, as humans are the only instruments complex enough to assess the variety and complexity of the human experience (Ary et al., 2013). Therefore, rather than attempting to eliminate bias in qualitative inquiry, researchers focus on identifying and monitoring bias throughout data collection and interpretation (Ary et al., 2013). This effort is referred to by Corbin and Strauss (2008) as “sensitivity.” Sensitivity is addressed, in part, through the use of reflexivity, which is understood as “a simultaneous awareness of self and other[s] and of the interplay between the two” (Crossman & Rallis, 2012, p. 10).

Researcher Subjectivity

In qualitative research, the researcher plays an active role in the construction of knowledge and making meaning of the knowledge that emerges from the research. Reflexivity is key in ensuring the credibility of qualitative research (Ary et al., 2013). Therefore, I offer the following reflexivity statement in an effort to situate my own ontological beliefs in relation to the study.

On Epistemology. My own epistemological beliefs are informed by a Constructionist viewpoint. Constructionism holds that “all knowledge, and therefore all meaningful reality as such, is contingent upon human practices, being constructed in and out of interaction between human beings and their world, and developed and transmitted within an essentially social context” (Crotty, 1998, p. 42). Knowledge and meaning, therefore, are the sole domain of humans. Where Positivism seeks to discover the meaning inherent in the world, Constructionism contends that meaning is not discovered, but rather created: “objects in the world are indeterminate. They may be pregnant with meaning, but actual meaning emerges only when consciousness engages with them. How...can there be meaning without a mind?” (Crotty, 1998, p. 43). We actively construct knowledge from experience, creating a subjective, internally coherent mental model of reality (Doolittle & Camp, 1999).

My Constructionist viewpoint was shaped largely by my brief stint as a Humanities major. As unlikely as it may seem, literature informed my epistemological beliefs — specifically, Emerson’s *Nature*. Emerson writes of nature as being a Rosetta Stone for all humanity. Without physical seeds, how could we comprehend or express the metaphorical concepts of planting the seeds of an idea, or reaping what you sow. Further, if humans and nature are separated, neither can be understood. Nature without humans has no meaning, and humans without nature have no means of meaning making.

On Paradigmatic Stance. As a researcher, I find inherent value in employing numerous methodologies in various paradigms (i.e., quantitative or qualitative), anathema as that may be to adherents of a Purists stance. Paradigms are social constructions that are inherently flawed, incomplete, and not universally applicable (Greene, 2007). Clinging to one particular stance as the only way to ascertain knowledge seems nonsensical. I find myself in line with Greene’s (2007) A-paradigmatic stance, which asserts that paradigms are not central to good research. I would describe good research as research that is both valid and useful to someone in a given context. It is reasonable to believe that

research could be valuable to someone who operates in multiple paradigms, or in no conscious paradigm at all; and, therefore, good inquiry exists independent of paradigms.

This is evidenced by my selection of the explanatory sequential mixed methods design for my study. The primary factors in that choice were the “particular characteristics and demands of the inquiry process,” as well as the “inquiry purpose, questions, and sample characteristics” (Greene, 2007, p. 72). All of these are prototypical of the A-paradigmatic stance on conducting mixed methods research.

Sampling and Selection of Participants

Sampling for the qualitative strand of this study was determined by the results of the quantitative strand. Sampling frames for sequential mixed methods design usually fall into one of two categories: (a) extreme, deviant, or unique case sampling; or (b) typical case sampling (Ary et al., 2013, p. 430). In this case I chose extreme cases, selecting six counties to focus on: three counties who scored into the highest quartile of counties on the index of county program success, and three counties who scored in the lowest quartile (Table 3-14). In an effort to maintain confidentiality, I have labeled the counties A – F, with A – C being high performing counties, and D – F being low performing counties.

Table 3-14

Focus group participant distribution by county program (n=33)

Measure/Item	Program Success Quartile	<i>n</i>	%
County A	Upper	7	21.2
County B	Upper	4	12.2
County C	Upper	6	18.2
County D	Lower	6	18.2
County E	Lower	6	18.2
County F	Lower	4	12.2
Total		33	100

Selection of the county 4-H associations for focus group sessions was determined by county 4-H program index scores, but was also determined by participation in the initial, quantitative strand of the study. Of the 16 counties in the upper quartile, nine completed the quantitative instruments for both agents and volunteers, and three were selected based on availability. Of the 16 counties in the lower quartile, 12 completed the quantitative instruments for both agents and volunteers, and three were selected based on availability.

Instrumentation

Semi-structured, open-ended focus groups were guided by a researcher-developed focus group protocol (Appendix P). The protocol was developed using an *a priori* propositions table (Appendix A), which guides the researcher to utilize quantitative results and supporting literature to develop focus group questions. The protocol focused the conversation on encouraging participants to share in their own words their attitudes and beliefs on leadership in the context of the county 4-H program. It was comprised of several primary questions, as well as follow-up questions for each that allowed the researcher to probe for better understanding and detail. During focus group sessions, the researcher acted as facilitator.

Data Collection

Data collection was accomplished through use of semi-structured, open-ended focus groups. Focus group sessions were coordinated through email and phone; a phone script was utilized (Appendix Q). Sessions were held at times convenient for participants. Locations were chosen based on participant convenience and familiarity, as well as to ensure privacy. The first five minutes were devoted to establishing rapport with the participants by engaging in general conversation. The general nature of the phenomenon being investigated was then explained to focus group members, including the researcher's interest in the phenomenon and the researcher's relevant personal background with the phenomenon.

Before beginning the focus group questions, participants' eligibility to participate in the study was confirmed by reviewing the specific selection criteria, consent was obtained (Appendix R), and then the focus group format was explained by the researcher. The focus group session itself consisted of three primary questions, with additional probing, follow-up questions used as necessary. The focus group session was recorded using a digital audio recording device.

Data Analysis

Following the collection of qualitative data, I ($n = 2$) or a professional transcription service ($n = 4$), created a verbatim transcription of each focus group's digital audio file. The agreement with the transcription service contained a confidentiality clause in order to comply with the IRB protocol. I completed a whole-text analysis of each transcript, employing the constant comparative analytic procedures developed by Corbin and Strauss (2008). I then reviewed the transcripts several times in order to gain an overall sense of participants' lived experience of the phenomenon, a process known as "familiarization" (Ary et al., 2013). I kept a reflective log of memos throughout the data analysis process in order to record emergent insights, note questions to answer at a later time, and log connections between categories to be considered. I then excerpted segments of text consisting of no less than one complete sentence. Selected excerpts contained relevant context and revealed how participants' experience relates to the phenomenon under study (Charmaz, 2006). This process of excerpting, as well as subsequent steps, used the qualitative data analysis software Atlas.ti. Preliminary codes were then created using a systematic approach (Ary et al., 2013). Codes are short — but complete and easily understood — phrases that capture the meaning of the excerpted text (Rossman & Rallis, 2012). *In vivo* codes, which are codes that use the participant's exact words, were used when appropriate. Codes were then grouped into preliminary categories. Categories are developed by clustering codes with similar meaning; they represent a higher level of abstraction in interpreting the transcript (Corbin & Strauss,

2008). Categories were reviewed to ensure internal homogeneity and external heterogeneity. Categories were then used to develop several broad themes in the data, as they related to the research questions. The results of this qualitative analysis are reported in the form of themes, which are each supported by participant quotes.

Credibility and Trustworthiness

Scientific rigor is determined differently in qualitative inquiry. Where quantitative research is concerned with validity and reliability, qualitative inquiry is concerned with credibility and trustworthiness. Credibility refers to how confident the reader can be in the researcher's observations, interpretations, and conclusions (Ary et al., 2013). Trustworthiness, or dependability, refers not only to the extent to which data and findings would be similar if the study were replicated, but also that variation across replications can be monitored and explained (Ary et al., 2013).

Credibility. Credibility is similar to internal validity in quantitative research. For this study, several methods were used to establish credibility. First, the mixed methods approach to this study offers structural corroboration by allowing the researcher to utilize methods triangulation. When these different procedures with different data are in agreement, "the assumption is that the combination of methods results in better evidence" (Ary et al., 2013, p. 499).

Second, central to qualitative inquiry is the accurate portrayal of the meaning participants assign to the topic of study. To ensure that data were presented accurately — and thus credibly — low-inference descriptors "such as verbatim or direct quotations" were used frequently. The use of audio recordings created during data collection, as well as verbatim transcriptions, enable the researcher to accurately portray meaning using these low-inference descriptors. Similarly, offering rich, thick descriptions "also helps the research convey an understanding of the study's context ...and [help] the reader 'see' the setting" (Ary et al., 2013, p. 499).

Third, credibility is increased by reducing researcher bias through reflexivity. Reflexivity “is the use of self-reflection to recognize one’s own biases and to actively seek them out” (Ary et al., 2013, p. 500). Actively seeking out biases in a documented, systematic manner establishes credibility by preventing personal attitudes, preferences, and feelings about the phenomenon under study from affecting the interpretation of the data.

Trustworthiness. Trustworthiness, or dependability, is similar to reliability in quantitative research. It is achieved by demonstrating that the variation inherent in qualitative inquiry is tracked and explained in a systematic manner. Several methods were used to establish trustworthiness of this study. First, thorough documentation — “one of the best ways to establish dependability” — was maintained throughout the study detailing how decisions were made, how the study was conducted, and how findings were generated (Ary et al., 2013, p. 502). By presenting this audit trail, it allows to reader to judge the replicability of the study.

Second, corroboration through methods triangulation (described above) also increases the trustworthiness of a study when different methods and data agree. Similarly, trustworthiness can be demonstrated by presenting consistent findings across multiple cases.

Integration of Quantitative and Qualitative Strands

The primary benefit of the explanatory sequential mixed methods design is its ability to “assess trends and relationships with quantitative data, but also be able to explain the mechanism or reasons behind the resultant trends” (Creswell & Plano Clark, 2011, p. 83). In the final step of interpretation of the two strands, the researcher “interprets to what extent and in what ways the qualitative results explain and add insight into the quantitative results and what overall is learned in response to the study’s purpose” (Creswell & Plano Clark, 2011, p. 83). The mixing of the findings (Appendix S) of the two

strands in the final step results in a meta-inference, which allows the researcher to “obtain a fuller picture and a deeper understanding” of the phenomenon (Johnson, Onwuegbuzie, Turner, 2007, p. 119).

Chapter Summary

This explanatory sequential mixed methods design study involved the initial collection of quantitative data in the form of the LABS-III, WILD, and demographic questionnaires, followed by the collection of qualitative data by means of semi-structured, open-ended focus group sessions guided by a researcher-developed focus group protocol. Quantitative data was analyzed using SPSS versions 22 and 23, employing descriptive, correlation, and multiple linear regression statistical measures. Qualitative data was analyzed using Atlas.ti, employing the constant comparative approach to analyze verbatim transcriptions. The results of these two research strands are detailed in the following chapter.

CHAPTER 4 RESULTS

Chapter one described the purpose and scope of this study. Chapter two covered at length the topics of leadership discourses, complexity science, and the Extension Service as an ecological organization. Chapter three detailed the mixed methods research design, data collection, and data analysis procedures. Now, chapter four offers a report of the study's findings. This study was a sequential explanatory mixed methods design, featuring both quantitative and qualitative strands of research. Research questions one and two focus primarily on quantitative data; research question three addresses the qualitative findings; and research question four addresses insight from the mixing of the two strands.

Research Question 1: What is the nature of the relationship between preferred leadership discourse of Extension 4-H agents and programmatic success?

Research question one sought to describe the nature of the relationship between county 4-H agents' preferred leadership discourse and county 4-H programmatic success. Preferred leadership discourse was measured by the Western Indicator of Leadership Discourse (WILD) questionnaire, while county 4-H program success was measured by an index that scored counties based on enrollment trends across multiple program areas. The study population for this research question was comprised of 51 county 4-H agents (62.19%) who completed the WILD questionnaire. This is a higher number than reported in the "Participants" section of chapter three because several agents completed the WILD questionnaire portion of the survey but not the demographic portion. Full demographic details for county 4-H agents are reported under "Participants" in chapter three. A county 4-H program success index score was calculated for all Florida counties; full explanation of how that index was created is under "County Index Score" in chapter three.

Table 4-1 describes the means of the four leadership discourse scores for county 4-H agents. Agents' most preferred discourse was the therapist discourse, with a mean score of 31.14 ($SD=5.20$). Agents then preferred eco-leader ($M=28.82$, $SD=4.79$), messiah ($M=23.87$, $SD=5.71$), and controller ($M=16.16$, $SD=6.91$).

Table 4-1

Descriptive statistics of county 4-H agents' WILD scores (n=51)

Measure/Item	<i>M</i>	<i>SD</i>
Controller	16.16	6.91
Therapist	31.14	5.20
Messiah	23.87	5.71
Eco-Leader	28.82	4.79

A Pearson's product-moment correlation coefficient was calculated to examine the relationship between the county index score (as well as subset of the county index score focusing on club programming only) and the leadership discourse preference scores for county 4-H agents (Table 4-2). There appears to be no relationship between leadership discourse preference of agents and county 4-H program success.

Table 4-2

Correlation coefficients of leadership discourse preference and county index scores (n=49)

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6
County Index								
1 Score	-.085	.937	1					
2 Club Index Score	-.022	.992	.494**	1				
3 Controller Mean	16.52	7.18	.150	.203	1			
4 Therapist Mean	30.76	5.42	-.158	-.042	-.530**	1		
5 Messiah Mean	23.97	5.99	-.007	.037	-.515**	-.133	1	
6 Eco-leader Mean	28.73	4.75	-.038	-.306	-.258	-.170	-.331*	1

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

Regression analysis was then used to determine the capacity of leadership discourse preference for explaining county 4-H program success. Both stepwise and backward multiple linear regression analyses were conducted to develop a regression model capable of explaining county 4-H program success. The following variables were tested: controller, therapist, messiah, and eco-leader discourse scores. No significant regression model emerged. Finding little significant explanatory capacity in leadership discourse preference, I also used Pearson’s product-moment correlation coefficient to uncover any relationships between county 4-H program success, leadership discourse preference, and the demographic characteristics of Extension 4-H agents, such as: age, length of tenure in current county, and length of time as a 4-H agent (in current or other counties). (Race/ethnicity was also initially included, but, due to the low number of non-white agents, a correlation coefficient was unable to be calculated.) Tables 4-3 and 4-4 illustrate that effort, uncovering no relationship between the county index score and agents’ demographic information, nor between any leadership discourse score and agents’ demographic information.

Table 4-3

Correlation coefficients of agent demographic variables and county index scores (n=49)

	Variables	<i>M</i>	<i>SD</i>	1	2	3	4
1	County Index Score	-.095	.969	1			
2	Agent Age	40.86	11.03	-.204	1		
3	County Tenure	8.68	8.68	-.065	.698**	1	
4	Extension Tenure	10.01	9.26	-.132	.694**	.906**	1

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

Table 4-4

Correlation coefficients of agent demographics and leadership discourse preference (n=49)

#	Variable	M	SD	1	2	3	4	5	6	7
1	Controller Mean	16.16	6.932	1						
2	Therapist Mean	31.14	5.204	-.615**	1					
3	Messiah Mean	23.87	23.87	-.455**	-.074	1				
4	Eco-leader Mean	28.82	28.82	-.237	-.108	-.453**	1			
5	Agent Age	40.86	40.86	-.042	.081	-.013	-.012	1		
6	County Tenure	8.68	8.68	.030	-.012	-.128	.122	.698**	1	
7	Extension Tenure	10.01	10.01	-.073	.036	-.101	.187	.694**	.906**	1

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

A factorial ANOVA was also calculated to compare the county index score to four nominal demographic variables (i.e., agent gender, agent highest degree attained, if agent is in his or her first county, and agent generation). The main effect for gender was not significant ($F(1,46) = 1.34, p > .05$). The main effect for an agent's highest degree attained was not significant ($F(2,46) = .498, p > .05$). The main effect for if an agent was in his or her first county position was not significant ($F(1,46) = 9.68, p > .05$). Finally, the main effect for an agent's generation was not significant ($F(2,46) = .884, p > .05$). No interaction was significant, either. Thus, it appears that gender, degree, generation, or if an agent is in his or her first county position seems to have any significant effect on county index score.

Regression analysis was then used to determine the capacity of agent demographic information to explain county 4-H program success. Both stepwise and backward multiple linear regression analyses were conducted to develop a regression model capable of explaining county 4-H program success. The following variables were tested: gender, age, length of time in the current county, length of time as a 4-H agent (in current or other counties), if the current county was an agent's first position, academic degree attainment, and generation. No significant model emerged.

Regression analysis was also used to determine the capacity of agent demographic information to explain leadership discourse preference. The following variables were tested for each of the four discourses: gender, age, length of time in the current county, length of time as a 4-H agent (in current or other counties), if the current county was an agent's first position, academic degree attainment, and generation. No significant model emerged for any of the four discourses.

Research Question 2: What is the nature of the relationship between systemic and hierarchical thinking levels and programmatic success?

Research question two sought to describe the nature of the relationship between county 4-H association members' levels of systemic and hierarchical thinking, and county 4-H programmatic

success. Levels of systemic and hierarchical thinking were measured using the Leadership Attitudes and Beliefs Scale-III (LABS-III), which features systemic and hierarchical thinking orthogonal subscales; 186 county 4-H association members completed the LABS-III questionnaire. They represent 39 county 4-H associations. The study population for this research question were the 39 county 4-H associations. Scores presented here were calculated using the means of the 39 county 4-H associations, each containing multiple respondents. Full demographic details for county 4-H association volunteers are reported in chapter three. County 4-H program success was measured by an index that scored counties based on enrollment trends across multiple program areas. A program success index score was calculated for all Florida counties.

Table 4-5 describes the mean scores for the two sub-scales of county 4-H association members. Association members scored a middling 2.70 ($SD=.587$) on hierarchical thinking, indicating a medium preference for positional authority and responsibility. Members scored 1.71 ($SD=.388$) on systemic thinking (where 1 indicates the highest level of systemic thinking), indicating a capacity to attribute success or failure to multiple sources and ability to see complex connections.

Table 4-5

Descriptive statistics of county 4-H association members' LABS-III scores (n=186)

Measure/Item	<i>M</i>	<i>SD</i>
Hierarchical Score	2.70	.587
Systemic Score	1.71	.388

Note: Scores based on a five-point, Likert-type scale where 1 indicates the highest levels of hierarchical or systemic thinking, and 5 the lowest.

A Pearson's product-moment correlation coefficient was calculated to examine the relationship between the county index score (as well as subset of the county index score focusing on club programming only) and levels of systemic and hierarchical thinking (Table 4-6). There appears to be no relationship

between systemic and hierarchical thinking levels in county 4-H associations and county 4-H program success.

Table 4-6

Correlation coefficients of county index scores and LABS-III sub-scales

Variable	1	2	3	4
1 County Index	1			
2 Club Index	.494**	1		
3 Systemic Thinking	.019	.057	1	
4 Hierarchical Thinking	-.089	-.095	-.112	1

Notes. * $p < .05$, ** $p < .01$

Regression analysis was then used to determine the capacity of hierarchical and systemic thinking levels for explaining county 4-H program success. Both stepwise and backward multiple linear regression analyses were conducted to develop a regression model capable of explaining county 4-H program success. The following variables were tested: systemic thinking, hierarchical thinking, systemic thinking quartiles, and hierarchical thinking quartiles. No significant model emerged for county 4-H program success based on systemic and hierarchical thinking scores.

Finding no capacity in hierarchical and systemic thinking for explaining county 4-H program success, I also used Pearson’s product-moment correlation coefficient to uncover any relationships between county 4-H program success, hierarchical and systemic thinking levels, and the demographic characteristics of county 4-H association volunteers, such as: gender, age, tenure as an association member, tenure as a 4-H volunteer in any capacity, academic degree attainment, and generation. (Race/ethnicity was also initially included, but, due to the low number of non-white volunteers, a correlation coefficient could not be calculated.) Table 4-7 illustrates that effort, uncovering few

relationships between county index score, levels of hierarchical and systems thinking, and volunteer demographics.

Table 4-7

Pearson's correlation coefficients (r) for county 4-H association's county index score, mean levels of systemic and hierarchical thinking, and mean volunteer demographics

Variable	M	SD	1	2	3	4	5	6	7	8	9
1 County Index Score	-.085	.937	1								
2 Hierarchical Thinking	2.69	.330	-.089	1							
3 Systemic Thinking	1.72	.226	.019	-.112	1						
4 Proportion Female	.71	.285	.265	.386**	-.063	1					
5 Volunteer Age	51.5	7.55	-.084	-.064	-.201	-.198	1				
6 Years on Association	10.56	5.69	-.435**	-.226	.021	-.399*	.318*	1			
7 Years as Volunteer	12.62	6.54	-.355**	-.037	-.186	-.398*	.413**	.794**	1		
8 Mean Degree	4.57	.892	-.024	.013	.000	.107	.131	-.090	-.108	1	
9 Mean Generation	2.85	.483	.059	.100	.175	.314*	-.829**	-.377**	-.366*	-.028	1

Note: * $p < .05$, ** $p < .01$. These figures represent means by county 4-H association. Gender was coded as 0=Male, 1=Female; Degree was coded as 1=High School, 2=Some College, 3=Associate's Degree, 4=Bachelor's Degree, 5=Master's Degree, 6=Doctoral Degree, and 7=Other Professional Degree; Generation was coded as 1=Traditionals, 2=Baby Boomers, 3=Gen-X, and 4=Millennials.

Results indicate several relationships between county index score and volunteer demographics, and between levels of systemic and hierarchical thinking and volunteer demographics. A moderate negative correlation ($r=-.435, p<.01$) was found between the county index score and the mean number of years served on the county 4-H association. Similarly, a weak negative correlation ($r=-.355, p<.01$) was found between county index score and mean number of years volunteers on an association have served within the 4-H program.

A weak positive correlation ($r=.386, p<.01$) was found between the LABS-III hierarchical thinking scale and the mean gender of an association's membership. Because the LABS-III scale is reverse scored, this means that the more females comprising the association, the lower the level of hierarchical thinking that occurs.

Additionally, stepwise multiple linear regression analyses were used to determine the capacity of volunteer demographic variables to explain county 4-H index scores and levels of systemic and hierarchical thinking. The following variables, which represent the means of county 4-H associations, were tested: gender, age, years served on association, years served as a 4-H volunteer, degree, and generation.

The mean number of years served by an association's members was found to be explanatory of county 4-H program success. The variable for mean number of years served by association members was entered by the stepwise regression (Table 4-8), yielding a significant regression equation ($F(1,39) = 8.370, p<.05$), with an R^2 of .181 . The county's index score is equal to $.653 - .070$ (Years as Association Member). Meaning, a county's index score would decrease .070 for each additional mean year in age of the association membership.

Table 4-8

Multiple regression analysis for association volunteer tenure explaining program success

Variable	B^a	β^b	t	Sig
Constant	.653		2.257	.03
Mean Number of Years Served by Association Members	-.070	-.425	-2.893	.006
R^2			.181	
Adjusted R^2			.159	
F			8.370	.006

Notes: B^a Unstandardized coefficients, β^b Standardized coefficients. The following variables were excluded through stepwise regression: Agent Eco-Leader Score Mean, Agent Therapist Mean, Agent Controller Mean, Agent Messiah Mean, LABS-III Hierarchical Scale Mean, LABS-III Systemic Scale Mean, Volunteers' Mean Years of Service, Volunteers' Mean Age, Volunteers' Mean Highest Degree Level, Agent County Tenure, Agent Extension Tenure, Agent Mean Gender, Percent of Association High Hierarchical, Percent of Association High Systemic, Percent of Association Low Hierarchical, and Percent of Association Low Systemic.

Mean gender was found to be explanatory of levels of hierarchical thinking among county 4-H association members. The variable for mean gender score of association members was entered by the stepwise regression (Table 4-9), yielding a significant regression equation ($F(1,32) = 9.980, p < .05$), with an R^2 of .238. The county's explained hierarchical thinking score is equal to $2.279 + .554$ (Gender) where gender is coded 0=male and 1=female. Meaning, a county 4-H association's mean hierarchical score will increase .554 for each female added to the average size association's membership.

Table 4-9

Multiple regression analysis for gender and hierarchical thinking levels

Variable	B^a	β^b	t	Sig
Constant	2.279		17.148	.000
Gender	.554	.488	3.159	.003
R^2			.238	
Adjusted R^2			.214	
F			9.980	.003

Notes: B^a Unstandardized coefficients, β^b Standardized coefficients. Gender is coded as 0=male, 1=female. The following variables were excluded through stepwise regression: Volunteer’s Mean Years on Association, Volunteers’ Mean Age, Volunteers’ Mean Number of Years as Volunteer, Volunteers’ Mean Highest Degree Level, Agent Eco-Leader Score Mean, Agent Therapist Mean, Agent Controller Mean, Agent Messiah Mean, Agent County Tenure, Agent Extension Tenure, and Agent Mean Gender

Research Question 3: To what extent do volunteers’ perceive their leadership approach as affecting programmatic success?

Research question three sought to capture, in their own words, association members’ perspectives on their collective leadership approach, and how that approach affects success in the county 4-H program. Six focus groups were conducted in six different Florida counties. County 4-H associations were selected for participation based on their county 4-H program success index score (as well as prior participation in the quantitative strand and geographic diversity), with three selected from the highest scoring counties, and three selected from the lowest scoring counties. Table 4-10 describes the number of participants in each of the focus groups. Counties A, B, and C are high-scoring counties, while counties D, E, and F are low-scoring counties.

Table 4-10

Focus group participant distribution by county program (n=33)

Measure/Item	Program Success Quartile	<i>n</i>	%
County A	Upper	7	21.2
County B	Upper	4	12.2
County C	Upper	6	18.2
County D	Lower	6	18.2
County E	Lower	6	18.2
County F	Lower	4	12.2
Total (<i>n</i>)		33	100

Participants were asked a range of questions surrounding three main areas of interest:

- What factors contribute to the success of this group?
- How does this group approach decision-making?
- How does this group ensure continued improvement?

These areas of interest were based on an *a priori* proposition table (Appendix A) created using assertions about ecological approaches to leadership by Western (2013) and Wielkiewicz and Stelzner (2005). A focus group protocol was developed (Appendix P).

From more than five hours of audio recordings and 125 pages of transcripts emerged six themes and 23 categories of contributing statements (Table 4-11). Often, these categories and statements are conflictual, but that is to be expected with counties selected as extreme cases.

Table 4-11

Qualitative themes with associated data categories and source of origin

Themes and Categories	Origin
Theme 1: Associations vary on phenomena to which they attribute success or failure	<i>A priori</i>
Associations largely attribute success or failure to many factors	<i>A priori</i>
Associations largely attribute success or failure to leader	<i>A priori</i>
Associations identify numerous external trends affecting program	<i>A priori</i>
Associations cannot identify external trends affecting program	<i>A priori</i>
Theme 2: Agents play central role in association decision making	Emergent
Agents provide primary direction and decision-making for association	Emergent
Agent acts as primary means of communication within and without association	Emergent
Theme 3: Associations' connections to community and 4-H program vary	Emergent
4-H connected to civic groups and community through common projects	Emergent
4-H connected to county government and other governmental agencies	Emergent
Association members predominantly connected to agriculture groups	Emergent
Association often disconnected from own 4-H program	Emergent
Theme 4: Associations vary on decision-making processes and topics	<i>A priori</i>
Association members do not see themselves as making decisions	Emergent
Associations collaborate and reach consensus	<i>A priori</i>
Associations primarily make decisions on procedural matters	Emergent
Theme 5: Associations often not structured for success	Emergent
Members come from within the program and maintain inward focus	Emergent
Members unsure of role on association	Emergent

Themes and Categories	Origin
Associations often perform counterproductive functions	Emergent
Theme 6: Members’ opportunities for development not for association role	<i>A priori</i>
Agents primarily engaged in one-on-one development	Emergent
Volunteers have opportunities for trainings at county and state level	<i>A priori</i>
Agent not purposeful about leadership development	Emergent

Additionally, these six themes were categorized according to Wielkiewicz and Stelzner’s (2005) four factors of ecological leadership: interdependence; adaptation; open systems and feedback loops; and cycling of resources (Table 4-12). These four factors are discussed at length in Chapter 2.

Table 4-12

Qualitative themes categorized by four factors of ecological leadership

Factors	Themes
Interdependence	Theme #1, Theme #2
Open Systems & Feedback Loops	Theme #3, Theme #5
Cycling of Resources	Theme #4
Adaptation	Theme #6

Note: Factors from Wielkiewicz & Stelzner (2005)

Theme 1: Associations vary on phenomena to which they attribute success or failure

During focus group sessions, participants were asked to describe what factors they felt contributed to the success of the association and larger 4-H program. Association members responded

with a variety of reasons, ranging from leaders and leadership to external factors, such as county funding, and meeting the needs of children in the community. Many of the reasons for success were common across all counties, while others were specific to low or high scoring counties. The disparity between high and low scoring counties is discussed at length later in this chapter.

The names of agents and volunteers have been changed to protect the confidentiality of participants. Information that may reveal a particular place or organization, such as a town or county, was also changed. Common organizations, such as the Farm Bureau or Cattlemen's, were not changed because this name alone does not identify a specific Farm Bureau board or Cattlemen's Association.

Leaders and Leadership. Half of counties were quick to praise the county 4-H agent as a reason for success. Some attributed success to the efforts made by county agents:

We've had other agents who didn't take the program to the level that Rhonda has. Rhonda has made the leadership quality, since she's been here, more prominent. These kids here... huge success in the leadership and citizenship [programs] that we do in our county [came] from her. Others focused more on agents' personality and character: "Courtney has the personality that will draw children into the activities that she endeavors to do. So, that's an asset." The same association member later went on to describe the example his agent was to the 4-H community:

Everybody here knows that the family unit is in total breakdown across the United States. And I think 4-H is maybe a way to start building that back. Starting to build that family unit back. It's just a good wholesome organization. And [Courtney] starts it, leads it, and she lives that kind of life. I will be straight up with you, we've had 4-H agents here before that didn't live like that and I wouldn't necessarily want my kids involved.

Two counties attributed much of their success to strong volunteer 4-H club leaders. One participant said:

Going back to what makes our county so strong as a 4-H county, I think it has to do with the leaders that we have in our clubs. We really have strong leaders, and that's where you're going to get your strong clubs...

The same participant went on to explain that much of what makes club leaders "strong" is not just their leadership ability within their own club, but also their ability to get along with other club leaders.

Longevity was the second characteristic of a "strong" volunteer leader mentioned. In another association, one member echoed the same sentiment, saying "That's made it a fairly strong program ... the number of years that leaders stay involved as well – volunteers in general stay involved in the program. I think that's been a big part of success."

It should be noted here that participants will often use the word "leader," but it is most often used to describe the very specific role of a volunteer 4-H club leader, rather than the more general person who provides leadership. Club leader is a position, title, or designation.

External Factors. Other association members attributed success to more external factors, one of which was strong parental involvement: "Parent involvement, I think, is number one. You have to have parent involvement for it to be successful." Another association's member went further, saying that 4-H club membership works best when it's a family affair:

You had said the parents are supportive, but it's not just parents. Whenever we have things like county events, grandparents are showing up, too. When a kid is doing something at Youth Fair the grandparents are there, aunts and uncles – it's a family thing. It's not just the kids being dropped off there is a lot of family support, too.

Several others also attributed success to 4-H meeting the needs of children left unfulfilled by school systems:

I think too that a big part of what 4-H club is doing now, the school used to do. But now the schools are mostly concentrating on the business world. Training them how to make a living, not how to live. That's what 4-H clubs does. They teach them the basics like baking, cooking, sewing, gardening. Then things they will need to know that schools won't teach them: life skills. Similarly, still others attributed success to the variety of programming offered by the local county 4-H program. One participated noted, "It's such a wide vast of knowledge for the kids. I think if you keep them busy with all of those little things that you're less likely to have problem children."

Finally, several association members mentioned support (financial and otherwise) from county government was critical to program success:

I think when we had extra tax money from when the beach property in 2006, we had a lot of revenue and the corporate court needed the money to be spent, and that's when we got the funding for summer day camp programs ... we're still being funded and they still see the economic impacts of what we do.

One agent described a two-year period in which the county Extension program, including 4-H, was nearly cut from the county government's budget by commissioners, but "the 4-H community came out and promoted saving the 4-H program." She went on to say, "Ultimately, the county said they would rather keep 4-H, but they didn't want to keep some of the other Extension programs." Because of the renewed support for 4-H, this county program later received a rare programming budget line-item of \$15,000 from the county government and was removed from Extension and placed under a different county department.

Other counties attributed success not only to county government financial support, but also a general awareness and understanding among county decision-makers, citing county commissioners who "come out and participate in events," "have kids in 4-H," or "grew up in 4-H when they were younger."

As a follow-up question, association members were asked to describe external trends that are affecting, or will affect, the county 4-H program in coming years. Table 4-16 lists the trends identified by each county in their entirety.

Table 4-16

Codes representing external trends affecting 4-H, as reported by county association

County	Trend Reported
County A	Demands on free time seen as threat to 4-H External threats include other youth programs External threats include barriers to becoming volunteer
County B	External threats include losing teens to other to FFA and other clubs External trends include rising home school numbers
County C	External trends include decreasing state-level funding sources New membership fee seen as external threat
County D	Connection to agriculture seen as preventing evolution of program Demands on free time seen as threat to 4-H External threats include barriers to becoming volunteer External trends include greater inclusivity New membership fee seen as external threat
County E	Connection to agriculture seen as preventing evolution of program Demands on free time seen as threat to 4-H External trends include robotics and technology External trends include technology enabling greater participation Lack of awareness of 4-H leads to lack of connections New membership fee seen as external threat
County	Trend Reported
County F	Lack of awareness of 4-H program affects fundraising Lack of awareness of 4-H leads to lack of connections New membership fee seen as external threat

The most widely reported trend was a new membership fee leveed by the State 4-H Headquarters. Beginning in 2016, members will, for the first time in Florida 4-H’s 100-year history, be

charged a fee to be in the program. One member said, “I suspect that the new membership fee is going to be impactful and not necessarily in a good way.” Another added:

I understand the way the rest of the world going. I understand about people earn money for all sorts of things, I understand that, but I still didn’t want 4-H to be one of those things.” There was a general sense that the fee would be “too much of a hardship on our families.

Similarly, another state-imposed change was reported across multiple counties: the so-called two-deep volunteer policy, which requires club meetings and other events to have no fewer than two screened and background checked volunteers present with children at all times. Agents and members alike regarded this as unnecessary and prohibitive. Finger printing and background checks can range up to \$70 per person — a fee often paid by the volunteer, and which one participant described as “astronomical.”

Another participant said of the two-deep policy:

I mean it’s a challenge. I mean I understand it and I’m here, and I do those things, but I think that’s something that, to get more volunteers on board, there needs to be a balance here — what’s required for that. Because sometimes it feels like, oh my gosh, to be a volunteer, I’ve got to go through a police exam.

Another widely reported trend was competition with other youth programs. Teens are particularly difficult to keep in county 4-H programs, as they often have more options available to them. Among the competition for youth participation, school-based programs like FFA and sports were the most frequently reported. One agent said of the school-based programs:

I think it’s a convenience factor because it’s in school. Like they’re a captive audience versus parents having to burden them too with an additional location or kids have to get themselves there.

Another county's agent echoed that sentiment saying, "One of the major things I've seen is that kids graduated from 4-H into FFA in this community versus staying in throughout all their high school years." A volunteer added, "I think they look at 4-H as – what do you say – prelude maybe to FFA."

Of course, the purpose of asking associations to identify external trends was not to identify external trends, but to determine if they *could* and *what kind* of trends would be identified, as well as how they differed across high and low scoring counties. This will be discussed later in this chapter.

Theme 2: Agent plays central role in association decision-making and communication

During focus group sessions, participants were asked to describe the decision-making processes in place for their association, as well as communication patterns both between members and between the association and other entities. In both cases, the county 4-H agent often figured prominently in the discussion. Agents were almost universally cited as providing primary direction for the association, as well as being the primary conduit for information flowing between the association and the county 4-H program, stakeholders, and other organizations.

Agents Provide Primary Direction. When asked how decisions are made, most association members began by describing how topics of discussion were placed on the meeting agenda:

Well, Audrey [the agent] sends out an email usually a week or two before the meeting that will normally have the minutes of the last meeting and the agenda for the upcoming meeting, as well as within the body of the letter what would be on the agenda.

Nearly every association described a scenario in which the membership was a largely reactive body. The same member went on to say, "Within the meeting it's generally run like a meeting ... Sara or Audrey will bring up whatever it is and we'll discuss what needs to be discussed."

Agents' comments supported this top-down agenda-setting procedure by describing their role on the association:

I'm the 4-H coordinator for the county. My role in the advisory committee is to plan and coordinate meetings for them and to discuss the learning objectives and the outcomes that each program provides and ways that we can improve upon our programming, and we discuss funding and our foundation funds that are allocated for different parts of program areas.

Another agent provided a similar synopsis:

Yeah. I think that what we cover in our meeting is basically the breakdown of the three components of my job which is life skill development, volunteer orientation and training and management. I go to them and I discuss the different policies that are coming down from the state which is the 2D policy for driving a vehicle, the YCS training that needs to be done online annually, what forms need to be turned in and the transition to fingerprints.

One agent mentioned she often tries to have the agenda set by association members but usually ends up setting the agenda herself: "I ask anyone if they have anything for the agenda. Most people usually don't."

It was noted by nearly every county focus group, though, that agents genuinely appreciate their opinions and utilize their feedback when making decisions. One longtime association member described the value of the agent seeking advice this way:

Courtney can only be as effective as the people that advise her. And if she doesn't have a good advisory committee it limits tremendously what she's capable of. Her advisory committee is more or less a sounding board for the programs that she may come up with them, or someone else may come up with them, but her advisory committee will determine whether that's successful or not by the advice they give her. Without a good advisory committee, it's one person leading a bunch and so an advisory committee that's active is very, very critical to the successful 4-H program — especially today.

Agents supported this synopsis of the relationship between agent and association, as well as the value placed on the exchange. One agent said of the association, “I think that’s really important because ... we’ve made some changes the past couple of years, but I don’t make them without making sure they make sense.”

Following the setting of the agenda, both agents and association members described a largely unstructured process in which a topic was discussed and approved by consensus of the association, with the final decision left to the agent. One agent summarized the process this way:

More often than not they will come to a consensus. Or they will narrow me down to two or three options. And then I take it back and really think about it. Or make a decision and I will let them know that this is what I'm going to do and would they please support me.

This synopsis was supported by association members. One member offered a description typical of participating associations:

Ultimately, I think there's a decision that ends up being made, ... Rhonda [the agent] kind of throws it out there and then we discuss it, and then someone may make a suggestion, and then you may have other leaders who say, ‘Yeah we like that.’ But I would have to say it's more kind of group consensus.

Several association groups also voiced their belief that — though they weren’t asked to make decisions, per se — their input was valued and often influenced the decisions of the agent:

We all have individual ideas and we throw them out there and then Courtney makes the final decision I would think on what to...I think she weighs everyone’s opinion. She probably knows more about where things should go and what our other sources where maybe I could cover this cost that we might not be aware of.

Though the procedure for decision making described above was the norm, there were reports of more unorthodox decision-making processes in which one agent sought to elicit topics of discussion from the association membership. That agent said:

It's generally like we — I come up with an agenda for us, but at the beginning, we always have a roundtable discussion. So, if there's anything that we missed during that council meeting, we talk about whatever comes up.

The same agent went on to say this more association-driven agenda led to the generation of new ideas:

We've kind of started recrafting them since I've been here. That I know of, it hasn't been the traditional old hat. One of the things we're working on now is different fundraising ideas. We kind of came together and worked on that at our last couple of meetings to decide to a pancake breakfast at our local IHOP. That was kind of grassroots idea. It came together based on a committee that's coming from the advisory of the association.

So, while the model of an agent-led association — both in terms of topics discussed and decisions made — remains the norm, there are rare counties, and instances within other counties, of more collective approaches to providing leadership.

Agents Provides Primary Communication Conduit. Agents also figured prominently in discussions surrounding communication patterns between the associations and the 4-H program, associations and other community entities, and even between association members. Overall, there seems to be little communication not channeled through the county 4-H agent.

Perhaps the most common communication role for the county agent was to bring to the association matters relating to the program. The items brought to the group by agents are discussed later in this chapter at length, but, in short, most are procedural in nature — budgets, scholarships, and disciplinary issues. One participant put it this way, “Typically, topics come from Anastasia (laughter), or

the leaders if they have a problem, but it all funnels down through Anastasia.” The same participant went on to say, “It may be something that somebody has brought to Anastasia that has been a concern, and then she brings it to us to sift through and deal with it.”

When communicating outward, some agents described the association members as “advocates” for the program, though there was little evidence to suggest that members communicated with other community groups beyond those in which they were already involved in another capacity (and many reported not being connected to groups). Rather, agents more typically carried the message of 4-H to community groups:

They ask me, different organizations, to come and speak on behalf of 4-H and what 4-H has to offer in the community. I will go to Kiwanis or the local Woman's Club, or to Rotary, or even to the schools and promote to the children or to the teachers on what we can offer through school enrichment.

I will address association members’ connections to other community groups later in this chapter, but, in short, in terms of communication, participants described an inwardly focused and connected association, with members who more often represented sub groups from within 4-H (e.g. clubs, advisory groups, etc.) rather than connections to other community groups.

Finally, many association members reported little connection and communication within the county 4-H association. When asked to describe their internal communication patterns, many reported they simply didn’t talk to one another outside of the association meetings: “I don’t find we have a lot of communication regarding [the association] in between meetings, other than reminders of when the meeting is.” Moreover, association members sometimes do not seem to know who each other are:

With the exception mostly of the two of us, we don’t see the other members of the association directly involved in 4-H very often with events and stuff. Sometimes you’ll get a judge at county

events or someone showing up at the banquet at the end of the year but the first time I walked in the room I'm looking around and going I have no idea who any of these people are.

Another reported that she didn't know how members were selected to be on the association: "Yeah, Sharon's new, and I don't know how she was brought in." This belays a general poor understanding of the role of the association and its members, which is covered later in this chapter.

Nearly all members, however, reported having a one-on-one relationship and communication pattern with the agent, which, again, makes the agent a primary communication conduit of information. Many association members are also club leaders (discussed later), and they frequently described how receptive the agent was to talking with them one-on-one: "Then it was just like 'Uh, what do we do, what do we do?' We were at the office all the time. I was talking to Melanie, talking to Dan all the time about what are we supposed to be doing."

Theme 3: Association's Connections to Community and 4-H Program Vary

Focus group participants were asked to describe how their association is connected to other groups, such as community groups, other 4-H groups, or the Extension Office. Here, groups varied on how they perceived their connections, and many had no connections to report.

4-H Connected Through Projects. Several associations reported that their primary means of connecting with community groups was through the projects carried out by 4-H clubs and club members. Clubs often connected with civic groups with common interests. One participant, who is head of a shooting sports club, said:

We also have a connection with the [County] Gun Club. Which, if they did not have that with us, our kids would not be going to the nationals every year and placing high. That is another outreach where we've collaborated with the community. Within that area, lots of people know about the 4-H because of the connection with the [County] Gun Club.

A member of a 4-H dog club had a similar experience, saying:

Our club does dog [projects] and we are supported by the local dog club here in [City]. It allows us to meet there for free, has members and teachers come and help our children, teach our children. They include the children in their banquets and give them awards.

Other associations described their programs as being connected to the community through community service projects carried out by the clubs. One participant described the range of projects carried out:

“We’ve touched police, fire academy, shelters for animals, and for humans, old folks homes...”

Common interests surrounding projects constituted the most numerous and diverse connections between the county 4-H program and the community.

4-H Connected to County Government and Other Governmental Agencies. To a lesser extent, associations reported connections to other county entities. County commissioners were often cited as having a knowledge of, and involvement in, the 4-H program. One participant described how, after moving to the small town, he was surprised at how connected with local government the 4-H program is:

I think coming from a different county program to here, the program here is so deeply rooted in tradition ... it also has such huge support from county government ... there’s not a place where 4-H goes unnamed or is not known throughout our entire area.

Most comments about connections within government, however, were in reference to budgetary support.

Comments such as, “Our county commissioners give us about \$23,000 a year to fund our summer day camping program” or “[Commissioners] were actually going to eliminate it and then when commissioners saw how wonderful it was, then they decided that we really like 4-H.” The same participant went on, “When they added everything up, 4-H gets about \$200,000 per year; if you throw in the building, they give me like a \$15,000 budget to buy things.”

Associations sometimes sought to establish connections with other governmental agencies by inviting an agency's board member to serve on their association. These connections were rare, but often represented the only 'outside' member of the association. Most often, they were a strategic connection to help a specific established program. For example, one agent described her new recruit:

David also serves on the Water Authority, which has allowed us to increase programming through them. It's like we've collaborated with them once already and have two collaborations set with them before the end of this month. It's allowed us to make that connection, but it's also nice to know that he serves on that board so, if they're not responding to me —

In this case, the Water Authority representative helped with water conservation and other natural resource programs by providing materials and labor.

Another participant, who is a retired Natural Resources Conservation Council employee, describes his experience having worked with 4-H:

I think the 4-H connects. Especially when I worked, you know, we had the forestry field day and we always kind of swapped staff ...as far as judging events and contests and all that; and forestry, and soil and water conservation, and 4-H all kind of meld together. Different organizations, too ...but I think they kind of strengthen each program.

In this case, the connection was more collaborative; the NRCS worker helped the 4-H agent with her programs, put on joint programs together, and often relied on the 4-H agent to assist in his own programs.

Associations Primarily Connected to Agriculture Groups. When the association, as an entity, has longstanding connection with another community group, agricultural groups were most often reported. Groups such as Farm Bureau, Cattlemen's Association, and FFA were most often cited by a wide range of participating associations.

Often, these organizations had specific efforts they supported within the 4-H program. One participant described her association's connections: "We have local organizations that help support scholarships for local youth, like our Cattlemen's ... some things like that that really tie into what 4-H is all about." Another described a connection with Farm Bureau: "Each year the Farm Bureau has an annual meeting and we have a cake auction; the money that is raised in the cake auction goes to 4-H." Another association described their connection with Farm Bureau: "The Farm Bureau has sponsored our livestock jackets for years. I don't know when that started but every year —"

Some agents lamented that these connections to the agriculture community, while beneficial to the program, also serve to reinforce the commonly held belief that 4-H is only an agricultural organization and prevent the organization from forging new connections. One agent described her efforts to recruit a member to the association:

I had a gentleman that we have come to our fair for "Share The Fun." He's a music director. Had him come, and I approached him about being on our board, which would give us our male ethnic person. First thing out of his mouth was, 'Oh, I was never in 4-H, and I don't know anything about animals.' I had to tell him that's not what it's all about. We have to make sure that we get the word out that we're not just cows and cooking.

It's important to note that while this concern was common among agents, it was never reported as an issue by participants.

While entity-to-entity connections were common and easy for members to recall, participants frequently had difficulty describing connections between individual members and the community. It was only the two associations representing the smallest counties (in terms of population) that were able to see connections individual members brought to the group. Where other associations offered vague reports — "4-H is connected to *so many* groups" — and were unable to give details when pressed, the

two small town associations were quick to provide a list who was connected where. One woman, who had spent nearly 47 years in her community, described their connections this way:

Many of our advisory or association members are involved in other organizations. We are such a small community, so many are involved with their local church group. One of our leaders is really involved in the local – it's like bird hunting association. She's on the leadership for that as well. Quite a few of our advisory also serve on FFA's advisory because there's a common interest in agriculture and within youth in the community. Some others that advise our group would be like our kind of commissioners. They're involved in Rotary and they're involved in other areas. I mean it is pretty broad spectrum. Since it is kind of tight knit, everyone's kind of involved in multiple fields.

The agent in the same county described the way in which her association was able to connect her not with particular organizations, but with specific circles of people:

One of the biggest things they do is say 'Have you talked to so and so.' And when I say I don't know what to do they will say 'Have you talked to so in so, or let me see what I can do. I may have someone in mind.'

There is a distinction to be made between associations with organizational partnerships, like 4-H and Farm Bureau, and associations with members who represent "the west side of town," "past the river," minority communities, or a downtown's social groups. As one member put it, "I think every individual — and we all come from pretty much different aspects of the community — none of us really kind of run in the same circle..."

Association Often Disconnected from Own 4-H Program. When discussing their connections with the 4-H program, several associations complained of a disconnect between their association and members of the program — parents, stakeholders, children. The association is a relatively new body,

having been formed in 2012. Many reported that others involved in the 4-H program simply do not know what they do:

From my perspective, [Redacted] County 4-H [Association] is a fairly autonomous group. There are a number of people within 4-H who don't know what it is, or what the function is. The community, if there were press releases of [Redacted] County 4-H Association... that would not be a recognizable name or function to the community at large.

Another lamented club leaders' ignorance of the support that the association provides to the 4-H program, saying, "You know you're only seeing one facet when you go to a leader's meeting... You have no idea how everything works and how everything comes back to your kids."

One key point of disconnect between the association and its program is the role that it plays in managing the 4-H program's money. "They need to know. Well, chief, where does that money come from? Well, we don't have a guardian angel that comes and drops it in our account," one participant joked. Another participant was more forgiving of parents for not knowing the role of the association:

To me, it provides, again, a middle management look that I wouldn't otherwise get as a parent of a kid or as a club leader. I wouldn't necessarily know if I didn't sit on the advisory that anybody was talking in a big way about what programming for the kids or what restrictions were put on funding or what moneys were going to be charged to the kid to pay to be in 4-H or anything like that, I would not know about that because the committee would be my only link.

Finally, in addition to members stating that the larger 4-H program does not understand the role they play, association members also sometimes simply don't know the people in the program. One participant described her first time at a 4-H function, saying, "The first time I walked in the room I'm looking around and going I have no idea who any of these people are."

Theme 4: Associations Vary on Decision-Making Processes and Topics

Participants were asked to describe how their association approached decision making, including what topics were addressed, if decisions were reached more collaboratively or top-down, and how conflict was handled when making decisions if and when there was conflict. Across this theme, there was broad consensus among participating associations.

Associations Do Not Make Decisions. One comment common to all associations was that they did not see themselves as a true decision-making body. Rather, they asserted they are strictly advisory in nature. One participant thought through his role aloud, “Okay. I probably would have said, ‘We don't make decisions’ Do we? Do we make decisions? But we do weigh in with opinions.” Another was more certain of her role:

I kind of get the feeling that ... you're feeling that the association has some decision power at 4-H, and I don't feel that. So, just to reiterate that I feel the association really is more of an advisory style committee versus a decision-making committee.

This was echoed several times over in the various groups: the association is an advisory body.

Associations Collaborate and Try to Reach Consensus. Despite their assertions that associations do not make decisions, I continued to press the groups, saying even if they do not render decisions, they must have to agree among themselves in some manner in order to offer an opinion or recommendation to the agent. With this they agreed, and every association described their tone as “conversational” and their decision-making style as “consensual” — a place where “everybody has a voice.” One participant described the process this way:

I think in most meetings that I've been at where there's been something that arise, it seems that everybody just gives their opinion or talks it through in a conversational way within the group and a consensus is just kind of come about where the majority agrees or feels after hearing each other's reasoning's, of, 'oh yeah, that makes sense.'

In the same association, the agent echoed that same process, saying, “More often than not they will come to a consensus. Or they will narrow me down to two or three options. And then I take it back and really think about it.”

When asked what occurs when conflict arises, every association pointed out that they rarely have conflict. One participant said flatly, “There’s nothing. We don’t fight.” Another went into more detail, “So, it's really with this group it's not only do we have people who are not contentious naturally anyway but they've just been here so long they're so interested in seeing what's best for this community happen that they instinctively arrive at the same decisions.” One agent supported this synopsis, saying:

I’ve had people approach me privately just about different decisions or like what if something were to go a different way what my opinions were, but it wasn’t anything real significant. It was just like, ‘Hey, I would have rather seen, for example, you change these three things that happened at the Livestock Judging Contest.

Groups reported that occasionally they fail to reach consensus on a given topic. In such cases they revert to voting, often citing their desire to be run similarly to a 4-H club. “We are not always going to make everybody happy, but I think we do try to do the majority to keep the decisions that affect the program itself...,” one participant said.

Occasionally, interpersonal conflict arises among members. This conflict generally stems from issues in 4-H clubs, but, since many members of associations are also club leaders, this conflict sometimes finds its way to the association meetings. In such cases, those few associations that reported this behavior said they turn to the agent to act as mediator:

Oh yeah, anytime you have two people in the room you're going to have differences of opinion. As long as you handle it with respect, it usually can kind of resolve itself instead of reaching the point to agree to disagree. Otherwise, we go tell mommy. We go tell Mrs. Rhonda because sometimes

you just can't resolve it between two people. You do have to turn to the mediator and say, 'How would you like us to solve this?'

It should again be stated that these occurrences were rare, as were voting and substantive conflict within the association. Members described a congenial group that predominately acted as a sounding board for agents' ideas.

Associations Make Decisions on Procedural Matters. Association members were further pressed to describe the topics they discussed in meetings and on which they either made a decision or offered an opinion to the agent. Overwhelmingly, they described procedural matters unrelated to the larger mission of the association in county 4-H programming.

Budgeting concerns figured prominently (each association is the fiscal agent for the county 4-H program). When asked what they weigh in on, one participant simply said, "Budget. The overall county budget." Another association's range was slightly larger: "Financial decisions.... certain policies." Other associations got involved in 4-H clubs financials as well by auditing their records: "There is the treasurer's book that's done at the end of the year and there's a group that goes over those – the club treasurer's books. So it's the club financials – but that's more of a review kind of thing."

This role naturally carries over into the distribution of funds, which was another commonly cited topic of discussion at association meetings, particularly the distribution of scholarships: "Like event scholarships. So for 4-H University and Legislature and those types of things. Like those are weighed in on by the association, like what form and what's expected [of the recipients]." Clubs, too, can request funds in some counties, and that also fell to the association:

I feel like when we meet as an advisory committee I provide them information and then they can ask me for funding or they can ask for funding requests in order to grow their club or their organization in the area that they see needs to be funded.

Similarly, fundraising is an oft-cited topic of discussion at the association. One member, when asked what decisions the association was primarily concerned with, said, “I guess county events, fundraising. Just like the big picture stuff.”

Several associations were asked to weigh in on behavioral issues with 4-H club members and parents. “Occasionally, we have a disciplinary type issue that comes up, not normally with the kids but with the parents; actually, I don’t remember one ever actually being with the kids,” one participant said. Often, this led to new policies, which association members are asked to help create and endorse.

Those are the exciting things. From there it gets really mundane. Award criteria: “Oh, whether to change the qualifications for ... the Green and White Award, as to whether or not to allow the State Fair as a qualifier for a beyond the county event.” Whether or not to charge for the awards banquet: “We’ve given our opinion on whether or not there should be a fee starting for the banquet at the end of the year.” Forms, registration deadlines, how many times the clubs need to meet each year, whether the scholarship applications are printed double sided or single sided — all matters considered by the county 4-H association.

One association member, who had just recently assumed the role of secretary, verified what her association had said regarding the types of decisions weighed in on: “I just went through a year’s worth of meeting minutes and there’s really not a whole lot in there other than what we’ve discussed as far as policies and procedures.”

Rarely, the association was employed in the vetting of programmatic concerns. One agent described using her association as a sounding board when weighing a new school programs. “So, if I come to them and say, ‘I want to start a new program in the schools,’ they say, ‘Yeah that’s a good idea,’ or ‘No we don’t think so.’” The same agent describes at length how employing her advisory in making decisions related to program ultimately resulted in a sea change in her program:

I researched this before our last meeting, the need for community clubs seems to be ...there is a lot of pressure on agents in the state of Florida right now to have a huge community club program and to be primarily community clubs. And I was feeling that pressure ... We had between five and seven clubs active at any one time, and all of my volunteers had something happen in their lives where they needed to step back, and we lost our entire community club program at one time. ... and it was very stressful, and there were more questions than answers about that. And I came to this group [the association], and I said, 'I don't know what to do.' And it was really funny to me that they said, 'We don't know why you're doing community clubs anyway. You need to go to the schools.' And I was like, 'Blasphemy! We can't do that.' I was almost defiant to them. We cannot go to the schools, we have to do community clubs, and they said, 'Listen, if you're going to be successful in *this county* with 4-H you have got to start in the schools, libraries, and churches.' And I walked away — I'm not going to lie — I walked away from that meeting and six months [went by] and I said, 'Okay guys, I haven't had any success,' and they said, 'Have you been to the schools, the libraries, or the churches?' And I said, 'No we can't do that, we have to get community clubs, you have to find somebody to help me lead these community clubs.' And they were very calm and said, 'Listen, I'm telling you, this is how it's done.' Well, by golly, I was going to show them. So, the next day, I was on the phone calling the school and trying to get with teachers, and I was on the phone with the libraries, and, two years later, we have, I mean, *quadrupled* our numbers, and I have way more volunteers and community support. And they were right. I went to them saying we have to have community clubs and they said that's not your first issue...So, now we are seeing community clubs. I had some teachers who had approached me about doing after school clubs in their classrooms once a week or once a month. They're very successful. Gardens, embryology programs, just about killed me this year. Our embryology

program was crazy. Field days from our ag adventures program. Now kindergarten wants their own field day. And I have other and different topics different things. They want more field trips. It just blows my mind. And the parental support that we have seen parents come in that would normally just be school volunteers are now saying, ‘4-H is at this school, so what can I do to help 4-H?’

It should be noted, however, that this is the rare exception of an association offering advice on matters of programming. In general, associations were more often concerned with the procedural minutia of bookkeeping, behavioral issues, and other internal matters.

Theme 5: Associations Often Not Structured for Success

Emerging during the discussions of decision making, communication, and organizational learning was the theme that associations were not only incorrectly structured — not used in the way intended by 4-H — but also ill-structured to provide leadership from an ecological perspective. For example, in an organization meant to connect to the community, a majority of its members came from within the county 4-H program, saw their primary role as representing an internal group, and were generally unsure of the organization’s role in connecting 4-H to other organizations.

Members Come from Within. One trend consistent across all associations was that members come from within the 4-H program. With the exception of two of the 33 individuals participating, every association member was a 4-H club member, had or has a child in 4-H, or is currently a 4-H club leader. Focus group introductions were theme and variation: “My name is Linda...I've been involved with 4-H probably since my kids were cloverbuds”; “I started with my daughter, became a leader...”; “I’ve been involved in 4-H for a long time. My daughter ... she’s been in it since she was five”; “How I got started in 4-H was ... I was about 12 years old...”; “I was in a corn club in 1948...”; “Both my kids were brought up through 4-H”; and so on.

Some agents spoke of a need to bring in “outside” recruits for the association, but, even when recruiting from outside their county 4-H programs, agents reported often recruiting individuals with 4-H backgrounds. One agent described a recent recruit: “Audrey had actually reached out to her because she grew up in the 4-H program; so she has some familiarity.” Another agent described her most recent recruit: “We have one who is in private industry now, but she was a 4-H agent; she grew up in 4-H.” At least two other county 4-H associations also had a previous 4-H agent on the membership roster, and even when attempting to recruit outside the organization, 4-H experience seemed a litmus test.

While all associations had a wealth of 4-H experience on the association, there is a distinction to be made between groups with 4-H experience or background, and groups comprised of people who “came up” through their current county program and may continue to serve in other capacities within the program.

Only one association fell into the former category; it was comprised of members who had much 4-H experience — some grew up in 4-H, others had kids go through the program, or worked in Extension for decades — but its members did not “come up” through the program, graduating from volunteer, to club leader, to association member. Rather, they were chosen for their position on the county 4-H association because of the skills and connections they possessed relevant to that role. Nor did they currently have another role within 4-H. That is, they were not also a club leader, foundation member, sub advisory group representative, etc.

All other associations fell into the latter group. They were comprised almost entirely of individuals representing other facets of the program, such as club leaders representing their clubs, program advisory members representing, say, the dog project committee, or an officer on the local 4-H foundation representing its interests — an inwardly focused and connected group.

Members Unsure of Their Role on Association. Perhaps because members tended to view themselves as merely representing sub groups of the county 4-H program, participants often expressed confusion over their role on the association when asked about decision-making, communication, and organizational learning. As one member put it, “I just feel I’m [here] to give my dog report, but I enjoy being part of the discussion and giving my opinion, as well. I’m not really sure what my role is [here], so maybe that means we should have some kind of discussion or orientation to that.”

Others not only were unsure of their own role on the association, but also the role of the association itself: “The knowledge of how 4-H works, the advisory group association, whatever we need to call it or maybe those are two different things. Maybe I don't understand that well enough.”

Despite there being materials on the subject, several association members expressed a need for clarification of their role and training:

Well, I know as an advisory member on my advisory committee we have a document that tells us what our role is in the advisory. I don’t know if that exists for the association. Something like that would be nice. I’ve never seen one if there is.

This participant is apparently unaware that the advisory is part of the association.

Associations Often Perform Unintended Functions. The county 4-H association was designed to house three functions in county programs: advisory, fiscal, and expansion and review. Perhaps the most relevant to this study is the advisory function. However, many associations reported as part of the discussion of decision making that they both perform counterproductive functions, as well as delegate their intended functions to other organizations.

First, as reported above, a majority of associations are comprised predominately of 4-H club leaders and sub-advisory groups. In many cases, the primary purpose of association meetings was to

disseminate information internally from the county 4-H agent. One participant described her association's purpose this way:

[To] distribute information. I mean, that's probably the main thing. Like Rhonda said, she holds it as a business meeting so that's where we get our information to hand back down to our people, whether it be changes come up or whatever. I would say, business meeting is to distribute information is the main thing.

This was common in varying degrees across more than half of the associations participating.

Second, associations often delegated, or were never made to perform, their assigned duties within the county 4-H program. This occurred in several participating counties, though each county had a slightly different irregularity.

In one county, for example, the association delegated its advisory function to the county 4-H program's foundation board: "We're a little different than some other counties because we have our own 501(c)(3). We have a foundation that is a functioning foundation board that also serves on our advisory committee." This creates numerous programmatic challenges we will not go into here.

More common, however, was to use the association as a 4-H club leaders' council, eschewing the advisory function altogether, as was the case in this county:

But as far as when we created what we called the association, that was more like creating the clubs with the leaders, and it should be its own separate entity ... as far the association, it consists of the club leaders and the volunteers.

Another described a similar case in which two distinct entities (i.e., advisory and leader council) were created, but then consisted largely of the same people and generally performed the same internal function of disseminating information to club leaders: "They function very similarly; a lot are the same people."

Theme 6: Association Members' Opportunities for Development Not For Association Role

Finally, discussion participants were asked how their association continued to learn and improve, both in a general sense and, specifically, in terms of leadership development. County 4-H associations varied in both the availability of learning opportunities and what those opportunities were. Generally speaking, though, opportunities and coordinated efforts at leadership development among association members were rare. When they did exist, they were invariably directed at their roles as club leaders. Several trends emerged.

Agents Primarily Engage in One-on-one Development. The most common opportunity for learning and growth reported was the one-on-one relationship a volunteer had with the agent. Several participants spoke of how accommodating and knowledgeable agents were, and how willing they were to meet to discuss an issue or obstacle. One member said, “Poor Mr. Dan, between her and me, one of us was in the office like several times a week probably.” Another was more likely to pick up the phone: “Poor Miss Melanie had to talk to me once a day. I didn’t even have to say, ‘Hey, Miss Melanie!’” Overall, this open door policy was fairly common and highly valued by volunteers:

But I would have to say Rhonda has an open door policy, and if you have someone who needs some help she has that open door policy. They can come to talk to her about different ideas or if they're struggling with something. She doesn't give them all the answers but she does give you suggestions or ideas and kind of take it your way. She doesn't dictate how we have to run our clubs.

Perhaps what is most telling about this last comment is that, because such a high number of association members were also 4-H club leaders, most of the learning and growth they reference is in their role as club leader — not as an association member.

Volunteers Have Opportunities for Training at County and State Level. Similarly, while members cited opportunities for learning at county, state, and regional levels, those opportunities were primarily directed at club leaders.

At the county level, most counties reported a fall leader training and orientation. One participant described the experience, “Yes, new leaders' training in August. A lot of leaders come back to it. I always love to see that you know because [inaudible] you get that team camaraderie going. I will admit, I wish we did more leadership training.” Others referenced the activities taught by the agent at their annual meetings, and how she likes to use them in their clubs:

She got little games that she plays at each of our meetings that I think are great. Help us learn different things about each other and things that you might not know. I've been trying to integrate that into my [club] so my kids that are from different families that don't interact with each other on a daily basis learn more about each other and see that they have common interests that they may not have known by playing simple games. I think I didn't have that skill before [Rhonda] came.

Again, each of these learning opportunities were designed for club leaders to improve their performance as club leaders.

Participants identified opportunities for learning they were aware of beyond the county, but were generally unimpressed by the state-level offering of trainings. These, too, were generally directed at club leaders: “I'm thinking, Fran, about the times we've gone to workshops and things like that — sponsored by the state. There's usually one or two things that stick out, but the rest of it is just kind of old.” Another added, “A lot of it was repetitious. It was not exciting as far as I'm concerned.” Another association's member referenced the same event: “You know I just have never felt that we have made

really strong connections with other people individually from those events.” One participant went on to describe how faculty tapped to teach the workshops were cold and talked down to volunteers.

There were, however, those who spoke highly of one regional event, the Southern Region Volunteer Leader Forum, which is commonly called Rock Eagle for its location: “Rock Eagle and some of those other programs that we’ve gone and learned – a lot of workshops and stuff. I love the fact that that’s – you know we’re all constantly growing, we’re constantly learning.”

Yet, participants who knew of out-of-county opportunities for learning were in the minority, and, when they knew of opportunities, scheduling, time commitment, and financial commitment were often barriers to participation.

More commonly, participants cited learning from one another as a means of development. One participant said, “You can call Linda and say 'Linda, this is what I'm going through with my club. I know my old club leader used to call you.'” Another added:

I think we share a lot. We, as leaders, we rely on each other to help each other out in different avenues and stuff, but I think we have a camaraderie around our leaders. Some of them have been around a long time and some are new. I know I reach out to some of the younger ones that are new that you know...if you ever need help, don't hesitate to call.

Others reported seeking out opportunities to learn on their own in the absence of agent-directed learning:

“We’re always looking, you know, there’s an area that I haven’t heard about, I want to check into that.”

Agent Not Purposeful About Leadership Development. During this discussion, several agents pointed out that they were not very “purposeful” about conducting any sort of training specifically for association members, particularly leadership development. One agent mused, “I don't know how intentional we are about ...leadership in particular.” In regard to leadership development, one agent summed it up best saying, “We could do a lot more with that.”

Research Question 4 – How do volunteers’ perceptions of leadership help us better understand the variables associated with programmatic success?

Research question four sought to understand how volunteers’ perceptions of leadership help us to better understand the variables associated with programmatic success. In other words, how do the qualitative findings — the volunteers’ perceptions of leadership — shed light on those variables in the quantitative finding that are associated with programmatic success. To examine this, I first present new findings related to 4-H agents and volunteers — the two populations under study — including demographic variables and their relationships with factors related to 4-H programming success. Second, I present and explain a mixing table that combines quantitative and qualitative data to reveal new insight by comparing high and low scoring county 4-H programs on their perceptions of their own leadership.

Demographics and Agent Leadership Discourse Preference

Table 4-14 describes several relationships between agent leadership discourse preference and volunteer demographic variables. A Pearson’s product-moment correlation coefficient was calculated to examine those relationships.

Table 4-14

Pearson’s correlation coefficients (r) of county 4-H agents’ leadership preference and volunteer demographics

Variables	M	SD	1	2	3	4
1 Eco-Leader Score Mean	28.739	4.755	1			
2 Therapist Score Mean	29.69	4.241	.152	1		
3 Years as Volunteer Mean	12.008	5.341	-.418*	-.006	1	
4 Mean Age of Volunteers	51.54	7.55	-.315	-.396*	.385*	1

Note. *p<.05, **p<.01. These figures represent means by county 4-H association.

Results indicate several relationships between county 4-H agents' leadership discourse preference and volunteer demographics. A moderate negative correlation ($r=-.418, p<.05$) was found between a county's agents' mean eco-leader score and the mean number of years association members in a county have served as a volunteer in some capacity. Meaning, the higher an agent's eco-leader score, the lower the mean number of years served by volunteers. Similarly, a weak negative correlation ($r=-.396, p<.05$) was found between a county's agents' mean therapist score and the mean age of volunteers serving on the county 4-H association. Meaning, the higher the agent's therapist score, the lower the mean age of volunteers.

Demographics and Agent County Tenure

Table 4-15 describes several relationships between agents' county tenure, tenure status, and volunteer demographic variables. A Pearson's product-moment correlation coefficient was calculated to examine those relationships.

Table 4-15

Pearson's correlation coefficients (r) of county 4-H agents' tenure demographics and association demographics

Variables	M	SD	1	2	3	4
1 Agent's Number of Years In County	8.87	8.085	1			
2 Proportion Tenured	.55	.503	.613**	1		
3 Association Mean Gender	1.71	.285	.479**	.317*	1	
4 Association Mean Years as Volunteer	12.00	5.341	-.204	-.318*	-.409*	1

Note. * $p<.05$, ** $p<.01$. These figures represent means by county 4-H association; if a county has more than one agent, agent scores represent means. Gender was coded as 1=Male, 2=Female. Tenured vs. Non-Tenured was coded as 0=Non-Tenured, 1=Tenured.

A moderate positive correlation ($r=.479, p<.01$) was found between the mean number of years county agents served in a given county and the mean gender of that county's association. Meaning, the longer an agent serves in a given county, the more likely his or her volunteers are to be female. Similarly, a weak correlation ($r=.317, p<.05$) was found between county 4-H agents' university tenure status and the mean gender of county 4-H associations. Meaning, tenured agents are more likely to have female association members.

Additionally, a weak negative correlation ($r=-.318, p<.05$) was found between county 4-H agent tenure status and the mean number of years association members have served as a volunteer. Non-tenured agents are more likely to have older volunteers.

Further, stepwise multiple linear regression analyses were used to determine the capacity of agent demographic variables to explain county 4-H program index scores. The following variables, which represent the means of county 4-H agents in a given county, were tested: gender, age, county tenure, all tenure, degree, and generation.

When the mean number of years served as a 4-H agent was halved, dividing agents into an upper group of nine years of service or more, and a lower group of eight years or fewer, which half an agent fell into was found to be explanatory of county 4-H program success (Table 4-16). This yielded a significant equation ($F(1,39) = 6.493, p<.05$), with an R^2 of .129. The county's index score is equal to .255 - .666 (Lower/Upper Half) where half is coded 0=lower and 1=upper. Meaning, a county's index score can be expected to decrease by .666 if an agent has eight years of service or fewer.

Table 4-16

Multiple regression analysis for agent tenure explaining program success

Variable	B^a	β^b	t	Sig
Constant	.255		1.481	.146
Time Agent Spent in Any 4-H Agent Position	-.666	-.359	-2.548	.014
R^2			.129	
Adjusted R^2			.109	
F			6.493	

Notes. B^a Unstandardized coefficients, β^b Standardized coefficients. Halves were coded as: 0=Lower, 1=Upper. The following variables were excluded through stepwise regression: Agent County Tenure in Halves, Agent in First County, Agent Generation, Agent County Tenure by Quartile, Agents All Extension Tenure by Quartile, Agent County Tenure, Agent All Extension Tenure, Agent Gender, Agent Age, and Agent Highest Degree Attained.

Mixing Quantitative and Qualitative Data

Tables 4-17 through 4-19 combines data from the quantitative and qualitative strands. The county 4-H program success index score was calculated using z-scores and used to divide counties into quartiles, with high scoring counties representing the highest quartile and low scoring counties representing the lowest quartile. Three focus groups in three counties from the highest quartile were conducted, as were three focus groups in three counties from the lowest quartile. Themes from the qualitative strand of the study were first organized according to Wielkiewicz and Stelzner's (2005) four factors of ecological leadership (Table 4-20), and their codes were included in Tables 4-17 through 4-19 accordingly. Codes included in Table 4-17 through 4-19 were selected based on appearance in at least two of three high or low scoring focus groups' transcripts.

Table 4-17

Mixing table combining county index scores with themes from focus group sessions

Factor	High Scoring Counties	Low Scoring Counties
Interdependence	Agents collects opinions from association to make decisions*	Agents collects opinions from association to make decisions*
	Association lacks diversity	Association lacks diversity
	Members see diversity as benefit	Members see diversity as a benefit
		New membership fee is seen as external threat*
		Strong volunteer support seen as important to success
		Very little communication between meetings
	Members attribute success to fulfilling lifeskill needs	
	Members attribute success to agent	
	Members attribute success to tight-knit community	
	Members attribute success to strong parent involvement	
Members attribute success to the variety of programming offered		
Success or failure attributed to support from county government		

Note: Inclusion of a code on this table determined by two-thirds of high or low scoring counties exhibiting the code. An * denotes a code where all high or low scoring counties exhibited code.

Table 4-18

Mixing table combining county index scores with themes from focus group sessions

Factor	High Scoring Counties	Low Scoring Counties
Open Systems & Feedback Loops	4-H program connected to county government and agencies*	4-H program connected to county government and agencies
	Members came from within county program	Members came from within county program*
	Association members are connected to other community groups*	Association members are connected to other community groups
		4-H program primarily connected to community through common projects*
		Association members serve in other capacities*
		Associations sees more internal connections as beneficial*
		Agent acts as primary channel of communication
		Association acts as club leader council
		Association disconnected from own 4-H program
		Lack of awareness of 4-H in community leads to lack of connections with groups
	4-H well known in the community	
	4-H well supported by county government	

Note: Inclusion of a code on this table determined by two-thirds of high or low scoring counties exhibiting the code. An * denotes a code where all high or low scoring counties exhibited code.

Table 4-19

Mixing table combining county index scores with themes from focus group sessions

Factor	High Scoring Counties	Low Scoring Counties
Cycling of Resources	Agent provides primary direction for association	Agent provides primary direction for association*
	Association rarely has conflict*	Association rarely has conflict
	Association tries to reach consensus when making decisions	Association tries to reach consensus when making decisions*
	Members make decisions on procedural things	Members make decisions on procedural things*
	Association members generate ideas for program improvement	Association members generate ideas for program improvement
		Association uses voting to make decisions
		Members explore a range of potential decisions together
Adaptation	Agents rely on association to make programmatic decisions	
	Association helps vet program ideas	
		Association members improve through trainings
	Agent engages in one-on-one guidance/training of members	

Note: Inclusion of a code on this table determined by two-thirds of high or low scoring counties exhibiting the code. An * denotes a code where all high or low scoring counties exhibited code.

Table 4-20

Qualitative themes categorized by four factors of ecological leadership

Factors	Themes
Interdependence	Theme #1, Theme #2
Open Systems & Feedback Loops	Theme #3, Theme #5
Cycling of Resources	Theme #4
Adaptation	Theme #6

Note: Factors based Wielkiewicz & Stelzner (2005)

Interdependence. As a reminder, the concept of interdependence in this context holds that leadership is generated from interactions within a network, and those networks are interdependent with other networks (e.g., organizations, communities, the natural environment, economy, etc.). According to this understanding of leadership, attempts to understand an organization by focusing on a single positional leader is incomplete and ignores the complexity of the organization (Wielkiewicz & Stelzner, 2005). In this category, focus group participants primarily discussed what they attribute their perceived success to — be it positional leaders or other factors.

There were commonalities among low and high scoring counties. For instance, every county 4-H association reported that agents gathered opinions from the association members to make decisions for the program. What those decisions were varied by county score, and those differences are discussed later in this section. All associations reported a lack of diversity among their membership, as well as need for diversity among members. This was supported by demographic data collected during the quantitative strand of this research study: more than 90% of respondents were white ($n=169$), and nearly 75% were

female ($n=140$).

Low and high scoring counties diverged on the question of to which factors do they attribute success in their county 4-H program. Low scoring counties primarily attributed success to strong volunteer club leader support for the 4-H program — positional leaders. One participant said of the 4-H club leaders:

Going back to what makes our county so strong as a 4-H county, I think it has to do with the leaders that we have in our clubs. We really have strong leaders, and that's where you're going to get your strong clubs that move on.

Moreover, club leaders were the only recurrent source of success that low scoring counties identified.

In contrast, high scoring counties had a much broader range of factors to which they attributed success — six in all. High scoring counties did give credit to the county 4-H agent: “Courtney has the personality that will draw children into the activities that she endeavors to do.” However, participants also attributed success to their ability to meet the needs of today's youth. As one member put it:

But now the schools are mostly concentrating on the business world. Training them how to make a living, not how to live. That's what 4-H clubs does. They teach them the basics like baking, cooking, sewing, gardening. Then things they will need to know that schools won't teach them — life skills.

Members also attributed success to the “tight-knit” community in which they lived, and to the support that it provides them in terms of in-kind donations and volunteer hours, as well as the general understanding of the 4-H program and its mission. One participant summed up her association's success this way: “I guess it's the tight knit community. They're gonna make sure the kids get what they need...”

Members of high scoring county 4-H programs also recognized parental involvement as important

to the success of their programs. One participant stated flatly, “Parent involvement, I think, is number one. You have to have parent involvement for it to be successful.”

Finally, participants attributed success to support from their local county government, not just in terms of budget, but also in terms of having county commissioners who participated in the program as a child, have children in the program currently, or have a general familiarity with 4-H and its mission.

These particular instances of attribution of success are not important in and of themselves, according to the concept of interdependence. Rather, it is the number and variety of factors contributing to success identified by high scoring counties that makes it illustrative of this concept.

Open Systems and Feedback Loops. As a reminder, open systems and feedback loops in this context refers to an organization’s need for inflows of information and resources; no organization is a closed system, and all are part of larger systems (e.g., community, economy, etc.). Organizations that close themselves off from outside sources are believed to be less adaptive and successful (Wielkiewicz & Stelzner, 2005). In this category, participants were primarily asked to discuss connections in the community.

In this category, there was wide disparity and little overlap between high and low scoring counties. Both reported maintaining connections with both county government and other community groups, such as Farm Bureau, Cattlemen’s, and churches — though high scoring counties more often reported connections.

Both high and low scoring counties also reported heavy recruitment to the association from within 4-H. This could mean members who had experience in 4-H as youth, who have or had a child involved in 4-H, or who became a club leader and were later recruited to the association. As I reported earlier in this chapter, the association member with no 4-H background is rare.

Where the two groups diverged, however, is in their composition and communication patterns,

which greatly affect how open the organization is to new ideas and information, as well as feedback on its decisions and actions. Low scoring counties reported a number of practices that indicate an inwardly looking and isolated association membership.

First, association members often serve in other capacities in 4-H. In many cases, participants reported feeling as though they served on the association for the purpose of representing their 4-H club or sub advisory group, rather than carrying out the association's mission. One participant described her contribution to the association:

I was invited or told I should really come because I was on the Dog Advisory and somebody needed to be reporting on the Dog Advisory and I was already here because my children are in Youth Council, so it made sense to ask me to do that.

This pattern of identifying with another role supports quantitative findings. When association members were asked what they considered their primary volunteer role in 4-H, 44% ($n=81$) said club leader, despite the survey being identified as a survey of association members. In fact, only about one-third of respondents identified the association's advisory capacity as their primary role.

Moreover, participants in every low scoring county saw more internal connections as beneficial to the organization. One participant described her desire to have more aspects of the 4-H program (internal groups) represented on the association:

We might could stand to have more committee representation. We just have the four, but...I mean we have a pretty strong hog program and other livestock, so it might be helpful to get more people involved if we had more committee involvement.

However, despite these strong internal connections, many low scoring associations also reported being disconnected from their own county programs. One participant said, "We don't see the other members of the association directly involved in 4-H very often with events and stuff." This may seem paradoxical

to have an association primarily comprised of members who are also club leaders or sub-advisory committee members (i.e., people with direct involvement in the program), but who are also disconnected from 4-H. However, it makes sense when you consider that, if each member is likely absorbed with his or her own club or committee and its functions, and if each member represents a different facet of the 4-H program, it is likely that each member becomes isolated in his or her own niche of the program, and therefore would be disconnected from the larger program and other association members.

A second practice suggesting associations in low scoring counties have constricted feedback loops is their reliance on the county 4-H agent to act as the primary channel of communication between the 4-H program and association. For example, agents in low scoring counties often served as the primary contact with the larger 4-H program. One association member described the process by which issues from the program are brought to the association: “It may be something that somebody has brought to Anastasia [the agent] that has been a concern, and then she brings it to us to sift through and deal with it.” Another common bottleneck in communication is when the agent is the sole representative of 4-H in the community, as this agent describes herself:

They ask me, different organizations, to come and speak on behalf of 4-H and what 4-H has to offer in the community. I will go to Kiwanis or the [Local] Woman's Club or to Rotary or even to the schools and promote to the children or to the teachers on what we can offer through school enrichment.

In this particular case, the association members reported never having served in an ambassador-style role for the association, carrying a message about 4-H to the community. This was seen as the agent’s domain.

A third common constriction of information was caused when the agent served as the primary means of communication between members of the association. It was common among low scoring

counties for members not to communicate between meetings, while maintaining a one-on-one communication pattern with agent.

Underlying this communication pattern with agents in low scoring counties was the frequent use of the association as way of convening internal constituencies (i.e., club leaders, sub-advisory committees). In this case, communication was often top-down because the agent used the meeting to distribute information about upcoming events, new state policies, etc., rather than to seek advice from an advisory body. One participant described her association meetings this way: “Most of the big important stuff just comes from her [the agent] and we're like, ‘okay.’”

While the high scoring counties did not necessarily exhibit the opposite, positive characteristics, they at least do not report these patterns of an inwardly facing organization. Rather, they discuss 4-H being well known in the local community and well supported by county government.

Cycling of Resources. As a reminder, cycling of resources in this context refers to the notion that all systems require regular replenishment, and efficient usage, of resources. Wielkiewicz and Stelzner (2005) contend that, in organizations, leadership is no different; and relying on a single individual to provide the leadership for an organization, or failing to continually revitalize leadership capacity, leaves an organization vulnerable to decline. In this category, focus group participants were primarily asked about decision-making processes and topics.

There was considerable overlap in responses from high and low scoring counties. Both cited that county 4-H agents provided primary direction for the association, often setting the agenda, chairing the meetings, and distributing information. Though, there was subtle differences in style between high and low scoring counties, which I observed when conducting focus groups. Low scoring counties’ association members tended to relate to the agent as a superior, seeking guidance and offering compliance. High scoring counties tended to treat the agent as an important member of the team,

offering feedback, collaborating, and disagreeing when necessary.

Both high and low scoring associations reported rarely having conflict among members, either personal or substantive. Similarly, all associations reported a desire to be collaborative and reach their decisions via discussion and consensus. Both high and low scoring counties also reported tackling procedural decisions. For example, how to handle behavioral issues with students, how to conduct the 4-H clubs' audits, who to give scholarships to, what color ribbons should be, etc.

Where high scoring counties differentiated themselves from low scoring counties was in the topics they considered. High scoring counties reported that agents relied on the associations to help make decisions on programming as well as procedural matters. One agent described an example exchange with the association: "So, if I come to them and say I want to start a new program in the schools they say, 'Yeah that's a good idea,' or 'No we don't think so.'" One association member went on to elaborate on how the association helps their agent choose the right programming for their community from the litany of potential 4-H projects:

There are certain areas that she will not be privy...you know, will not be important in this [county] that would be important in Okeechobee....and this is where you have to select the ideas that you're going to work with is, and what would be most useful to her people here. And that's where you have to select what you're going to work on. Just about anything you do can be involved in 4-H.

Another county association described a practice put in place by its agent to generate ideas from the association:

We always have a roundtable discussion so, if there's anything that we missed during that council meeting, we talk about whatever comes up. Before that, we talk about things that affect the whole population of 4-H.

As simple as this sounds, reports of associations fulfilling their mission to offer local advice on

programming were rare among those focus groups conducted. However, this is one differentiating factor between high and low scoring counties in this category.

Adaptation. As a reminder, adaptation in the context of organizations refers to the structures and processes in place for the organization to continue to learn and improve, and, therefore, be more resilient in the face of changes external to the organization, such as new societal trends, technologies, or environmental factors (Wielkiewicz & Stelzner, 2005). In this category, participants were primarily asked how they improved — broadly speaking — as individuals, and as an organization.

Compared to other categories, very little was offered by the association members in terms of examples of opportunities for continued improvement. High scoring counties tended to cite a one-on-one mentoring relationship with the county 4-H agent as the primary means of improvement, while low scoring counties were more apt to attend trainings at the local, state, and regional levels. This may seem counterintuitive, but, remember low scoring counties tended to use their association as opportunities to gather internal constituencies — primarily 4-H club leaders — and so the opportunities reported by participants were those aimed at improving 4-H club leaders. In-service trainings for 4-H club leaders are common in 4-H programming. However, no county reported having dedicated leadership or other training for participants in their capacity on the association.

CHAPTER 5 SUMMARY AND DISCUSSION

Chapter five provides a brief review of the study's objectives and design, and then presents key findings from chapter four. Here, I also discuss findings in light of existing research and present recommendations for both practice and further research. Finally, I discuss the significance of the study's findings.

Problem Statement

Our understanding of leaders and the role they play within organizations and society continues to evolve. Increasingly, leadership is understood as an emergent process where leaders and followers co-create leadership through interaction (Avolio, Walumbwa, & Weber, 2009). This paradigm shift detaches the responsibility for providing leadership from individuals in formal positions of authority and distributes it throughout an organization in an effort to harness the talent, creativity, and energy of all employees and stakeholders in an organization (Western, 2008). Reflecting on this shift in our understanding of leadership, Western (2013) has identified an emerging eco-leader discourse, which is characterized by collective decision-making, collaboration, shared leadership, and grassroots organization. This discourse reflects a 21st century society's attempt to adapt in the face of increasingly complex and interconnected challenges that require the intellectual resources of whole organizations — not just those at the top (Wielkiewicz & Stelzner, 2005). This view of leadership “does not in any way diminish the importance of leadership as an organizational phenomenon; rather, it recognizes that leadership transcends the individual by being fundamentally a system phenomenon” (Lichtenstein, Uhl-Bien, Marion, Seers, & Orton, & Schreiber, 2006, p. 3). The individual, positional leader does still play a key role, however. Rather than creating change through directives or revealing his or her singular vision to followers, positional leaders act as organizational architects, bringing together people, ideas,

and organizational structures so that leadership can flourish in an organization (Allen, Stelzner, & Wielkiewicz, 1999).

However, one current problem is that a majority of leadership development programs continue to focus on individual positional leaders who function in a top-down, hierarchical manner. The goal of these programs is typically to make these individuals better leaders, and, as a result, “much of empirical research on leadership focuses on predicting outcomes that reside at the individual level of analysis” (DeChurch, Hiller, Murase, Doty, & Salas, 2010, p. 1069). Yet, many scholars believe organizations would be more successful in adapting to the environmental changes of a rapidly changing world if they were to “draw on ecological principles to match the complexity of the environment in which organizations function” when enacting organizational leadership (Wielkiewicz, 2000, pp. 108-109).

This is particularly relevant in the case of county 4-H programs, where leadership development is largely focused on the individual Extension 4-H agent — a position which happens to suffer considerable turnover. Retention of Extension agents has been identified as a “challenge area” by the National Association of State Universities and Land-Grant Colleges (ECOP LAC, 2005), and 4-H agent turnover, especially, outpaces other Extension disciplines (Rousan & Henderson, 1996). Add to that a generational trend where more than 60% of Millennials leave their positions in fewer than three years, and a fixation on individual leaders can lead to considerable disruption of county 4-H programming (Safrit & Owen, 2010; Schwabel, 2013).

A second problem is that “the vast majority of published work [on ecological views of leadership] relies on a conceptual approach rather than an empirical one” (San Martin Rodriguez, Beaulieu, D’Amour, & Ferrada-Videla, 2005, p. 133). This is likely due to the difficulties associated with studying leadership from an ecological perspective where the fundamental unit of analysis is not the individual, or even the team, but, instead, the complex adaptive system (i.e., the complex system in which the

organization operates) (Uhl-Bien, Marion, McKelvey, 2006). Consequently, there have been few, if any, empirical studies linking an ecological approach to leadership with organizational success (Lowhorn, 2011; Wielkiewicz, 2000, 2002). Finally, an associated problem is how little is known about how leaders with an eco-leader discourse preference put into practice an eco-leader approach within their organizations.

Purpose Statement and Questions

This study explored the relationship between an ecological approach to leadership and the programmatic success of county 4-H programs. The research questions for this study were:

1. What is the nature of the relationship between the preferred leadership discourse of Extension 4-H agents and programmatic success?
2. What is the nature of the relationship between systemic and hierarchical thinking levels and programmatic success?
3. To what extent do volunteers perceive their leadership approach as affecting programmatic success?
4. How do volunteers' perceptions of leadership help us better understand the variables associated with programmatic success?

Methodology

An explanatory sequential mixed methods design was used, involving the collection of quantitative data first and then explaining the quantitative results with in-depth qualitative data. In the first, quantitative phase of the study: (a) the Leadership Attitudes and Beliefs Scale – III (LABS-III) was used to collect data from volunteer members of county 4-H associations in Florida ($n=189$) to determine levels of systemic and hierarchical thinking; (b) the Western Indicator of Leadership Discourse (WILD) questionnaire was used to analyze data from county Extension 4-H agents in Florida ($n=51$) to determine

their leadership discourse preferences; and (c) 4-H program enrollment data was analyzed to determine levels of success of county 4-H programs ($n=66$). In all, 39 of 66 Florida counties completed all parts of the quantitative strand of the study. Data was used to assess the nature of the relationship between leadership discourse preference, levels of systemic and hierarchical thinking, and county 4-H programmatic success. An index of indicators of county 4-H program success was created. This index score combined all dependent variables related to 4-H program success. Other composite scores were calculated for the hierarchical thinking and systemic thinking subscales, as well as the WILD questionnaire's four subscales. Statistical tests performed were: descriptive statistics, Cronbach's alpha test of inter-item reliability, bivariate correlation, analysis of variance (ANOVA), and multiple linear regression analysis for the purpose of explaining independent variables' relationship with dependent variables. Analysis of the quantitative strand affected the qualitative strand's questions and selection of participating county programs.

The second, qualitative phase was conducted as a follow-up to the quantitative results to help explain the quantitative results. In accordance with extreme case sampling, I selected counties that scored in the highest and lowest quartiles on the county 4-H program success index. Selection was also contingent upon prior completion of the quantitative strand's instruments. In all, 33 individuals participated in the six focus groups. Semi-structured, open-ended focus groups were guided by a researcher-developed focus group protocol (Appendix P). The protocol was developed using an *a priori* propositions table (Appendix A), which guides the researcher to utilize quantitative results and supporting literature to develop focus group questions. The protocol focused the conversation on encouraging participants to share in their own words their attitudes and beliefs on leadership in the context of the county 4-H program. Focus groups were recorded with a digital audio recorder; I transcribed two of the recordings, and the professional transcription service, DataGain, transcribed the remaining four. The constant

comparative analytic procedures developed by Corbin and Strauss (2008) were used to analyze data: (a) excerpting text, (b) creating codes, (c) clustering categories, (d) surfacing themes, (e) connecting and interrelating themes, and (d) constructing a narrative.

Finally, the two strands were analyzed together to identify convergence and divergence, as well as draw meta-inferences, which are discussed later in this chapter. Additionally, a mixing table was created to display qualitative similarities and differences between high and low scoring counties, and a narrative was written that includes supporting or conflicting findings from the quantitative strand.

Summary of Findings

Research Question 1 – What is the nature of the relationship between the preferred leadership discourse of Extension 4-H agents and programmatic success?

The purpose of this objective was to characterize agents' leadership discourse preferences and determine if any relationship exists between leadership preference and successful county 4-H programming. This objective was accomplished using ANOVA, correlational analysis, and regression analysis. Findings indicate that no significant relationship exists between an agent's leadership discourse preference and county index score.

Research Question 2 – What is the nature of the relationship between systemic and hierarchical levels of thinking and programmatic success?

The purpose of research question two was to characterize the systemic and hierarchical thinking levels of county 4-H associations and determine if any relationship exists between those levels of thinking and successful county 4-H programming. This objective was accomplished using ANOVA, correlational analysis, and regression analyses. Findings indicate no significant relationship exists between levels of systemic and hierarchical thinking and the county 4-H index score. However, several relationships exist between volunteer and association demographic variables and the county index score, as well as between volunteer demographics and levels of systemic and hierarchical thinking.

- Associations' levels of systemic thinking were generally high (1.71 on a five-point scale where 1 indicates the highest level of systemic thinking and five indicates the lowest) with low distribution ($SD=.388$), and associations' levels of hierarchical thinking were middling (2.70 on a five-point scale where 1 indicates the highest level of hierarchical thinking and five indicates the lowest) with a wider distribution ($SD=.587$). However, even with the variance in scores on the hierarchical thinking scale, there was no relationship with county 4-H programmatic success.
- There was a moderate negative correlation ($r=-.435$, $p<.05$) between the mean number of years an association has served and county 4-H program success. The longer the average number of years served by association members, the lower the county 4-H program index score. The mean number of years an association has served explained 18.1% of variance in the county 4-H index score.
- Similarly, there was a weak inverse relationship ($r=-.355$, $p<.05$) between the mean number of years a volunteer has served in the 4-H program and county 4-H program success. The longer the average number of years served by volunteers, the lower the county 4-H program index score. This is differentiated from the mean number of years served as an association member because many association members were longtime 4-H club volunteers before serving on the association.
- There was a weak inverse relationship ($r=.386$, $p<.05$) between the mean gender of an association and levels of hierarchical thinking. The greater proportion of females comprising an association's membership, the lower the mean level of hierarchical thinking. Meaning, associations with more women are less likely to look to positional leaders for answers and are less likely to attribute either success or failure to the positional leader. Mean gender of the association explained 23.8% of variance in hierarchical thinking scores.

Research Question 3 – To what extent do volunteers perceive their leadership approach as affecting programmatic success?

The purpose of this objective was to explore volunteer association members' perspectives on their leadership approach — including decision making processes, communication channels, and distribution of responsibility — and how that approach has impacted the county 4-H program's level success. This objective was accomplished using focus groups and constant comparative method of analysis (Corbin & Strauss, 2008). The perceptions shared by 33 individuals representing six county 4-H programs — three high scoring, three low scoring — were analyzed, and six themes emerged that shed light on how county 4-H associations function.

Associations vary on phenomena to which they attribute success or failure. County 4-H association members were asked to describe what factors they felt contributed to the success of the association and larger 4-H program, and the responses were varied. Some counties attributed success to leadership, either that of the county 4-H agent (“Courtney has the personality that will draw children into the activities that she endeavors to do. So, that's an asset...”) or 4-H club leaders (“We really have strong leaders, and that's where you're going to get your strong clubs...”). Others, particularly high scoring counties, were more likely to attribute success to a range of external factors, such as strong parent support, the program meeting the needs of community children, a “tight-knit” community, or support from local county government.

Focus group participants were also asked to identify external trends facing the county 4-H program. Many counties identified similar threats, including: (a) new state-imposed membership fees for 4-H'ers; (b) new state-imposed “two-deep” volunteer screening policy; (c) decrease in free time for leisure activities like 4-H; and (d) barriers to becoming a volunteer. Low scoring counties were more likely to cite a lack of awareness of 4-H as an ongoing threat to the 4-H program in their counties.

Agent plays central role in association decision-making and communication. County 4-H associations were asked to describe the decision-making processes in place for their association, as well as communication patterns both between members and between the association and other entities. In both cases, the county 4-H agent figured prominently in both high and low scoring counties. Agents provided primary direction for the associations, including what topics they considered. One participant described the dynamic this way: “Within the meeting, it’s generally run like a meeting ... Sara or Audrey will bring up whatever it is and we’ll discuss what needs to be discussed.” Agents tended to confirm this scenario; one said, “I ask anyone if they have anything for the agenda. Most people usually don’t.”

Following the setting of the agenda, both agents and association members described a largely unstructured process in which a topic was discussed and approved by consensus of the association, with the final decision left to the agent. Several association groups also voiced their belief that — though they weren’t asked to make decisions, per se — their input was valued and often influenced the decisions of the agent: “I think she weighs everyone’s opinion. She probably knows more about where things should go...”

There were, however, reports of more unorthodox decision-making processes in which one agent sought to elicit topics of discussion from the association membership. One group reported a scenario where the agent used a round-table discussion at the outset of the meeting to have the association generate topics.

Agents also figured prominently in the communication patterns described by the association members. Focus groups most commonly described agents as being the representative of the larger 4-H program to the association. One participant put it this way, “Typically, topics come from Anastasia (laughter), or the leaders if they have a problem, but it all funnels down through Anastasia.” Agents also

tended to serve as the primary advocate for the 4-H program to the community. Many agents offered examples of being called on to speak at community organizations. No association member described ever speaking on behalf of 4-H. Additionally, members reported little connection and communication *within* the county 4-H association. When asked to describe their internal communication patterns, many reported they simply didn't talk to one another outside of the association meetings: "I don't find we have a lot of communication regarding [the association] in between meetings, other than reminders of when the meeting is."

In summary, in terms of communication, participants described an inwardly focused and connected association, with members who more often represented sub groups from within 4-H (e.g., clubs, advisory groups, etc.) rather than connections to other community groups.

Associations' Connections to Community and 4-H Program Vary. County 4-H associations were asked to describe how their association is connected to other groups, such as community groups, other 4-H groups, or the Extension Office. Here, groups varied on how they perceived their connections, and many had no connections to report. The most common connection, particularly among low scoring counties, was connection to the community through 4-H clubs' projects. For example, a shooting sports club has a connection with the local gun club, while a dog project club may have a connection with the local Humane Society.

4-H was also connected to county government and other county agencies serving youth populations. Most often, they were a strategic connection to help a specific established program. For example, an agent with a robust water quality project in her 4-H program sought out a member of the local Water Authority to serve on her association. When associations were connected to community organizations, they were most commonly agriculture oriented organizations, such as the Farm Bureau and Cattlemen's Association. Often, these organizations had specific efforts they supported within the 4-

H program: “Each year the Farm Bureau has an annual meeting and we have a cake auction; the money that is raised in the cake auction goes to 4-H.” While entity-to-entity connections were common and easy for members to recall, participants frequently had difficulty describing connections between individual members and the community. Only the highest scoring counties’ association members were able to describe connections to various sub-sections of their county: “the west side of town,” “past the river,” or urban neighborhoods. As one member put it, “I think every individual — and we all come from pretty much different aspects of the community — none of us really kind of run in the same circle...” This was not the case for low scoring counties, which only spoke of connections in relation to specific organizational connections, rather than neighborhoods and communities.

Lastly, associations, particularly low scoring associations, were often disconnected from their own 4-H program. They reported how their 4-H members didn’t know the role the association served, nor did association members feel connected with the 4-H program beyond the club or sub-advisory group to which they belonged.

Associations Vary on Decision-Making Processes and Topics. Participants were asked to describe how their association approached decision making, including what topics were addressed, and how decisions were reached. Across this theme, there was broad consensus among participating associations. Associations reported not being responsible for making decisions. Rather, they each maintained they counseled the agent on important issues and provided a sort of sounding board to the agent, who then makes a final decision. When associations made recommendations or the rare decision, they tended to collaborate and try to reach consensus. Every association described their tone as “conversational” and their decision-making style as “consensual” — a place where “everybody has a voice.” Associations were most apt to make decisions on procedural matters unrelated to the larger mission of the association in county 4-H programming: budgets, county awards criteria, behavioral

issues among volunteers, etc. One association member, who had just recently assumed the role of secretary, said: “I just went through a year’s worth of meeting minutes and there’s really not a whole lot in there other than what we’ve discussed as far as policies and procedures.”

The highest scoring counties, however, tended to utilize their associations as intended, and employ them in vetting of program ideas. One agent described using her association as a sounding board when considering new school programs: “So, if I come to them and say, ‘I want to start a new program in the schools;’ they say, ‘Yeah that’s a good idea,’ or ‘No we don’t think so.’”

Associations Often Not Structured for Success. Emerging during the discussions of decision making, communication, and organizational learning was the theme that associations were not only incorrectly structured — not used in the way intended by 4-H — but also ill-structured to provide leadership from an ecological perspective. Members tended to come from within the county 4-H program. Focus group participant introductions were theme and variation on having come up through the 4-H program: “My name is Linda...I’ve been involved with 4-H probably since my kids were cloverbuds”; “I started with my daughter, became a leader...”; or “I’ve been involved in 4-H for a long time.” Agents, even when recruiting from outside the organization, tended to find recruits with past 4-H experience: “We have one who is in private industry now, but she was a 4-H agent; she grew up in 4-H.” Though, there was a distinction to be made between groups comprised of people who “came up” through the program, and groups with 4-H experience. Low scoring groups tended toward the former, while high scoring groups tended toward the latter.

Members were often unsure of their roles. Most saw themselves as representing a 4-H club or sub-advisory group. As one member put it, “I just feel I’m [here] to give my dog report, but I enjoy being part of the discussion and giving my opinion, as well. I’m not really sure what my role is [here].”

Finally, in a majority of associations, the primary purpose of association meetings was to disseminate information internally from the county 4-H agent. One participant described her association's purpose this way: “[To] distribute information. I mean, that's probably the main thing. Like Rhonda said, she holds it as a business meeting so that's where we get our information to hand back down to our people...”

Agents Primarily Engage in One-on-one Development. Participants were asked to describe how they learned and improved, both as individuals and as a group. No focus group reported having educational or training opportunities geared toward their role as association members; and, in general, opportunities for learning were few.

Participants most commonly reported being engaged in a one-on-one mentoring relationship with the agent. Several participants spoke of how accommodating and knowledgeable agents were, and how willing they were to meet to discuss an issue or obstacle. One member said, “Poor Mr. Dan [the 4-H agent], between [Carolyn] and me, one of us was in the office like several times a week probably.”

Volunteers did have opportunities to travel out of the county to state and regional trainings, but, again, these were geared toward their roles as 4-H club leaders, and participants did not see them as salient to their role on the association.

Research Question 4 – How do volunteers' perceptions of leadership help us better understand the variables associated with programmatic success?

The purpose of this research question was to explore how volunteers' perceptions of leadership help us to better understand the variables associated with programmatic success. In other words, how do the qualitative findings — the volunteers' perceptions of leadership — shed light on those variables in the quantitative finding that are associated with programmatic success. This was accomplished in two ways: first, by examining relationships between the two populations' demographic data and county 4-H program success to reveal connections not considered in previous research questions; second, by mixing

the findings of the quantitative data (high and low scoring counties) with the findings from qualitative data (themes from qualitative strand) by means of a mixing table.

- There was a moderate inverse ($r=-.418, p<.05$) relationship between a county 4-H agent's eco-leader score and the mean number of years served by association members in some capacity in the 4-H program. Meaning, the higher an agent's eco-leader score, the fewer years, on average, his or her volunteers have served in some capacity. Again, "some capacity" could be as a 4-H club leader, or any other role beyond the county 4-H association.
- Similarly, a weak inverse relationship ($r=-.396, p<.05$) was found between a county 4-H agent's therapist score and the mean age of volunteers serving on the county 4-H association. Therefore, the higher an agent's therapist score, the lower the average age of volunteers on the association.
- Agent demographics also had a relationship ($r=.479, p<.01$) with volunteers' demographics. A moderate relationship was found between an agent's time spent in a county and that county 4-H association's percentage of female members. Longer serving agents were likely to have a higher percentage of female volunteers.
- Finally, 4-H agents who served nine or more years in any county were found to have higher county index scores than their peers who served eight or fewer years. This yielded a significant equation ($F(1,39) = 3.824, p<.05$), with an R^2 of .072.

Findings derived from the mixing table are organized here according to Wielkiewicz and Stelzner's (2005) four factors of ecological leadership: (a) interdependence; (b) open systems and feedback loops; (c) cycling of resources; and (d) adaptation.

Interdependence. As a reminder, the concept of interdependence in this context holds that leadership is generated from interactions within a network, and those networks are interdependent with other networks (e.g., organizations, communities, the natural environment, economy, etc.). According to

this understanding of leadership, attempts to understand an organization by focusing on a single positional leader are incomplete and ignore the complexity of the organization (Wielkiewicz & Stelzner, 2005).

In this category, both low and high scoring counties reported the agent gathering their opinions to make decisions. However, they differed on their attribution of programmatic success. Low scoring counties were more likely to cite strong volunteer club leaders. In contrast, high scoring counties attributed success to six or more factors, including agent leadership, but also county government support, parent support, and meeting the needs of the community. These particular instances of attribution of success are not important in and of themselves, according to the concept of interdependence. Rather, it is the number and variety of factors contributing to success identified by high scoring counties that makes it illustrative of this concept.

Open Systems and Feedback Loops. As a reminder, open systems and feedback loops in this context refers to an organization's need for inflows of information and resources; no organization is a closed system, and all are part of larger systems (e.g., community, economy, etc.). Organizations that close themselves off from outside sources are believed to be less adaptive and successful (Wielkiewicz & Stelzner, 2005). In this category, there was wide disparity between low and high scoring counties. The two groups both shared connections with agricultural organizations and county government. And both recruited from within 4-H. However, the groups diverged on group composition and communication patterns.

First, the composition of low scoring counties is almost entirely from within the program. Members nearly always have other roles within 4-H, such as club leader or sub-advisory group. This pattern of identifying with another role supports quantitative findings. When association members were asked what they considered their primary volunteer role in 4-H, 44% ($n=81$) said club leader, despite the

survey being identified as a survey of association members. Low scoring counties also expressed valuing internal connections and expressed a need for even more internal groups to be represented on the association.

Second, in low scoring counties, the county 4-H agent more often acted as the primary channel of communication between the 4-H program and the association, 4-H and the community, and between the individual association members. Often, the association was used to convene internal constituencies (e.g., club leaders and sub-advisory committees). In this case, communication was often top-down because the agent used the meeting to distribute information about upcoming events, new state policies, etc., rather than to seek advice from an advisory body. One participant described her association meetings this way: “Most of the big important stuff just comes from her [the agent] and we're like, ‘okay.’”

All of these trends exhibited by low scoring county 4-H associations points to an organization structured to be an inwardly focused.

Cycling of Resources. As a reminder, cycling of resources in this context refers to the notion that all systems require regular replenishment, and efficient usage, of resources. Wielkiewicz and Stelzner (2005) contend that, in organizations, leadership is no different; and relying on a single individual to provide the leadership for an organization, or failing to continually revitalize leadership capacity, leaves an organization vulnerable to decline. This category saw broad overlap between high and low scoring counties. Both cited the agent as the primary director of association business, often setting the agenda, chairing meetings, and distributing information in a top-down fashion. Both high and low scoring counties reported rarely having conflict among members. All associations reported being collaborative in nature and reaching decisions via consensus. Where high and low scoring counties diverged, however, was in the topics considered. All seemed to consider procedural matters, such as awards

criteria, behavioral issues, and budgets; but high scoring counties more often considered matters of programming, helping the agents make decisions on which programs to initiate, expand, or scale back.

As simple as this sounds, reports of associations fulfilling their mission to offer local advice on programming were rare among those focus groups conducted. However, this is one differentiating factor between high and low scoring counties in this category.

Adaptation. As a reminder, adaptation in the context of organizations refers to the structures and processes in place for the organization to continue to learn and improve, and, therefore, be more resilient in the face of changes external to the organization, such as new societal trends, technologies, or environmental factors (Wielkiewicz & Stelzner, 2005).

Compared to other categories, very little was offered by the association members in terms of examples of opportunities for continued improvement. High scoring counties tended to cite a one-on-one mentoring relationship with the county 4-H agent as the primary means of improvement, while low scoring counties were more apt to attend trainings at the local, state, and regional levels. This may seem counterintuitive, but, remember low scoring counties tended to use their association as opportunities to gather internal constituencies — primarily 4-H club leaders — and so the opportunities reported by participants were those aimed at improving 4-H club leaders. In-service trainings for 4-H club leaders are common in 4-H programming. However, no county reported having dedicated leadership or other training for participants in their capacity on the association.

Discussion and Conclusions

I offer the following six meta-inferences by drawing on findings from both the qualitative and quantitative strands of this research study. In these meta-inferences I present this study's findings in relation to the larger body of leadership literature, as well as offer discussion and potential explanations of the findings.

Associations with higher percentage of women have lower levels of hierarchical thinking.

Hierarchical thinking refers to the degree to which a person believes an organization should be arranged in a hierarchical fashion, with both power and control concentrated in the hands of an upper echelon of leaders or a single leader. A highly hierarchical viewpoint stresses rules, procedures, goals, and a general dependence on the leader (Wielkiewicz, 2000). Moreover, adherents to a highly hierarchical view of leadership attribute the responsibility for the success or failure of an organization to positional leaders and charge them with the responsibility for ensuring the safety and security of an organization's members (Wielkiewicz, 2000).

Among county 4-H associations, the mean score for hierarchical thinking on the LABS-III instrument was a middling 2.70 on a five-point scale; where a score of one indicates the highest levels of hierarchical thinking. There was a weak relationship between the association's percentage of female members and levels of hierarchical thinking. The greater the proportion of an association's membership that is female, the more likely that association is to have lower levels of hierarchical thinking. Moreover, the gender make-up of the association explains 14.9% of an association's variance in hierarchical thinking.

This is consistent with findings by Wielkiewicz (2002) and Fischer (2015), both of whom determined that women consistently exhibited lower levels of hierarchical thinking than men. However, Wielkiewicz (2002) and Fischer (2015) focused on college students enrolled in leadership programs of study. This research study is the first reported use of the LABS-III outside of a college student population, building upon what is known about hierarchical and systemic thinking levels by including adults of all degree levels and in a volunteer capacity.

Longer terms on 4-H association leads to lower county 4-H program index scores.

The moderate relationship between the county 4-H programming success index score and the mean number of years served by an association's members indicates the longer an association group has collectively served, the lower the county index score. Mean number of years served by an association group explains 18.1% of variance in the county index score. This is consistent with Wielkiewicz and Stelzner's (2005) ecological leadership principle of cycling of resources, which indicates organizations should develop leadership on an ongoing, long-term basis so that various and well-prepared individuals can provide leadership to the organization. By maintaining the same, small group of leaders over a long period of time, the association leaves itself ill-equipped to contend with changes that may occur externally over time, and an isolated, out-of-touch association membership may occur.

The relationship may also be due to a spurious variable, such as the county 4-H agent's efficacy. Agents who adhere to best practices for managing 4-H associations and observe the recommended term limits may be as fastidious in other aspects of their 4-H program. Further research is necessary to better understand the relationship between association tenure and county 4-H program success.

Low scoring county 4-H associations are more inwardly focused and connected.

Low scoring county 4-H programs' associations differentiated themselves, in part, by exhibiting a greater tendency to be inwardly focused and connected. The composition of low scoring counties' associations was almost entirely from within the program. Further, members nearly always reported having other roles within 4-H, such as club leader or sub-advisory group. Indeed, 44% ($n=81$) identified their primary role as club leader, despite the survey being identified as a survey of association members. Low scoring counties also tended to express valuing internal connections and a need for even more internal groups to be represented on the association.

These findings are consistent with Wielkiewicz and Stelzner's (2005) ecological leadership principle of open systems and feedback loops, which hold that an organization is dependent on inflows of information and other resources. Each organization is itself part of a larger, more complex open system (e.g., economic, political, social). Organizations that squelch feedback loops place the organization at risk by lessening its ability to adapt to the environment (Wielkiewicz & Stelzner, 2010).

Low scoring associations that select members from within the 4-H program for the purpose of representing and connecting internal constituencies (e.g., dog advisory group, or individual clubs), therefore, have a more closed system with fewer feedback loops. This leaves the 4-H program with little inflows of new information, feedback on programming, and resources from the larger community, which may contribute to less effective county 4-H programming.

High scoring county 4-H programs attribute success to a greater number of factors.

High scoring counties' associations differentiated themselves on the question of which factors they attribute the success or failure of their county 4-H program. Where low scoring counties predominantly attributed success to only one factor, 4-H club leaders, high scoring counties attributed success to a range of factors that did include positional leaders, such as the 4-H agent, but also five other factors, including a "tight-knit" community, parental involvement, and support from local county government.

This is consistent with Wielkiewicz and Stelzner's (2005) ecological leadership principle of interdependence, which holds that any attempt to understand or direct an organization by focusing on its positional leaders is incomplete and bound to fail. Leadership must be understood in the complex context of the organization and its environment, and success can be attributed, in part, to a group's ability to see the connectedness of social systems and the way they influence one another.

Therefore, the specific factors to which high scoring counties attribute success are not important in and of themselves. Rather, it is the number and variety of factors contributing to success identified by high scoring counties that makes it illustrative of this concept. High scoring counties' association members are more apt to see the myriad factors affecting their county 4-H program, rather than fixating on individual positional leaders.

Study Limitations

A primary, overarching limitation of this study is the nature of ex post facto research. The ex post facto research design presents several concerns of validity because it cannot control the independent variable. Therefore, an ex post facto research design “does not provide the safeguards that are necessary for making strong inferences about causal relationships” (Ary et al., 2013, p. 333). This can lead to the post hoc fallacy, where the researcher mistakenly determines causation based on the relationship between variables, but, in fact, the relationship is spurious (Ary et al., 2013). Though this is still a concern, it should be noted that the quantitative strand of the study is not intended to determine a causal relationship between variables.

Generalization is also not possible in this study. State 4-H programs vary widely in terms of youth programming offered and county 4-H program advisory structures in place. The county 4-H associations are an advisory mechanism unique to Florida 4-H, and, therefore, the findings of this study cannot be generalized to other state 4-H program's advisory functions.

The Western Indicator of Leadership Discourse (WILD) questionnaire is still being refined by creator Simon Western. Tests of inter-item reliability were relatively poor, ranging from .458 to .789. Care should be taken when interpreting data from this instrument.

Finally, in an effort to uncover findings through mixed methods, I have presented several quantitative results derived from qualitative data. For example, high scoring county 4-H associations

attribute success to a greater number and variety of factors than their low scoring counterparts. While this is true in the case of the six county 4-H associations that participated in the focus groups, it is also not generalizable to the larger populations of low and high scoring Florida 4-H counties.

Recommendations for Practice

Findings in this study lead to the following recommendations for improving county 4-H associations:

1. Committees, agents, and Extension specialists responsible for planning and conducting leadership development opportunities for agents should conduct an audit of current leadership development curriculum to determine the primary underlying leadership discourse in which those programs are situated. Knowing a leadership development program's primary discourse lessens much of the power discourses have over dictating norms and customs. It is likely that since the therapist leadership discourse is most common among agents, and many of the leadership in-services are offered by agents, the dominant discourse would be therapist. However, with therapist connected to lower county 4-H program index scores, it may be worthwhile to consider a more purposeful leadership development in-service offering aimed at giving agents the concepts needed to meet the expectations placed on them. For example, Bonnen (1998) cited a trend away from agents as disseminators of research-based information and toward agents as connectors and community problem solvers. This latter role would lend itself to an eco-leader discourse of leadership, which views positional leaders as connectors of people, organizations, and ideas. By offering in-service and other learning opportunities to explicitly address new concepts of leadership, and strategies for leading, in their role as agent, agents may be more successful in their 21st century role.

2. Curricula, support materials, and in-service opportunities for association members are clearly needed to help them better perform their roles and continue to grow and provide leadership to the 4-H program. Focus group participants reported no educational opportunities for their roles as association members. Rather, they reported a one-on-one mentoring relationship with agents, and opportunities for their roles as club leaders. Agents could model these curricula, materials, and in-services after the robust offering afforded to 4-H club leaders. Association members should have a new-member orientation, receive a position description, and undergo annual evaluations. Association members should probably have a handbook, or even a loose collection of materials to reference, regarding their role and the larger role of the association in county 4-H programming. In-service opportunities for association members should be offered at typical venues for 4-H club volunteer development, such as state and regional volunteer forums, and the Florida Youth Development Institute's annual conference.
3. Additionally, 4-H association members should actually have the opportunity to provide leadership to the 4-H program. Many reported being predominately concerned with procedural matters unrelated to the programming advisory function they are designed to fulfill. Associations need to be meaningfully engaged in advisory and advocacy work *by county 4-H agents*. This recommendation comes in tandem with recommendation two, which focused on the development of association members. So too must county 4-H agents be prepared to utilize their associations in developing the county 4-H program. Agents should receive continued training on successfully engaging this relatively new organization within the 4-H system. This could be accomplished through in-service opportunities and handbooks. However, the ongoing development of an advisory should be included in an agent's annual report of accomplishment and plan of work, as well as in his or her annual performance evaluation. This would encourage agents to plan for the

use of the association, while also ensuring ‘credit’ for doing this work some see as less important than conducting programming.

4. Term limits for county 4-H association members should be established and followed. The findings of this study showed a correlation between the mean tenure of 4-H association members and lower county 4-H index scores. This indicates a connection between mean tenure and program performance that may well be explained by long-serving members not having the capacity for continued adaption. By ensuring a steady cycling of individuals through term limits, the association would have a built-in mechanism for ensuring new talent with new connections for an adapting program are installed regularly.
5. Similarly, agents should also work to create a system of identifying and developing leadership skills in potential volunteers that will provide an association well-prepared leaders for the 4-H program. One example would be to allow non-association members to serve on standing association committees, such as a fundraising committee or event committee. This allows volunteers to better scope their interest in serving on the association, while it also allows association members to observe potential recruits long term performance before inviting them to join the association’s membership.
6. County 4-H agents should enact a policy of recruiting association members not already serving in another capacity within the county 4-H program. In other words, agents should not structure their associations where they are comprised of internal groups. Instead, agents should focus on individuals with knowledge of, or experience in, 4-H, but who also have connections and experience beyond the 4-H program. By simply changing the role of the association member to one who represents a part of the community on the 4-H association, rather than a part of 4-H on the 4-H association, the association should become more outwardly connected and oriented.

Recommendations for Future Research

The study of leadership — particularly ecological perspectives of leadership — has tremendous opportunity for empirical validation of the many conceptual claims. Several efforts can be made to further contribute to what is known about leadership.

1. The basic premises of this study should be replicated in a wide variety of contexts: business, rural community, agricultural organizations, civic groups, etc. Empirical validation for various leadership approaches' effects on organization, community, or program efficacy are rare. By using the structure provided in this study (e.g., complexity science as a theoretical framework and leadership discourses as a variable of measure), replication would only then require the creation of an index of success in various complex adaptive systems under study (i.e., the context).
2. This study should be replicated, specifically, in other state 4-H programs with statewide advisory groups, such as Virginia's Extension Leadership Councils. However, several modifications to the methodology should be made. Rather than an explanatory sequential model, researchers could use an exploratory sequential model, whereby the researcher would first conduct the qualitative strand to determine if the group is actually engaged in collective or other approaches to leadership prior to committing to quantitative measurement. Doing so would ensure that there is a connection between the group providing leadership and the larger organization.
3. Complexity science should be utilized more often as a theoretical framework for leadership studies. The notion that leadership is a linear process affecting few variables in isolation is at odds with what we know both scientifically and intuitively about leadership. Focusing only

on roles and actions of specific leaders is to see just the tip of the iceberg, and complexity science provides a framework for exploring deeper this phenomenon.

4. The connection between mean number of years served by the 4-H association and county 4-H programmatic success index should be investigated further by replicating this portion of the study with similar organizations. Examples could include local Farm Bureau boards, non-profit boards, or the Extension Leadership Councils in Virginia, which are functionally very similar to the county 4-H association. The difficulty with investigating the relationship between tenure and success is defining and measuring success; each organization would likely define success differently, and may or may not be collecting data on outcomes.
5. The county 4-H program success index, which was used to measure success and rank county 4-H programs in this study, needs to be refined. Success is measured by more than enrollment and enrollment trends. However, 4-H, as an organization, needs to decide what other outcomes are indicative of success and how those outcomes can be measured. This would likely entail the creation of quality indicators, which would then be observed and recorded by researchers.
6. Finally, there should be developed a measure of actual ecological leadership practices occurring in an organization. The LABS-III provided a useful proxy for measuring leadership attitudes and beliefs on two mechanistic-ecological continua. However, this does not assess the reality of leadership within the organization, as long-running institutional practices and structures may trump even the association members' individual attitudes and beliefs about leadership. This would be accomplished by reviewing the literature on leadership in mechanistic and ecological organizations, and then identifying indicators of where an organization may fall on a continuum between mechanistic and ecological. This would likely

be further broken down into sub-scales based on Wielkiewicz and Stelzner's (2005) four factors of ecological leadership: interdependence, open systems and feedback loops, cycling of resources, and adaptation. An example would include Likert-type statements, such as:

- a. There is disagreement on important topics in my group.
- b. My group's membership changes regularly.
- c. I am encouraged to attend educational opportunities related to my group's mission.
- d. Information in my group is concentrated among a small group of individuals.

Study Implications

By studying the ecological approach to leadership in action, we expand our understanding of leadership from “the isolated, role-based actions of individuals to the innovative, contextual interactions that occur across an entire social system” (Lichtenstein et al., 2006, p. 2). We also “increase the relevance and accuracy of leadership theory by exploring how leadership outcomes are based on complex interactions, rather than ‘independent’ variables” (Lichtenstein et al., 2006, p. 2). Also, by obtaining qualitative data, we can draw on participant perspectives to better explain the mechanisms behind putting into practice an ecological approach to leadership in an organization. Finally, by potentially linking an ecological approach to leadership with long-term organizational success, we might provide credence to this here-to-fore only conceptual phenomenon.

The findings of this study have implications for Extension and county 4-H programs. Specifically, how 4-H: (a) understands its connection to the communities served and stakeholders engaged; and (b) addresses training and support of Extension 4-H agents. It also will provide an in-depth empirical assessment of the leadership culture and processes of the Florida 4-H program.

Traditionally, Extension program leadership is understood to emanate from the county agent, and so efforts to reduce turnover and enhance program efficacy historically focus on developing the skills and

competencies of individual agent. However, it may add to our understanding of the success or failure of county 4-H programs to assess the leadership of the program from an ecological approach, which would include volunteers, advisory members, and other stakeholders engaged in providing leadership to the program. The findings of this study could affect Extension's approach to training, education, and governance; it may also determine who receives such leadership development opportunities. By positioning Extension and 4-H to both reduce turnover among 4-H agents and lessen the effects of turnover on 4-H programs, it "builds into organization the ability to be adaptive to fluctuations and constant change" (Western, 2007, p. 186).

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Appendix A: A Priori Propositions Table

Table 1.

A Priori Propositions Utilized to Generate Interview Protocol

Proposition	Supporting Literature	Interview Question
#1) Groups with a greater variety of communication channels will be more adaptive and successful	Organizational leaders must facilitate, rather than constrain, both the flow of information into the organization and the variety of feedback loops in order to create a more adaptive organization (Allen, Wielkiewicz, & Stelzner, 1999; Capra, 1996; Wielkiewicz, 2000; Western, 2013).	Describe the level of communication within your group, and between your group and others, such as the Extension Office, other advisory groups, community groups, etc.
#2 Groups that report a greater degree of shared leadership among members will be more adaptive and successful	When organizational leaders leverage the talent, creativity, passions, skills, and interests of a greater number of members in the decision-making process, better outcomes are generated and the organization is more adaptive (Wielkiewicz & Stelzner, 2005; Western, 2013).	Describe the decision-making process used by this group?
#3 Groups that invest in the human and other asset development for all members (rather than positional leaders) will be more adaptive and successful.	Structures and processes for learning should be in place throughout an organization. The more adaptive learning that takes place within an organization the better able it will be to respond to adaptive changes (Wielkiewicz & Stelzner, 2005, 2010).	How does this group ensure that it continues to improve as individuals or as a group? Do you feel you have opportunities to learn and improve? What kinds of opportunities do you have to learn and improve? How does this group determine its leaders?
#4 Groups that provide leadership opportunities/leadership development for members on an ongoing basis will be more adaptive and successful.	“Leadership is developed on an ongoing, long-term basis, rejecting the notion that positional leaders should dominate leadership processes” (Wielkiewicz & Stelzner, 2005). Organizations that view leadership as a process encourage individuals to engage in leadership leading to greater adaptability and longevity of the organization (Western, 2013).	What opportunities for leadership does this group provide?

Proposition	Supporting Literature	Interview Question
#5 Groups with members who have a greater number of connections to other internal/external groups will be more adaptive and successful.	Organizations with members who are connected to other groups will have more diverse feedback loops, and “the more complex [an organization’s] pattern of interconnections, the more resilient it will be” (Capra, 1996, p. 303).	Describe the relationships this group’s members have with other organizations? Is it important for this group to be connected to outside organizations?
#6 Groups whose members feel responsible for the success/failure of the organization will be more adaptive and successful	Under ecological leadership theory, the greater number of individuals involved in the leadership of the organization, the more adaptive the organization will be. Therefore, when individuals view themselves as responsible for the success of the organization (rather than assigning that responsibility to a few positional leaders), they are more likely to engage in leadership activities (Western, 2013).	Characterize how your group shares successes or failures.
#7 Groups who view the degree of success or failure of their group to the complex interaction of a number of factors, rather than fixating on few factors, will be more adaptive and successful.	Systemic Thinking, as described by Wielkiewicz (2000) is the ability to “relate organizational success to the complex interaction of a number of a factors” (p. 344). According to ecological theory, the ability to see a greater number of factors affecting your organization will lead to greater adaptability and success.	What factors contribute to the success of this organization?

Appendix B: Survey Consent Form

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

Project Title: Eco-Leadership in Practice: A Mixed Methods Study of County 4-H Programs

Investigators: D. Adam Cletzer, Graduate Student, Virginia Tech
Dr. Eric K. Kaufman, Associate Professor & Extension Specialist, Virginia Tech

I. Purpose of this Research Project

The purpose of this study is to explore county 4-H association members' perceptions of leadership and understand their approach to enacting leadership within the county 4-H program. We appreciate your help in this study by agreeing to participate in this survey where you share your attitudes and beliefs about leadership. Your participation is voluntary. You may refuse to participate and/or stop participating at any time. Minors (children under 18) are not invited to participate in this study.

II. Procedures

If you agree to participate, you will complete two questionnaires. The first collects information on your attitudes and beliefs toward leadership. The second collects basic demographic information. Following the assessment, the research team will analyze the data you have provided.

III. Risks

There are no known risks associated with participation in this survey.

IV. Benefits

No promise or guarantee of benefits has been made to encourage you to participate. However, you may have the satisfaction of knowing that you have contributed important information to a study of how leadership impacts county 4-H programming. The data collected from participants during this research may be developed into one or more papers for publication in academic journals or presentations. You may contact the researchers at a later time for a summary of the research results if you wish.

V. Extent of Anonymity and Confidentiality

The information concerning your participation in this study will be kept entirely confidential and anonymous. Data collected from this survey will only be reported in aggregate by county. At no time will the researchers release the data from the study to anyone other than the individuals working on this project without your written consent.

It is possible that the Virginia Tech Institutional Review Board (IRB) may review this study's collected data for auditing purposes. The IRB is responsible for the oversight and protection of human subjects involved in research.

VI. Compensation

This study involves no compensation.

VII. Freedom to Withdraw

Participation in this study is entirely voluntary. Refusal to participate will involve no penalty or loss of benefit. Similarly, you may withdraw from study study at any time without penalty.

VIII. Participant's Responsibilities

I voluntarily agree to participate in this study. I have the following responsibilities:

- Complete a multi-part questionnaire
- Ask questions of the researcher about the study at any time.

If the questions relate to content and findings of this particular study, please contact one of the project investigators:

- Adam Cletzer: acletzer@vt.edu
- Dr. Eric K. Kaufman: 540-231-6258, ekaufman@vt.edu

If questions arise about research subjects' rights or any concerns about the conduct of this study, please contact the Institutional Review Board Chair, Dr. David Moore, at 540-231-4991 or moored@vt.edu.

To participate in this study, click the button below to begin.

Appendix C: Leadership Attitudes and Beliefs Scale – III

Each item is rated on a scale of 1 to 5 with: 5 = *Strongly Agree*, 4 = *Agree*, 3 = *Neither Agree nor Disagree*, 2 = *Disagree*, or 1 = *Strongly Disagree*

1. Individuals need to take initiative to help their organizations accomplish its goals
2. Leadership should encourage innovation.
3. A leader must maintain tight control of the organization
4. Everyone in an organization needs to be responsible for accomplishing organizational goals.
5. Leadership processes involve the participation of all organization members.
6. A leader must control the group or organization.
7. A leader should maintain complete authority.
8. A leader should take charge of the group.
9. Organizational actions should improve life for future generations.
10. The main task of a leader is to make the important decisions for an organization.
11. Leadership activities should foster discussions about the future.
12. Effective leadership seeks out resources needed to adapt to a changing world.
13. The main tasks of a leader are to make and then communicate decisions.
14. An effective organization develops its human resources.
15. It is important that a single leader emerges in a group.
16. Members should be completely loyal to the designated leaders of an organization.
17. The most important members of an organization are its leaders.
18. Anticipating the future is one of the most important roles of leadership processes.
19. Good leadership requires that ethical issues have high priority.
20. Successful organizations make continuous learning their highest priority.
21. Positional leaders deserve credit for the success of an organization.
22. The responsibility for taking risks lies with the leaders of an organization.
23. Environmental preservation should be a core value of every organization.
24. Organizations must be ready to adapt to changes that occur outside of the organization.
25. When an organization is in danger of failure, new leaders are needed to fix its problems.
26. An organization needs flexibility in order to adapt to a rapidly changing world.
27. Leaders are responsible for the security of organization members.
28. An organization should try to remain as stable as possible.

NOTE: Copyright 1999 by Richard M. Wielkiewicz: May be used for research without permission. The hierarchical thinking scale consists of items: 3, 6, 7, 8, 10, 13, 15, 16, 17, 21, 22, 25, 27, and 28. The systemic thinking scale consists of items: 1, 2, 4, 5, 9, 11, 12, 14, 18, 19, 20, 23, 24, and 26.

Appendix D: Sample Question from Western Indicator of Leadership Discourse Questionnaire

Introduction

This questionnaire reveals our underlying leadership assumptions, indicating how you think leadership should be enacted. There are four dominant leadership assumptions (or discourses) that underpin the many different styles of leadership. These assumptions inform our beliefs and shape our behaviors as leaders and as followers (i.e. determining what we expect from our leaders). These four leadership discourses are taken from the research published in *Leadership: A Critical Text* (Western, 2013).

Instructions

There are 20 short items to complete. Each question or statement has a choice of four different answers. Rank these in the order of preference (i.e. number 1 you most agree with, 2 your second choice, 3 your third choice, and 4 the one you least agree with). There are no right or wrong answers. So, just answer as honestly as you can. If you are not sure, follow your instinct and make the best choice you can and move on. Remember to rank all four sentences. Don't stop after choosing the first. See the example below:

Example

A good leader is...

- A bossy person
- A courageous person
- A clever person
- A kind person

Once you have ranked all answers and are happy with the order, move on to the next statement.

1. A good leader ...
 - a. Establishes loyalty and evokes passion
 - b. Creates partnerships with others
 - c. Establishes clear control systems and processes
 - d. Encourages personal development of the team members

Appendix E: 4-H Volunteers Demographic Information

1. Please select your county
 - a. [Drop down menu of all Florida counties]
2. What is your gender?
 - a. Male
 - b. Female
3. What is your age?
 - a. _____
4. What is your ethnicity?
 - a. White, Non-Hispanic
 - b. Asian
 - c. Hispanic (or Latino)
 - d. Black (or African American)
 - e. American Indian or Alaskan Native
 - f. Other: _____
5. What is your highest educational degree or level of school completed?
 - a. Some college or less
 - b. Associate Degree
 - c. Bachelor's Degree
 - d. Master's Degree
 - e. Doctorate Degree
 - f. Other Professional Degree
6. How many years have you been a 4-H volunteer?
 - a. _____
7. How many years have you been a member of the 4-H association?
 - a. _____
8. Do you currently hold a leadership position within the 4-H association?
 - a. Yes
 - b. No
9. Please select what you consider your primary volunteer role:
 - a. Club Leader
 - b. Advisory
 - c. Fundraising or Finance
 - d. Expansion and Review Committee
 - e. Other: _____

Appendix F: 4-H Agents Demographic Information

1. What is your gender?
 - a. Male
 - b. Female
2. What is your age?
 - a. _____
3. What is your ethnicity?
 - a. White, Non-Hispanic
 - b. Asian
 - c. Hispanic (or Latino)
 - d. Black (or African American)
 - e. American Indian or Alaskan Native
 - f. Other: _____
4. What is your highest educational degree or level of school completed?
 - a. Some college or less
 - b. Associate Degree
 - c. Bachelor's Degree
 - d. Master's Degree
 - e. Doctorate Degree
 - f. Other Professional Degree
5. How many years have you been a 4-H agent?
 - a. _____
6. How many years have you worked in your current county?
 - a. _____

Appendix G – Index of County 4-H Programmatic Success

Category	2014-2015	2013-2014	2012-2013	2011-2012	% Change 2012-2015	% Change 2013-2015	% Change 2014-2015	Totals
	State	State	State	State	State	State	State	
Total 4-H Club Membership	23155	22281	22088	19153	21%	16%	4%	
School Programs	153441	156463	171456	165190	-7%	-5%	-2%	
Overnight Camping	2950	2184	3055	2178	35%	0%	35%	
Other Programs	33934	32722	32564	41701	-19%	-22%	4%	
Adult Volunteers	11239	12274	15176	12845	-13%	-4%	-8%	
<hr/>								
Per Capita Score 4-H Club Membership	0.008344	0.008029	0.007959	0.006902	21%	16%	4%	
Per Capita Score School Programs	0.055291	0.05638	0.061783	0.059525	-7%	-5%	-2%	
Per Capita Score Overnight Camping	0.001063	0.000787	0.001101	0.000785	35%	0%	35%	
Per Capita Score Other Programs	0.012228	0.011791	0.011734	0.015027	-19%	-22%	4%	
Per Capita Score Adult Volunteers	0.00405	0.004423	0.005469	0.004629	-13%	-4%	-8%	
<hr/>								
Weight 4-H Club Membership	4	4	4	4	8	8	8	0.085421674400822
Weight School Programs	2	2	2	2	4	4	4	-0.005355825693193
Weight Overnight Camping	2	2	2	2	3	3	3	0.147283582406976
Weight Other Programs	2	2	2	2	3	3	3	-0.070867415508333
Weight Adult Volunteers	1	1	1	1	2	2	2	-0.048904388751825
<hr/>								
Total State/County Score								0.107577626854447

Figure G1. Chart representing the formula used to calculate county 4-H programming success index scores.

Appendix H: Pre-Notice Email Provided to DEDs to Send to Extension Agents

TO: All 4-H Agents in (X) Administrative District
FROM: District Extension Director
DATE: Day 1
RE: LEADERSHIP STUDY OF COUNTY 4-H PROGRAMS

Dear 4-H Youth Development Faculty,

In a few days you will receive an e-mail from Adam Cletzer, who is conducting a research project in partnership with Dale Pracht. Adam is a former Florida 4-H agent, and is currently a doctoral candidate at Virginia Tech. The study will help Florida 4-H better understand how 4-H volunteers and 4-H agents' beliefs and attitudes about leadership relate to programmatic success. I strongly encourage your participation. The results will help us better meet your needs related to working with county 4-H associations and advisory councils.

Thanks again for your time,

Michael Gutter

Appendix I: First Email from Researcher to Extension Agents

TO: All 4-H Agents in Florida
FROM: Adam Cletzer
DATE: Day 3
RE: HELP REQUESTED: LEADERSHIP STUDY OF COUNTY 4-H PROGRAMS

I am Adam Cletzer, a Ph.D. student at Virginia Tech, and former 4-H agent. I'm writing to ask for your help with a research study on leadership in county 4-H programs in Florida. The time required of you is minimal, but your participation is critical, and it would be a great help to me.

This study is a census of all of Florida's county 4-H programs, and its findings may help make 4-H programs better by shedding light on what is the best approach to engaging volunteers in providing leadership to the program.

Here's how to participate.

Step 1

This study focuses on two groups. The first is you, the 4-H Agent. You participate by taking the *Western Indicator of Leadership Discourses (WILD) questionnaire*. It's only 20 questions and characterizes your approach to leadership. I can even provide you with your report, if you're interested. [Click here to take the survey.](#)

Step 2

The second group is your county 4-H association members, who represent a cross-section of the volunteer leadership of your county 4-H program. They each take the Leadership Attitudes and Beliefs Scale (LABS-III) survey. You have two options for administering this survey: (a) you can provide me with a list of names and email addresses of your 4-H association members, and I will send out the invitation to complete the survey via email (this is the preferred method), or (b) I can provide you with a link to the survey and a form email for you to distribute. If Option A is fine with you, [click here](#) to upload county 4-H association to our secure server. If you choose Option B, simply reply to get started.

Participation is entirely voluntary. Both you and your volunteers' personal information and survey responses will be kept confidential. Data from these surveys will only be reported in summary where no individual's answers can be identified. The sharing of contact information for research does not violate HIPPA/FERPA.

Thank you for your help. If you have any questions, feel free to contact me at (863) 441-4288 or by email at acletzer@vt.edu.

Appendix J: Second Email from Researcher to Extension Agents

TO: All 4-H Agents in Florida
FROM: Adam Cletzer
DATE: Day 13
RE: **RE: HELP REQUESTED: LEADERSHIP STUDY OF COUNTY 4-H PROGRAMS**

I know that the spring can be a busy time for 4-H Agents. I'm writing to remind you of an email I sent last week that requested your help with a study of leadership in county 4-H programs. This is a first-of-its kind study of leadership in 4-H. The findings may help us better engage our volunteers, as well as help mitigate the effects of turnover. Your help would be greatly appreciated. Please see the original email below for how to help.

[Insert Original Email Content]

Appendix K: Final Recruitment Phone Call Script

All Florida county 4-H programs are invited to participate in this census. The researcher will contact non-responding county 4-H Agents, explain the purpose and activities of the study, and ask a final time for the agent to include their county 4-H program in the study. A sample phone script is as follows.

“Hello, this [Researcher’s Name] from Virginia Tech. I am calling in regard to the recruitment emails you’ve received regarding the study of leadership in county 4-H programs. Do you have time to talk?”

[Wait for an affirmative response before proceeding. If he/she prefers to talk another time, ask what time would be better and schedule an appointment]

“I am conducting a dissertation research study, and I am interested in learning about the leadership of county 4-H programs, including both county 4-H agents and volunteers who play a leadership role.

“Because of the nature of this study, I’m conducting a census of Florida 4-H. Meaning, I survey every county 4-H program. I would really like to have input you and your county 4-H association members in the form of two surveys.

“What questions or concerns would you have about involving you and your [county] 4-H association’s volunteers?”

Appendix L: Pre-Notice Email from Agent to 4-H Volunteers

TO: 4-H Volunteers in [X] County 4-H Association
FROM: County 4-H Agent
DATE: Day 1
RE: RESPONSE REQUESTED: LEADERSHIP STUDY OF COUNTY 4-H PROGRAMS

You will soon receive an Adam Cletzer requesting your participation in a research study. Adam is a doctoral student at Virginia Tech and a former Florida 4-H Extension Agent. He is conducting research on leadership in county 4-H programs and would greatly appreciate your help.

You were selected because of your role on the county 4-H association. The survey will be 28 questions on your views on leadership, as well as a few questions about you. Taking the survey is simple. Just follow the link Adam provides. Your responses will be confidential and anonymous.

The study will help 4-H better understand how volunteers' and agents' beliefs and attitudes about leadership affect county programs. How 4-H approaches leadership in county programs may affect agent turnover and long term programmatic success. Your participation would be tremendously helpful.

You should receive an email in 2 -3 days. If you have any questions, please contact Adam Cletzer at (863) 441-4288 or by email at acletzer@vt.edu

Appendix M: First Request for Volunteer Participation

TO: 4-H Volunteers in [X] County 4-H Association
FROM: Adam Cletzer
DATE: Day 2-3
RE: RESPONSE REQUESTED: LEADERSHIP STUDY OF COUNTY 4-H PROGRAMS

Hello! I'm Adam Cletzer, a Ph.D. student at Virginia Tech, and former Florida 4-H Agent. This is a follow-up to an email sent a few days ago by your 4-H Agent. You are an active member of your county 4-H association, and have been selected for this study. I'm asking for your help in understanding volunteers' attitudes and beliefs toward leadership by completing this short questionnaire.

We all want to work to improve Florida 4-H, and one way to do so is to learn from those involved in the leadership of county 4-H programs. This study involves every county 4-H program. Its findings may help shed light on what is the best way to engage volunteers in providing leadership to the program.

Here's how to participate.

Click here to take the survey. The consists of 28 short questions on leadership and a few about you. Your responses will be kept confidential and anonymous. Data from the survey will only be reported in summary so no individual's answer can be identified. This survey is entirely voluntary.

Thanks for your help. We all want to make 4-H better. If you have any questions, feel free to contact me at (863) 441-4288 or by email at acletzer@vt.edu. My IRB number is (xxx-xxxx). For questions or concerns about the conduct of this study, please contact Virginia Tech's Institutional Review Board Chair, Dr. David Moore, at (540) 231-4991 or moored@vt.edu.

Appendix N: Second Request for Volunteer Participation

TO: 4-H Volunteers in [X] County 4-H Association
FROM: Adam Cletzer
DATE: Day 12-13
RE: SECOND REQUEST: LEADERSHIP STUDY OF COUNTY 4-H PROGRAMS

A few days ago, I sent you an email asking you to complete a questionnaire about your views on leadership in county 4-H programs. This is a friendly reminder and request to complete the questionnaire. Your responses will help us get a better understanding of the leadership in your county program, as well as ensure that your county program is represented in the study.

If you have already started the survey but not finished, you can click the link again and continue where you left off. All of your answers will remain confidential and anonymous.

[Insert Original Email Content]

Appendix O: Third and Final Request for Volunteer Participation

TO: 4-H Volunteers in [X] County 4-H Association
FROM: Adam Cletzer
DATE: Day 17-18
RE: FINAL REQUEST: LEADERSHIP STUDY OF COUNTY 4-H PROGRAMS

This is just a quick reminder that the survey on leadership in county 4-H programs will close _____ . If you have not yet had a chance to complete the survey, please know that your response would be greatly appreciated.

If you have already started the survey but not finished, you can click the link again and continue where you left off. All of your answers will remain confidential and anonymous.

[Insert Original Email Content]

Appendix P: Focus Group Protocol

The researcher will follow a standard protocol for each session that includes:

1. Welcome and opening remarks
2. Informed consent form review
3. Overview of general guidelines
4. Questions and facilitation of discussion
5. Completion of forms for compensation

Welcome and Opening Remarks

Welcome and thank you all for being here today and talking with us about your thoughts and opinions regarding your 4-H program's approach to leadership. I am _____, and I'll facilitate our discussion group. We are going to focus our discussion today on the way in which you carry out leadership in your 4-H program and how you believe leadership affects your success. My task is to keep our conversation going and to keep us on time. I also want to introduce _____, who is here as a note taker. She/he will be taking notes to help ensure we don't miss any details.

Consent Form Review

Each person receives an informed consent form and remind them they have already signed it. Ask them to take a moment to review. Ask for questions and answer that surface.

General Guidelines

1. I want an atmosphere of respect for everyone's opinions and where everyone has a chance to talk. Let's talk one at a time and speak loud and clear.
2. I like to keep this session to no longer than 90 minutes. We have a series of pre-formed questions and also want to have time for your suggestions. This may cause me to occasionally interrupt you to keep the discussion focused and on track.
3. I ask you to please be as honest with the group as you can when answering the questions. There are no right or wrong responses to the questions; I just want your thoughts and opinions.
4. If you have any questions, please do not hesitate to stop and ask.
5. If you need to go to the restroom, please feel free to do so but we would appreciate if you go one at a time. *State where the facility is located.*
6. Please silence or turn off all electronic devices. We sincerely appreciate your attention to this focus group.
7. This discussion will be audio taped to make sure to get all of your thoughts and suggestions. I will not link your identity to any of your comments.
8. Lastly, you do not have to answer any questions you do not want to and you can stop your participation at any time if you feel uncomfortable.

Focus Group Questions

- I. Warm-up (5 min)**
 - a. Let's quickly go around and share a few facts:
 - i. How long have you been a member in the group?
 - ii. What is your primary role in the group?

- II. What factors do you feel have contributed to the success of this group?**
 - a. To what degree do individual members take ownership and responsibility for this group's successes?
 - b. How is your group connected to other groups, such as community groups or the Extension Office?
 - c. Are you aware of any external trends that might impact your group?

- III. How does this group approach decision making?**
 - a. How does this group approach communication within the group and with other stakeholder groups??
 - b. Are decisions reached more collaboratively or more top-down?
 - c. How does this group handle conflict?

- IV. How does this group ensure continued improvement?**
 - a. How do you approach leadership development?
 - b. Are there opportunities to learn and improve?

- V. Wrap up (10 min)**

We are now at the end of the focus group questions. Before closing, I would like to summarize some of the main points you discussed today... [Review notes and identify a few key points identified for each area of the discussion.]Does this capture what we discussed? Is there anything else you would like to add?

Appendix Q: Focus Group Recruitment Script

Specific county 4-H programs will be invited to participate in the second, qualitative strand of this study based on the results of the first, quantitative strand. The researcher will contact the county 4-H agent in a given county and explain the purpose and activities of the study. Additionally, the researcher will set up a time to conduct a focus group with county 4-H association members. A sample phone script is as follows.

“Hello, this [Researcher’s Name] from Virginia Tech. I am calling you because of your county previously participated in a research study on leadership in county 4-H programs. Do you have time to answer a few questions?”

[Wait for an affirmative response before proceeding. If he/she prefers to talk another time, ask what time would be better and schedule an appointment]

“I am conducting follow-up focus group sessions with select county 4-H programs. Your county was identified as a county of interest. I’m interested in learning more about how your county 4-H association members enact leadership in the county program.

“I would like to schedule a time to meet with members of your 4-H association. Participation would involve completion 90-minute focus group session.

“What questions or concerns would you have about involving your [county] 4-H association members in a focus group?”

Appendix R: Focus Group Consent Form

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

Project Title: Eco-Leadership in Practice: A Mixed Methods Study of County 4-H Programs

Investigators: D. Adam Cletzer, Graduate Student, Virginia Tech
Dr. Eric K. Kaufman, Associate Professor & Extension Specialist, Virginia Tech

I. Purpose of this Research Project

The purpose of this study is to explore county 4-H association members' perceptions of leadership and understand their approach to enacting leadership within the county 4-H program. We appreciate your help in this study by agreeing to participate in this focus group where we hope to gain insight into your opinions on, and experience with, leadership in county 4-H programs. You may refuse to participate and/or stop participating at any time. Minors (children under 18) are not invited to participate in this study.

II. Procedures

You are being invited to participate in a focus group session along with your peers in your county 4-H association. This focus group will last no longer than 90 minutes. If you agree, this focus group session will be audio recorded. At no time will your audiotape be released to anyone another than the researchers involved with this project without your written consent.

III. Risks

This study has been reviewed and approved by the Virginia Tech Institutional Review Board (IRB). Individual answers and identities of the participants will be protected at all times. This research involves no more than minimal risk.

IV. Benefits

No promise or guarantee of benefits has been made to encourage you to participate. However, you may have the satisfaction of knowing that you have contributed important information to a study of how leadership impacts county 4-H programming. The data collected from participants during this research may be developed into one or more papers for publication in academic journals or presentations. You may contact the researchers at a later time for a summary of the research results if you wish.

V. Extent of Anonymity and Confidentiality

Your identity, and that of any individual who you mention, will be kept confidential at all times and will be known only to your interviewer and research team. The above-mentioned focus groups will be audio recorded and later transcribed by professional transcription service. When transcribing the interview recordings, pseudonyms (i.e., false names) will be used for your name and for the names of any other people who you mention. These pseudonyms will also be used in preparing all written reports of the research. Any details in the interview recordings that could identify you, or anyone who you mention, will also be altered during the transcription process. After the transcribing is complete, the interview recordings will be stored on a password-

protected server. The audio recordings will be destroyed after the analysis and reporting is complete, but the transcriptions will be stored indefinitely. It is possible that the Institutional Review Board (IRB) at Virginia Tech will view this study's collected data for auditing purposes. The IRB is responsible for overseeing the protection of human subjects who are involved in research.

VI. Compensation

This study involves no compensation.

VII. Freedom to Withdraw

Participation in this study is entirely voluntary. Refusal to participate will involve no penalty or loss of benefit. Similarly, you may withdraw from study study at any time without penalty.

VIII. Subject's Responsibilities

I voluntarily agree to participate in this study. I have the following responsibilities:

- Participate in a focus group session lasting no longer than 90 minutes
- Ask questions of the researcher about the study at any time

IX. Subject's Permission

I have read the Consent Form and conditions of this project. I have had all of my questions answered. I am not a minor and give my voluntary consent to participate in this study:

Subject signature

Date

If questions arise about research subjects' rights or any concerns about the conduct of this study, please contact the Institutional Review Board Chair, Dr. David Moore, at 540-231-4991 or moored@vt.edu.

If the questions relate to content and findings of this particular study, please contact one of the project investigators:

- Adam Cletzer: acletzer@vt.edu
- Dr. Eric K. Kaufman: 540-231-6258, ekaufman@vt.edu

Appendix S: Mixing Table Format

Table 1

Comparison of LABS-III Scores to County 4-H Program Success

LABS-III Score	Performance of County 4-H Program	
	High Performing Theme #1	Low Performing Theme #4
High Systemic Thinking		
Low Systemic Thinking	Theme #2	Theme #5 Theme #1
High Hierarchical Thinking	Theme #3	Theme #2
Low Hierarchical Thinking	Theme #4	Theme #4