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Perceptions of Kentucky Secondary School Principals About Agricultural Education Programs: A Comparison of Schools With and Without Agricultural Education Programs

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PERCEPTIONS OF KENTUCKY SECONDARY SCHOOL PRINCIPALS ABOUT
AGRICULTURAL EDUCATION PROGRAMS: A COMPARISON OF SCHOOLS
WITH AND WITHOUT AGRICULTURAL EDUCATION PROGRAMS

A Dissertation
Presented To
The Faculty of the Educational Leadership Doctoral Program
Western Kentucky University
Bowling Green, Kentucky

In Partial Fulfillment
Of the Requirements for the Degree
Doctor of Education

By
Andy Joe Moore

May 2013

PERCEPTIONS OF KENTUCKY SECONDARY SCHOOL PRINCIPALS ABOUT
AGRICULTURAL EDUCATION PROGRAMS: A COMPARISON OF SCHOOLS
WITH AND WITHOUT AGRICULTURAL EDUCATION PROGRAMS

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As they have always dedicated their confidence in my abilities to follow my pursuits, I dedicate this dissertation to my family. First, I must recognize my parents, Joe Michael and Kim Moore. Though they never demanded a certain road for me to travel, the direction and guidance provided by my parents was flawless. Grandma and Granddaddy never allow me to forget that maintaining true happiness in life is the greatest success. During my times of struggle, I have been reminded of Granddaddy's strong will and tolerance for hard work. In my weakest moments of doubt, Grandma's comforting words and kind spirit have made the difference and encouraged me to track forward. While Granny and Papaw are no longer with me, their positive impact upon me will never fade. Granny's 47 years as an educator allowed her to instill in me the value of education – there would be no one prouder of my accomplishments than her! Papaw's calm demeanor and guitar playing ability have proven to be some of my most valuable acquired traits – playing ole' Martin has often kept me sane when not much else could! I'm thankful for my sister Ashley's uncanny ability to always call at just the right time to offer her sincere compassion and motivating words. Although she may not realize it, she is the little sister who has been a big help to her brother! Most importantly, I thank my wife Leah. She has been a partner who has managed to keep me focused, while balancing the challenges of starting a new marriage, building a new home, and giving birth to our first child. Emma Kate arrived on November 27th as a blessing beyond comprehension. As a humble child, Emma Kate's little genuine grins and laughs have allowed me to put everything else right in perspective.

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Countless research suggests that secondary agricultural education programs could benefit all students regardless of school characteristics and geographic location, yet many secondary schools have yet to include agricultural education as part of their curricular offerings. In response, numerous studies have been conducted in recent years throughout the United States regarding how secondary agricultural education programs are perceived by school leaders. For the first time, this study sought to shed light on how secondary principals in Kentucky perceived agricultural education programs. Considered in this study, were how secondary principals with agricultural education in their schools perceived those programs differently than secondary principals without agricultural education in their schools.

Secondary principals in Kentucky were selected to participate in this study based on the population of Kentucky counties that had at least one secondary school with agricultural education and at least one secondary school without agricultural education (N = 95). This quantitative descriptive study measured how participants perceived secondary agricultural education programs by utilizing a survey with Likert-type and demographic questions. Four constructs guided the survey items to measure how secondary principals perceived agricultural education based upon overall program success, the courses offered

in agricultural education programs, the quality of agriculture teachers, and personal familiarity with the FFA. Results indicated that secondary principals with agricultural education in their schools have significantly higher perceptions of such programs than do secondary principals without agricultural education in their schools. Furthermore, results revealed that all constructs included in this study have predictive variables of one's overall perception of secondary agricultural education programs. Additional research is necessary to further examine how secondary principals nationwide perceive agricultural education programs and to what extent their perceptions are valued regarding decision making for program implementation.

CHAPTER I: INTRODUCTION

The Smith-Hughes Act, also known as The National Vocational Education Act, can be credited for validating agricultural education programs in the United States by serving as the first account of federal funding that supported agricultural education courses being taught specifically at the high school level (Smith-Hughes National Vocational Education Act, 1917; Roberts, 1957, as cited in Roberts & Ball, 2009). Since the Act's passage, agricultural education programs have seen many modifications, which have allowed them to remain successful and maintain a position in the present setting of public education in the United States.

In the educational field, Vocational Education was familiar terminology until the 2006 revision of the Carl D. Perkins Act, which replaced Vocational Education with Career and Technical Education (CTE) (Haussman, 2012). According to Smith and Myers (2012), Agricultural Education is currently recognized nationally to be included in the branch of public education known as CTE. In Kentucky, Agricultural Education, along with 13 other disciplines, falls under the same classification of CTE (Kentucky Department of Education, 2012). Agricultural Education is an elective discipline and, as explained by the Kentucky Department of Education (2012), is designed to educate students who wish to pursue postsecondary education in agriculture or enter the workforce in the agricultural industry.

The basis on which agricultural education programs are structured is very specific and unique. The National FFA Organization (2012) explained how secondary agricultural education programs should consist of three components – classroom instruction, SAE (Supervised Agricultural Experience), and FFA (formerly Future Farmers of America). In

addition to the curriculum associated with classroom instruction, the National FFA Organization (2012) identified SAE as an opportunity for students to gain hands-on/active learning in the form of an individual project, while the FFA serves as an organization/club centered on student leadership.

While extensive research defends the relevance of agricultural education programs, similar to other elective disciplines, agricultural education faces many barriers. For example, financial and budgetary issues often threaten program existence. Financial burdens are affecting public schools throughout the country and, as a result, many of the educational programs are facing challenges (Van Roekel, 2011). As a result of any challenge, implementation or termination of agricultural education programs are the responsibility of the school decision-making council at the local level. Often included in making decisions regarding agricultural education programs at a school is the school's principal (Smith & Myers, 2012). In this light, one might question to what extent principals' perceptions of a program influence their personal decisions and final decisions made by the school's council. Johnson and Newman (1993) referenced the suggestion relating to agricultural education programs (as cited in Frazee, Smith, Kistler, and Colvin, 2004) that, while administrators are not the sole decision makers for the curriculum implemented, their decisions are persuaded by their perceptions and also carry a great deal of weight.

Statement of the Problem

In response to an ever changing agricultural industry and more diversified national society, the content and curriculum included in agricultural education programs have been modified and broadened to better fit student needs. Roberts and Ball (2009)

confirmed, “As communities have grown and evolved, the role of the respective agricultural education programs has subsequently transitioned” (p. 88). Warner (2007) reported an update in agricultural education programs to include “specialized courses” (p. 9) depending on location and to best accommodate the students. Additionally, the affiliate organization Future Farmers of America underwent a name change in 1988 to be known strictly as the FFA – thus, acknowledging that agricultural education programs were no longer focused solely on production farming (National FFA Organization, 2012). According to Warner, the content offered through agricultural education is suitable for every student, regardless of their geographical location. Though much effort has been put forth in order for agricultural education programs to contribute to the enhanced learning of all students, such programs do not always appeal to school leaders and decision makers.

At this time it is unclear how secondary principals in Kentucky perceive agricultural education programs, and this is the primary problem being examined by this study. While similar studies have been conducted by Kalme and Dyer (2000) in Iowa and Smith and Myers (2012) in Florida, no data exists explaining the different values secondary principals in Kentucky place on agricultural education programs. Numerous public high schools in Kentucky have agricultural education programs. For unclear reasons, though, the remaining Kentucky high schools have yet to implement new programs, downsized existing programs, or terminated existing programs. In total, Kentucky has 202 public high schools (Kentucky Department of Education, 2013b). According to the Kentucky Agricultural Education Annual Report (2011), 139 of Kentucky’s public high schools contain agricultural education programs. Statistically,

68.8% of Kentucky public high schools support agricultural education programs.

However, it is concerning as to why the remaining 31.2% of Kentucky's public high schools have not incorporated an agricultural education program into their curriculum offerings.

Although agricultural education programs have historically been linked to rural and agrarian locations, some schools without agricultural education programs are located in rural areas. Bajema, Miller, and Williams (2002) defended that agricultural education programs can be an added asset to rural schools that currently do not have them. Urban schools traditionally do not have agricultural education programs. As Warner (2007) stated, "The origins of school-based Agricultural Education are deeply rooted in the traditions of rural life and production agriculture" (p. 8). Warner continued by discussing how urban sectors have vacancies that can be filled by new agricultural education programs. With focus placed on the perceptions of decision makers, and particularly the degree to which funding influences their perceptions, many decision makers in urban schools may have negative perceptions of agricultural education. In a study by Warner and Washburn (2009), a sample of urban teachers indicated the decision makers (administrators and counselors) with whom they were familiar did not understand fully the benefits of agricultural education programs.

Although it may seem that funding issues predominately sway decisions made by urban schools regarding agricultural education, rural schools cannot be excluded.

McCabe (2012) reported a loss of six agricultural educator positions in Kentucky during 2012, including at least one teacher from a high school located in a rural area. Alongside budget cuts, other factors such as lack of agricultural awareness likely have an impact on

support for agricultural education programs. Warner and Washburn (2009) describe how awareness issues relating to agriculture and individuals moving to non-rural areas have simultaneously increased, resulting in the majority lack of understanding coming from those in urban locations. Consequently, those promoting agricultural education programs should not take a defensive stance toward education systems that do not include agricultural education as a part of their curriculum. Rather, the stance should consist of a proactive approach to include strategies to inform the uninformed about agriculture.

Purpose and Background

The purpose of this study was to determine how secondary principals in Kentucky perceive secondary agricultural education programs. Additionally, the study sought to recognize the growing global, national, state, and local interests in food and fiber issues. Furthermore, this study was meant to shed light on the diverse curriculum and countless opportunities associated with secondary agricultural education programs that respond to the current agricultural issues mentioned. This study sought to address the level of awareness Kentucky secondary principals maintain regarding agricultural education programs and the agricultural industry and how they value the connection between the two. Ultimately, this study was meant to confirm the uncertainties of why many secondary schools have agricultural education programs and why many do not. Moreover, some Kentucky principals likely value secondary agricultural education programs and perceive them in a positive manner, while other Kentucky principals likely do not see the significance of such programs and perceive them in a negative manner. The intention of this study was to not only determine how Kentucky principals perceive

secondary agricultural education programs, but also to determine what factors influence the perceptions held by principals.

Although arguments have been made that funding is a primary reason for many secondary schools not adopting an agricultural education program, agricultural education's connection to the environment and sustainability has become an increasingly popular topic of discussion. Project Food, Land, and People (2000) stated that there is a relationship between the environment and agriculture, and an effort to improve awareness of this is needed. This fact was important within this study not only by realizing there is an association with agriculture and the environment, but also the presence of a simultaneous spike worldwide in sustainability concerns. The National Research Council (2009) referred to the word sustainability as "the watchword of today" (p. 13). In reaction to current issues, present-day educators are seeking new and innovative ways to teach their students about these topics. However, those most familiar with agricultural education are desperately trying to promote that those programs are, and have been, readily equipped with the curriculum required to teach such content. Included in the many content areas available through agricultural education programs are courses related to the environment and natural resources (The National Council for Agricultural Education, 2012).

To fulfill the purpose of this study, principals' awareness of agricultural issues and personal background association with agriculture were heavily considered when determining their overall perceptions of agricultural education programs. In addition to making a determination on how secondary principals in Kentucky perceive agricultural education programs, the intent was to determine what factors cause various perceptions

among principals. Recognizing what causes principals to positively perceive agricultural education programs is as significant as recognizing what causes principals to negatively perceive agricultural education programs. In order for agricultural education programs to see an increased acceptance in schools, principal support is essential (Thompson, 2001).

Research Questions and Hypotheses

This study was designed to determine how secondary principals in Kentucky perceive agricultural education programs. Perception, as examined in this study, is defined as the values, feelings, and views exhibited by each participant toward agricultural education. The research questions to be addressed through the responses of the participants are:

Research Question 1: How do secondary principals with and without agricultural education programs in Kentucky perceive agricultural education programs in terms of program significance and contribution to student learning?

Hypothesis: The most common response from participants will be that they perceive agricultural education programs in a positive manner.

Research Question 2: How does a Kentucky secondary principal's personal relationship or non-relationship with agricultural education influence his or her perception of agricultural education programs?

Hypothesis: Participants who have prior work experience in the field of agriculture, or have children who have been enrolled in agricultural education courses, will likely hold more positive perceptions of secondary agricultural education programs. Participants who do not have prior work experience in the field of agriculture, or who

have not had children enrolled in agricultural education courses, will likely hold less positive perceptions of secondary agricultural education programs.

Research Question 3: How do the perceptions of Kentucky principals toward FFA compare on the four constructs identified in this study?

Hypothesis: Participants with agricultural education programs in their schools will likely respond more positively to all four constructs, indicating a higher awareness of FFA. Participants without agricultural education programs in their schools will likely respond less positively to all four constructs, indicating a lower awareness of FFA. Participants with a higher awareness of FFA will likely perceive FFA more positively than participants who have a lower awareness of FFA.

Significance of the Study

Since a common curriculum for all secondary agricultural education programs does not exist in the United States, every state and community has a significant role in determining what is offered through each agricultural education program (Smith & Myers, 2012). Warner (2007) confirmed that what schools adopt as their agricultural curriculum varies throughout the country. By determining how secondary principals perceive agricultural education in Kentucky, insight might be given into the leading factors that prevent schools from implementing new programs. As a result, advocates of agriculture and agricultural education professionals may be better able to respond to the issues and encourage increased support for agricultural education programs.

This study will underline what principals feel to be the most beneficial characteristics of agricultural education programs in Kentucky. This knowledge will allow agricultural educators to clearly understand what principals expect from such

programs. Teachers then can make necessary changes to programs in response to those perceptions, which will increase the administrative support for the programs. Not only will this information be useful to the agricultural education teachers, but it also will be useful to school decision-making councils and agricultural education professionals at the state level when modifying and improving programs in Kentucky. Researchers Kalme and Dyer (2000) and Smith and Myers (2012) recommended further studies related to principal perceptions of agricultural education programs, but specifically recommend including principals who do not have agricultural education programs at their school. This study will confirm whether principals in Kentucky who have negative perceptions of agricultural education programs are consistent with schools that do not have agricultural education programs.

A study of this type has never been conducted in Kentucky, nor has a study of principal perceptions of agricultural education programs nationwide ever been carried out. With the findings of similar research by Kalme and Dyer (2000) and Smith and Myers (2012), results of this study may contribute to a confident prediction of how secondary principals in all other states perceive agricultural education programs. Hence, this study may contribute to a confident prediction that schools without agricultural education programs are linked to principals with low support, rather than the inability to meet student needs.

Definition of Terms

Principal – The individual in each school identified as the superior person in charge of the daily function of the school, serving first as administrator over the students and second as the administrator of the other adults working in the school (Lortie, 2009).

Perception – Lile (2012) defines perception as, “The attitudes and beliefs of the respondents” (p. 11).

Secondary Education – The level of education provided at schools that contain grades 9-12 (Aud et al., 2012).

Career and Technical Education – The present-day term for what was formerly known as vocational education, which includes programs of study designed to prepare both college bound students and non-college bound students who will be entering the workforce (Haussman, 2012).

FFA – According to the National FFA Organization’s (2012) Official Constitution, “The National FFA Organization is the organization of, by and for students enrolled in agricultural education programs” (p. 1).

Rural – A geographical location that contains 2,499 or less people living within the area/community (U.S. Census Bureau, 2010).

Urban – A geographical location that contains 2,500 or more people living within the area/community (U.S. Census Bureau, 2010).

School Decision-Making Council – A group of people (principals, teachers, parents, and community members) designated with the responsibility of making school related decisions at the local level (Osorio, Fasih, Patrinos, & Santibáñez, 2009).

CHAPTER II: REVIEW OF LITERATURE

Extensive research exists supporting the significance and contributions of agricultural education programs. Likewise, considerable research has been conducted to explain how secondary principals perceive various aspects and/or components of agricultural education programs. However, the efforts made to discover how secondary principals perceive such programs in their entirety, and how these programs intertwine with secondary schools in public education, have been few.

In connection with studies pertaining to the field of agricultural education, substantial amounts of research have declared a rapidly growing global interest in sustainability, food/fiber, and natural resources. With this growing concern, recent research also has indicated that educators are anxiously seeking ways to incorporate curricula relating to such topics into the public education classroom. Based on findings derived from research, an obvious linkage exists between what agricultural education programs currently offer and the voids in public education relating to adequately teaching about sustainability, food/fiber, and natural resources.

Many schools are investing a great deal of time and effort into finding new and innovative ways to incorporate the same subject matter established and practiced through agricultural education programs for many years. To provide a more conclusive understanding of why many schools and school leaders refrain from adopting agricultural education programs, the intent of this study is to identify what variables influence principals' perceptions of agricultural education programs. In this study, principals' awareness levels and views toward these programs will be evaluated. Additionally, the

attributes of agricultural education programs, as proven through research, will be analyzed and discussed.

History of Agricultural Education

According to True (1929), the first discussions for the development of agricultural education in the United States occurred following the ending of the Revolutionary War in 1783. As further explained by True, the newly unoccupied soldiers took advantage of the largely available unsettled land of America by forming new communities, resulting in a rapid increase in agriculture and educational interests. Dabney (1900) (as cited in Stimson & Lathrop, 1942) reported that only a few years later in 1794 a group of individuals selected by the Philadelphia Society for the Promotion of Agriculture presented the first known proposal to politicians for the inclusion of agricultural education into existing public schools. Careless farming in response to vast agricultural resources and available opportunities had begun to take a toll on the land; and, according to Dabney, it was this acknowledgement that prompted many community members and leaders to pursue a formalized system for teaching about agriculture. A similar society was established around the same time in Massachusetts for the purpose of educating farmers on enhanced and innovative agricultural practices (Croom, 2008). The success of educating adult farmers experienced in states such as Pennsylvania and Massachusetts contributed significantly to the introduction of agricultural education in public schools. Hamlin (1962) (as cited in Croom, 2008) noted that agricultural courses were taught in public schools for the first time around 1858 in two Massachusetts schools. At the origin of the first formalized courses, the framework for agricultural education revolved around preparing America's youth to become more prosperous farmers.

Homestead and Morrill Land Grant Acts

In the years to follow, advocacy for agriculture and agricultural education throughout the entire United States continued to grow. A notable cause of increased interest in agriculture was the establishment of eight million more farms in the United States between 1860 and 1910 (Shuttlesworth & Shuttlesworth, 1979). Shuttlesworth and Shuttlesworth declared the rise in farms was due to the Homestead Act that gave citizens willing to settle and farm the land 160 acres of public land for personal ownership. Arrington (2012) also agreed the passage of the Homestead Act in 1862 inevitably caused the birth of many more American farms. During the same year, a second act of similar nature was passed in which the federal government sold western land and, in return, allocated monetary support to each state to be used toward agricultural education (Skillman & Spence, 2012). The Morrill Land Grant Act of 1862 required each state, and new territories established thereafter, to set aside land for the development of at least one college that focused on agriculture and mechanics (True, 1929). According to True, by 1872 many states, including Kentucky, had followed suit of the Morrill Act by having a functioning college providing agricultural education.

Though some secondary schools had been teaching agriculturally related content prior to the passage of the Morrill Land Grant Act, the Act played a large role in shifting the interests of agricultural education to the post-secondary level (True, 1929). With further clarification, True explained that most individuals during the Land-Grant era assumed the colleges met the need for educating young Americans about agriculture. However, by the turn of the century, leading agricultural activists already were pushing

for federal assistance to provide a permanent establishment of agricultural education in public schools, just as agricultural education had been established at the college level.

Smith-Hughes National Vocational Education Act

As early as 1906, discussions in Congress began, which likely led to the passage of an act that would give agricultural education a lasting inclusion in public secondary education (True, 1929). Though the urgency of legislation supporting agricultural education was expressed and debated, True noted that the official passage of the Smith-Hughes Vocational Education Act did not occur until February 23, 1917. The most important attribute of this act was the linkage it created between public schools and the federal government, via the departments of education in each state, to form and fund vocational programs including agricultural education (Croom, 2008). The Smith-Hughes Act was designed to provide financial assistance to each state for the purposes of training future teachers and paying the salaries of current teachers and administrators in vocational programs such as agricultural education (Smith-Hughes National Vocational Education Act, 1917). In further definition of the Smith-Hughes Act, True indicated that schools who qualified to receive such funding must be those that provided pre-college instruction to students over the age of 14.

Modifications Following the Smith-Hughes Act

From the time vocational education first received support as a result of the Smith-Hughes Act in 1917, periodic changes occurred in the way the federal government promoted vocational education. The passage of the George-Barden Act in 1946 provided an enhancement of \$28 million to the Smith-Hughes Act to be dispersed among various vocational disciplines including agriculture (LaFollette, 2012). LaFollette also

recognized The Vocational Education Act of 1963 as the most significant movement for vocational education since the enactment of the Smith-Hughes Act. As described by LaFollette, The Vocational Education Act provided the opportunity for a larger diversity of students to benefit from vocational education. Furthermore, LaFollette expressed that The Vocational Education Act recognized, for the first time, the business field as a component of vocational education. While the acknowledgment of business related occupations was only a minor change to vocational education, the acceptance of the profession was unarguably a key factor for changing the future of agricultural education.

Carl D. Perkins Legislation

In 1984 the Carl D. Perkins Vocational Technical Education Act was passed, making many modifications to vocational education (Novel, 2009). The legislation that became the Carl D. Perkins Vocational Technical Education Act of 1984 was introduced to Congress by Kentucky lawmaker Carl Perkins and provided each state with monies to be distributed to the schools (LaFollette, 2012). Novel reported the law specifically called for a shift in the focus of vocational education, not only to prepare students with the skills to enter the workforce of a specific trade, but also to provide students more academic preparation suitable for college. As LaFollette stated, additional highlighted purposes of the Carl D. Perkins Vocational Technical Education Act of 1984 included: the support for revamping vocational education programs, providing equal opportunities for all students, recognizing the connection between the working and business classes, and increasing the instructional focus on technology.

The Carl Perkins Legislation has undergone four modifications since 1984, most recently in 2006 resulting in legislation known as the Carl D. Perkins Career and

Technical Education Improvement Act of 2006 or Perkins IV (Long, 2008). According to Long, Perkins IV replaced all vocational terminology with career and technical terminology and provided \$1.3 million to fund CTE programs throughout the country. A major aspect of Perkins IV, as explained by Long, was the enactment of set requirements for technical and academic achievement with the option of funds being suspended for CTE programs whose student achievement did not reach necessary benchmarks. In addition to the many revisions of the Carl Perkins Legislation influencing the curriculum contained within agricultural education programs, the funding made available through the legislation goes unmatched. The main financial support for programs such as agricultural education is allocated federal money provided through the Carl Perkins Legislation (LaFollette, 2012).

Summary

As sources of funding and support for agricultural education programs have continually changed since the inception of the discipline, the purposes and curricular offerings of these programs also have changed. Beginning with the passage of the Smith-Hughes Act, agricultural education courses focused on preparing students who were planning to return to the farm after graduation (Smith-Hughes Act, 1917). Resulting from many years of transformations, current agricultural education programs no longer focus exclusively on plant and animal production for the purpose of educating students who desire future careers in farming. Instead, agricultural education programs have evolved to include courses that concentrate on agriculture's connection to the sciences, industry, technology, environment, and natural resources (National FFA Organization, 2013).

Components of Agricultural Education

A primary purpose of secondary agricultural education is to provide students with a well-rounded education that prepares them to be successful in any directly or indirectly related field of the agricultural industry. “The basic core of agricultural education instruction consists of three intra-curricular components: (1) classroom instruction, (2) experiential learning through supervised experiences, and (3) leadership activities” (Dailey, Conroy, & Shelley-Tolbert, 2001, p. 11). Croom (2008) informed that each component originated independently of one another but explained that the time when the three components were united to develop the current agricultural education paradigm is undetermined. Nonetheless, the design of agricultural education programs has proven to be beneficial to students pursuing a career in agriculture and also to students pursuing careers in non-agricultural fields. Dailey et al. further explained that the successful integration of the three components modeled by an agricultural education program results in students who may not have future interests in the agricultural industry, gaining skills and knowledge beneficial to them later in life.

Classroom Instruction

The comprehensive curriculum included in agricultural education has proven to enhance the amount of student learning in other subject areas as well as better prepare students for college (Dailey et al., 2001). Furthermore, agricultural education programs have been successful at providing classroom instruction focusing on context through not only a theoretical approach but also through applied learning. Gentry (2011) and Fritsch (2013) stated that a primary goal of agricultural education was to provide students an opportunity to learn and gain skills in the classroom and through hands-on learning in the

laboratory setting. Through the active experiences in the laboratory, students demonstrate their mastery of learning in the classroom by transforming theory into realistic application (Georgia Agriculture Education, 2011). Providing opportunities to engage in hands-on activities is a very beneficial way to enhance student learning (Sirekis, 2011).

The curriculum available to be taught in the secondary agricultural education classroom is very diverse, and the specific course topics that may be included in the curriculum are numerous. All secondary agricultural education curricula are classified based on the relationship to three main program areas labeled as Agriculture, Food, and Natural Resources (National FFA Organization, 2013). More specifically, the Kentucky FFA Association (2010) identified eight areas of instructional concentration, which fall under the three main program areas, recognized by agricultural education programs. Inclusive of the eight areas of study within these programs, the Kentucky FFA Association listed a total of 36 specific courses that may be offered at the secondary level.

Course topics adopted for agricultural education programs may vary from state to state and from school to school. Fritsch (2013) confirmed that courses taught within an agricultural education program are based upon student, community, and state educational assessment influences. However, considering the deciding factors, the Kentucky FFA Association (2010) noted that ultimate decisions regarding which courses shall be taught in an agricultural education program are made by educators at the local level. When examining student and community needs, the local agricultural industry and job potential for students focusing on agriculture, should be considered (National FFA Organization, 2013). With a progressively changing agricultural industry, many agricultural education

programs are evolving to offer courses reflecting more scientific and technological interests.

Agricultural education courses are becoming increasingly more science and math oriented (Fritsch, 2013). The first major push for a scientific approach came as the result of the National Research Council (1988), encouraging educators and decision makers to do so. As Layfield, Minor, and Waldvogel (2001) reported, the modified curriculum influenced by the National Research Council became known as “agriscience” (p. 422). Today, many programs focus primarily on agriscience and are known as Agriculture Science and Technology programs. Conclusions from a study by Thompson (2001) indicated that, overall, principals were in favor of Agriculture Science and Technology programs and their potential to benefit students. Most recently, a new initiative known as the Curriculum for Agricultural Science Education (CASE), which places emphasis on the incorporation of science, mathematics, and English into the curriculum, has been implemented by many agricultural education programs throughout the country (CASE, 2012). Of the 29 states that contain schools following the CASE model, The Curriculum for Agricultural Science Education identified Kentucky as one of the participating states.

FFA

Known as the club associated with agricultural education, the FFA began in 1928 (National FFA Organization, 2013), and the goals and intentions were defined with a federal charter in 1950 (Croom, 2008). While functioning as a club, the FFA defines itself as an organization for the students in an agricultural education program (Talbert & Balschweid, 2004), specifically declaring: “The National FFA Organization is the organization of, by and for students enrolled in agricultural education programs”

(National FFA Organization, 2012, p. 1). Specified in the National FFA Organization Official Constitution (2012), is the tiered structure consisting of the national (organization), state (associations), and local (chapters) levels of membership. The Organization offers membership to agricultural education students who are between the ages of 12 and 21 – currently the FFA is represented in all 50 states, Puerto Rico, and the Virgin Islands, by a total of 7,498 chapters and 557,318 members (National FFA Organization, 2013).

Croom (2008) described the FFA as the sector of agricultural education serving as the merger between classroom instruction and SAE. A strong FFA chapter will supplement the learning taking place in the classroom (Wall, 1956). One primary factor in how students' participation in the FFA can enhance their learning in the classroom lies within the FFA's promotion of student leadership. Highlighted in the mission statement of the organization are the goals to expand "premier leadership," "personal growth," and "career success" for every FFA member (National FFA Organization, 2013). The FFA provides the opportunity for students to gain leadership skills and positive personal experiences through Career Development Events (CDEs) (Kentucky Agricultural Education Annual Report, 2011). Resulting from the close relationship between classroom instruction and FFA events and contests, Fritsch (2013) differentiated the FFA from other school clubs and organizations by calling it "...intracurricular, not extracurricular" (p. 22).

Listed in the National Career Development Events Handbook are 24 areas that provide the opportunity for students to demonstrate knowledge and skills gained in the agricultural classroom, while improving leadership skills through competitive activities

(National FFA Foundation, 2012). Representative of agricultural education programs evolving throughout the years to better meet the needs of society, the contests associated with the FFA also have evolved to reflect a changing world. Whittle (2012) explained how the FFA has drastically changed from a time of offering only contests related to production agriculture by stating: “Over the past 85 years, CDEs have evolved into a larger program, embodying topics related to food and animal sciences, communication, leadership, and technology” (p. 19). Boardman (2009) confirmed that CDEs improve students’ skills and make them more career ready.

SAE

Supervised Agricultural Experience (SAE) is a program designed exclusively for students enrolled in agricultural education courses and allows students to gain experiences from an agriculture project of their choice conducted outside of the regular classroom (Croom, 2008). Croom went on to specify that, while it should be the responsibility of the student to maintain updated records on his or her SAE, SAEs should be a collaborative effort including the student planning the project, the agriculture instructor advising and supervising the project, and the parents providing support for the project. Credited with first envisioning the concept of SAE was agriculture teacher Rufus Stimson in 1908, but the acknowledgment of SAE as a contributing factor to agricultural education programs was not made until after the Smith-Hughes Act was passed in 1917 (Dyer & Osborne, 1995). More specifically, Dyer and Osborne (1996), (as cited in Dailey et al., 2001), also reported that the official inclusion of SAE’s to agricultural education programs occurred in 1942.

As indicated by existing studies, SAEs have proven to be a fundamental component of agricultural education programs (Frazier, 2009). Cheek, Arrington, Carter, and Randell (1994) were able to confirm through their research that a significant connection exists between SAEs and a student's academic success. To avoid the assumption that SAEs are beneficial only to students in an agricultural education program located in a rural area, Reidel, Wilson, Flowers, and Moore (2007) argued that supervised agricultural experiences for students in the urban agricultural education program could be beneficial as well.

From the perspective of school administrators, a study by Rayfield and Wilson (2009) concluded that secondary principals in North Carolina (from both rural and urban locations) found favor in the practice of SAEs. While it is unknown how secondary principals in Kentucky feel about agricultural education programs, and specifically SAEs, White (2008) discovered that agricultural education teachers in Kentucky find SAEs beneficial toward the success of their programs. Moreover, the statistics on student participation in SAEs in Kentucky are intriguing. According to the Kentucky Agricultural Education Annual Report (2011), 17,716 Kentucky agriculture students spent a collective total of 1,960,273 hours participating in SAEs, which in return produced a combined income of \$14,020,446.

Summary

While SAE and FFA were not incorporated at the onset of agricultural education programs, they are now both considered to have significant contributions to the program as they supplement classroom instruction. The combination of all three components has become known and praised by agriculture teachers as the fundamental building block for

implementing and maintaining successful agricultural education programs (Hall, Briers, & Rosser, 2009). Through a study focusing on the connection between the three-part model of agricultural education and science achievement for secondary students, Clark (2012) concluded with statistical evidence that agricultural education was beneficial to every student.

Principal Perceptions of Agricultural Education

Many secondary schools have successful agricultural education programs in operation, yet many others have elected not to implement such programs. The option to have, or not to have, an agricultural education program is given to the school decision makers at the local level. School leaders, including principals, have a great deal of influence over what subjects are taught in a school, and, thus, have the power to make the final decision regarding the existence of an agricultural education program in their school (Gentry, 2011). With this acknowledgement, the power a principal has in making decisions about agricultural education programs is at question. Thompson (2001) stated, “School principals are key decision-makers in the curriculum at their high school and are influential in the continuation of the agricultural education program” (p. 2).

Considering the influence of a principal’s decision, the connection between a principal’s perception and choices made is very intriguing. To explore the possible relationship between principals’ views and the decisions they make, Gentry (2011) provided an extensive review of Fishbein and Ajzen’s (1975) Theory of Reasoned Action, which claimed an individual’s perception (attitudes and beliefs) would be consistent with his or her actions. Additionally, Gentry paraphrased Fishbein and Ajzen’s findings by stating, “...if a person’s attitude could be measured, then their behavior could

be explained or predicted” (p. 32). Therefore, understanding how a principal perceives agricultural education would indicate the respective positive or negative decisions the principal is likely to make, or refrain from making, regarding an agricultural education program in their school. Furthermore, understanding what principals negatively perceive about agricultural education, and what factors influence their perceptions, would be invaluable to the field of study.

Several studies have been conducted to examine the relationships between the perceptions of secondary principals and agricultural education programs. A portion of the research evaluated principal perceptions of agricultural education programs in their entirety; however, other research focused on how principals perceived only certain aspects of agricultural education programs.

Principal Perceptions of the Complete Agricultural Education Program

Kalme and Dyer (2000) studied how principals in Iowa who have agricultural education programs in their school perceive agricultural education. The primary purpose was to determine the value of the programs for the students, school, and community. The study focused on the overall program, courses offered, and teachers within the program. The researchers believed the overall perception of the administrators in their study was positive. However, they hypothesized that results could vary if a study was conducted to include principals who do not have an agricultural education program in their school. The researchers even predicted the negative perceptions of administrators not familiar with agricultural education programs in their schools could be the reason for the programs being nonexistent.

In conducting this study, Kalme and Dyer (2000) relied upon a descriptive survey structured in questionnaire form, with the questions designed to emphasize the three main purposes of the study (programs, courses, and teachers). Accessing information on the principals was made possible with assistance from the Iowa Department of Education. Thus, all principals statewide who had agricultural education programs in their schools during the 1997-1998 school year ($N = 237$) were at chance of being involved in the study. From the population, only 147 principals were selected based upon a stratified random sample. In order to ensure the reliability and validity of the survey, a trial was conducted with 27 principals selected at random and not to be included in the actual study. Prior to administering the survey for trial, revisions and suggestions for the survey questionnaire were made by competent individuals at the collegiate level. At the conclusion of the allotted time window for completing the survey, 134 principals returned their packets completed, translating to 91.2% of the survey sample. Data analysis consisted of descriptive statistics, with the inclusion of central tendency and variability.

Findings based on the research of Kalme and Dyer (2000) indicated that principals positively perceived agricultural education programs, courses offered through the programs, and teachers of the courses. To better explain the perceptions of the principals, the researchers specifically mentioned that the majority of participants viewed the following factors related to agricultural education in a positive manner: (1) agricultural education programs have strong ties to the community, (2) agricultural education programs offer many student employment opportunities, (3) agricultural education can accommodate both high and low achieving students (all students), (4) students enjoy agricultural education classes, (5) agricultural teachers have satisfactory

cooperation and collaboration abilities, and (6) the best placement for agricultural education programs is in the secondary high school rather than technical/vocational schools.

Though findings revealed positive information regarding the three constructs of the study, Kalme and Dyer (2000) made suggestions for future research. While many principals expressed a positive perception, some did not. Findings suggested the possibility of some principals being awarded forms of incentives, which could influence perception, as one limitation. A second limitation suggested more emphasis may need to be placed on surveying principals who do not have an agricultural education program in their school, with possible nationwide consideration. Last, the researchers implied that stakeholder approval of such programs should be reflected.

Most recently, Smith and Myers (2012) studied the perceptions of secondary school principals on agricultural education programs in the state of Florida. As a result of the study, Smith and Myers verified that principals in Florida view agricultural education programs as beneficial. In measuring the perceptions of the principals, the researchers focused on the participants' views related to four constructs regarding agricultural education: (1) the value of agricultural education programs to students, (2) the quality of instruction provided through agricultural education courses, (3) the teaching abilities of agricultural teachers, and (4) the value of agricultural education programs to society. In concluding that principals in Florida have favorable perceptions of agricultural education, Smith and Myers confirmed that their findings were consistent with the findings of Kalme and Dyer (2000).

In order to conduct their quantitative study, Smith and Myers (2012) administered a survey to principals in Florida. The instrument was originally created and tested for reliability and validity by Kalme and Dyer (2000) but was then edited by Smith and Myers to better fit the conditions of their study. Additionally through a pilot study Smith and Myers re-tested the instrument in its modified form to ensure reliability and validity. Utilizing a simple random sample, the researchers selected 184 secondary Florida principals as participants in the study. However, the investigators reported that eight elected to remove themselves from the study, resulting in a total of 176 participants. The total population of secondary principals in Florida at the time of the study was 354. At the conclusion of the study, Smith and Myers indicated that only 71 principals responded with a completed survey (40.34%). To analyze the data, the researchers utilized ANOVAs to compare the perceptions of principals based on demographics and whether an agricultural education program existed at a principal's school.

In sum, Smith and Myers (2012) confirmed that principals who had an agricultural education program at their school had more positive perceptions than those who did not have a program at their school. The researchers also revealed differences in how principals responded to the survey based on what subject areas they had taught prior to becoming a principal. Smith and Myers reported that principals who had formerly been agriculture teachers answered the survey questions most positively, followed next by math and science teachers, with principals who had formerly taught other subjects answering the survey questions most negatively. The study results also indicated that principals at minimum minority schools, and principals who had been at a school when an agricultural education program was started, expressed more positive views. Overall,

the outcomes of the study provided Smith and Myers with the confidence to state, “One could conclude that the principal’s perceptions influence whether or not an agricultural education program exists at a school” (p. 160). When analyzing the impact of the school being located in a rural area versus an urban area, Smith and Myers (2012) described principals in rural locations to have a more positive perception of agricultural education programs than principals located in urban areas.

Research similar to that of Smith and Myers (2012) has rarely been conducted to determine how principal perceptions vary when considering rural and urban locations. If additional research was to be conducted analyzing both rural and urban principal perceptions of agricultural education programs, a linkage might be found between perceptions and the implementation of agricultural education programs in schools. Frazier (2009) conducted a study among agricultural education professions and how they perceived various components of agricultural education curricula to carry specific value based on location. While the study did not specify whether the professionals involved were from rural or urban areas, it indicated the professionals felt that location has an impact on the program. Such an acknowledgment is relevant for this study. Frazier later makes the recommendation that similar research should be conducted to include school administrators who have involvement in the curriculum development of agricultural education programs to determine if their perceptions on the significance of agricultural education programs will be similar. On this basis, it could be assumed the locale of the administrators included in the study may be a contributing factor.

Principal Perceptions of FFA

Fraze et al. (2004) researched how secondary principals in Texas perceived the leadership opportunities provided by the FFA within agricultural education programs. According to the researchers, the results indicated that, overall, principals perceived the FFA to offer numerous leadership opportunities beneficial to the students in many ways. Based on the researchers' explanation, it could be interpreted that principals felt participation in the FFA enhanced the personal, social, academic, and employability skills of students. Following this study, Fraze et al. advised that the results possibly could be very influential in encouraging principals who do not have agricultural education in their schools to implement a new program. With this recommendation, the researchers acknowledged a lack of awareness among some secondary principals and realized that the results of the study could serve as a tool to better inform other principals about the leadership activities made available to students through the FFA.

Principal Perceptions of SAE

Rayfield and Wilson (2009) studied the perceptions of secondary principals in North Carolina, with specific focus on the SAE component of agricultural education programs. The study expressed evidence of SAE as an integral part of secondary agricultural education programs, which defended the purpose of the study. When considering the principal perceptions, the researchers were interested not only in discovering how principals valued SAEs, but also how their personal backgrounds and current school settings could be of influence. In addition, principal perceptions of agriculture teacher involvement and the relationship between SAE and CTE were

examined. One distinct hypothesis made by the researchers was that increased student success could be linked to positive principal perception of SAE.

Rayfield and Wilson (2009) concluded, “The principals in this study believe that SAE is important and valuable” (p. 74). Strongly emphasized by the researchers was the outcome indicating no differences in perceptions existed when comparing principals who had once been enrolled in agricultural education courses to principals who had never been enrolled. The investigators also discovered that principals’ perceptions of CTE and SAE was consistent. Additionally, Rayfield and Wilson reported that agriculture teachers who oversee SAEs were doing a satisfactory job as perceived by their principals.

Rayfield and Wilson (2009) identified a clear limitation to this study to be the possibility of poor communication from the teachers to the principals regarding SAE participation. Included in this limitation, the researchers recognized the possibility that principals may not be aware of when or how SAE supervision practices are taking place by the teachers. The researchers also suggested that more time should be spent examining how teacher recognition of SAE participation from a more prestigious standpoint could influence principal perception and what should take place to maintain the momentum of SAE support currently given by teachers and principals. Finally, Rayfield and Wilson implied the need for more principal professional development on the positive outcome SAE has on the enhancement of student learning. Although the study only focused on one aspect of agricultural education programs, the recommendation for increased principal professional development arguably suggests a possible lack of agricultural education awareness.

Principal Perceptions of Science Integration in Agricultural Education Programs

Thompson (2001) studied the perceptions of secondary principals in Oregon to determine their views on incorporating science-based curricula into agricultural education programs. All participants for the study were selected based on the criteria of having an agricultural education program in their school. As a result of the study, the researcher determined that principals in Oregon had positive perceptions toward integrating science instruction into the agricultural curriculum. Significantly, most principals in Thompson's study claimed that agricultural education programs had the ability to help students appreciate the close relationships between agriculture and science. Furthermore, the researcher indicated that the majority of principals held the perception that agricultural education courses could make it easier for students to learn about science while also assisting them in meeting state standards. Thompson highlighted the urgency for agriculture teachers to inform their principals about the benefits for the students and school that can be offered through agricultural education programs and science integration. Moreover, in reference to secondary agricultural education programs, Thomson declared, "Administrator support is an important aspect of program development and expansion" (p. 58).

Perceptions of Various Stakeholders on Agricultural Education Programs

Supplementing the study by Warner and Washburn (2009), additional researchers have examined the perceptions of other individuals considered to be stakeholders in agricultural education and/or program components. Weiss (1998) defined a stakeholder as "Those people with a direct or indirect interest (stake) in a program or its evaluation" (p. 337). One could assume that stakeholders in secondary agricultural education

programs could include principals, other school administrators, teachers, students, parents, community members, and members of the agricultural industry. Alkin and Christie (2004) recognized Stake (2001) for declaring that the views and opinions of stakeholders are important when assessing a program. Contrary to conclusions made by Warner and Washburn, other investigators have uncovered significant evidence suggesting that many stakeholders have positive perceptions of agricultural education programs.

The goal of the research by Dailey et al. (2001) was to determine how people directly associated with agricultural education, as well as people associated with the agricultural industry, perceived such programs. The authors qualitatively interviewed individuals representing the following stakeholder groups: high school agriculture students, undergraduate and graduate agriculture students, United States Department of Education, United States Department of Agriculture, university faculty and staff, high school teachers, and high school administrators. According to the researchers, participants perceived agricultural education to be unmatched in the unlimited learning practices the programs make available to students. Dailey et al. (2001) also made noteworthy mention of how their study participants accredited agricultural education programs for teaching students skills that are valuable to their personal lives outside of school. In sum, the researchers concluded that stakeholders in their study felt that agricultural education programs produce students who are knowledgeable about agriculture and who have adequate social skills allowing them to be positive contributors to their communities.

Much like Dailey et al. (2001), Frazier (2009) also carried out a study centered on the perceptions of stakeholders labeled as “agricultural education professionals.” The investigator identified that contributors to the study included school-based agricultural education teachers, school-based agricultural education teacher educators, and state level agricultural education administrators. Frazier confirmed that agricultural education professions deemed leadership-based instruction as the top priority for agricultural education programs. In summary, the results of Frazier’s study indicated that agricultural education professionals advocate the philosophy that current agricultural education programs have the capabilities of providing instruction much more diversified and in addition to the traditional content on plant and animal farming.

Related to Frazier’s (2009) results, Layfield et al. (2001) examined how secondary agriculture teachers in South Carolina perceived the idea of the inclusion of science in the agricultural curriculum. After administering a survey, the researchers concluded that agriculture teachers in South Carolina felt they were competent and prepared as educators to teach biological and/or physical science classes. As reported by Layfield et al., it is likely that many of the agriculture teachers perceived themselves as qualified to teach science due to the scientific applications already associated with many of the existing courses offered through agricultural education programs. The significance of the results was twofold. First, the study confirmed that the design and structure of agricultural education programs is suitable to incorporate more core subject content into the instruction. Second, the study confirmed that agriculture teachers accept the idea of incorporating core subject content into their instruction, and they also are willing to gain additional knowledge and skills necessary to do so.

Boardman's (2009) research on the perceptions of FFA members on CDE focused on leadership opportunities offered through agricultural education programs, which was a comparative theme presented by Frazier (2009). Specifically, Boardman sought to determine how participation in CDE leadership activities generated and/or enhanced students' workplace abilities and competencies. The author concluded that students who had participated in CDEs felt their involvement in the activities had improved their employability skills. Following the conclusion of the study, Boardman praised the field of secondary agricultural education, which stated:

Secondary agricultural education and the National FFA Organization's efforts to design and coordinate career development events to enhance the skills of agricultural education students should be commended. Agricultural education provides a learning environment that resembles real world situations to enhance essential skills and promote life-long learning. This study shows that agricultural education, not only strengthens students' technical knowledge, but also enhances employability skills highly desired in the workplace. (p. 79)

In addition to Boardman's affirmation, which was very meaningful to the field of agricultural education, the researcher also emphasized the need to share the findings with all stakeholders of agricultural education programs in order to better inform of the attributes of CDEs.

In 2008 Enns studied the perceptions of secondary agricultural education stakeholder groups in Colorado including teachers, administrators, and community members. Enns determined that agricultural education programs were considered to be compliant and compatible with state and national educational standards and deemed

sustainable in terms of their longevity as a segment of the educational system. The study results indicated that the stakeholders were satisfied with the student enrollment in the agricultural education classroom. On this basis, the researcher stressed that information regarding student enrollment and enthusiasm about agriculture education must be shared with school leaders in order to defend the purpose and worth of these programs.

Concentrating on schools without agricultural education, Enns suggested further research to examine stakeholder perceptions regarding program sustainability.

The Influence of Geographical Location on Agricultural Education Programs

Previous research concentrating on school leaders' perceptions of secondary agricultural education programs based solely on geographical location is very difficult to obtain and presumably nonexistent. However, amidst more generalized research pertaining to secondary agricultural education programs, the impact of locale on the perceptions of vested individuals has received some mention by researchers. In referencing location, researchers most commonly use the descriptors "rural" and "urban."

The significant presence of agricultural education in urban schools has only recently begun; however, agricultural education in urban schools has existed for many years. With a total of 15 agriculture teachers, agriculture-centered W. B. Saul High School in Philadelphia, Pennsylvania, has been offering agricultural education to urban students since 1943 (Fritsch, 2013). Nonetheless, Anderson and Kim (2009) referred to urban agricultural education students as "nontraditional" (p. 10), while Reidel et al. (2007) considered rural agricultural education programs as "traditional" (p. 1). Considering the long heritage agricultural education has had with schools in rural

locations, the perceived purpose and significance of agricultural education in urban schools may be surprising.

Frazier (2009) conducted a study among agricultural education professions to determine how they perceived various components of agricultural education curricula. One of the researcher's study criteria was to determine the influence of location on how the participants perceived agricultural education. While the study did not specify whether the professionals involved were from rural or urban areas, Frazier concluded that the intended function of an agricultural education program, as perceived by agricultural professionals, is reflective of where the school is located. It could be interpreted that agricultural professionals feel agricultural education programs should not have a universal model for curriculum, but rather, each program should offer courses which would best train students to be successful in the community they live in.

The 2009 study by Rayfield and Wilson concerning secondary principals and agricultural education programs revealed that no considerable differences surfaced for the perception of principals in rural areas compared to the perception of principals in urban areas. Smith and DeBates (2010) conducted related research involving students from the following settings: rural schools with agricultural education, rural schools without agricultural education, urban schools with agricultural education, and urban schools without agricultural education. Smith and DeBates reported no substantial differences among any of the four groups of students on how they perceived agriculture and agriculturally related jobs – all perceptions were positive. Similarly, urban agricultural education students included in the study by Reidel et al. (2007) expressed positive perceptions of agriculturally related industries. Though enrollment in an agricultural

course had no meaningful effect on the perceptions of urban agriculture students, the researchers noted that presence in an agricultural course improved the students' agricultural literacy. Though Warner and Washburn's (2009) research concentrated on challenges faced by agriculture teachers in urban settings rather than perceptions, their results revealed insight into the perceptions of many who may be associated with agricultural education. Excluding students, Warner and Washburn disclosed that participants of their study perceived parents, school leaders, and community members as having a lack of understanding regarding agricultural education as well as other agricultural topics.

Barriers Facing Secondary Agricultural Education Programs

Considerable research has demonstrated that secondary principals positively perceive agricultural education programs. Nevertheless, defending a place and purpose in secondary schools is often done solely by the individuals directly associated with agricultural education and all other CTE programs without any administrative support. Kotamraju (2011) explained the need for CTE to continually advocate its significance and effectiveness in order to justify the financial support granted through the Carl D. Perkins Act. While the Carl D. Perkins Act is a major contributor of monies to CTE and agricultural education, one would likely assume the same advocacy of program success would be necessary to gain acceptance of all other financial supporters of CTE and agricultural education. Whetstone (2011) noted that school decision makers and stakeholders should not be left unaware of the contributions of CTE programs, as this would play a key role in their choices to not provide financial support. Based upon such recommendations, it could be implied that the most overwhelming barriers faced by

secondary agricultural education programs are funding, and lack of awareness for the impact of secondary agricultural education within the educational system.

Financial Barrier

As a result of the comprehensive structure of agricultural education, the sustainment of an existing program and/or implementation of a new program often require steep budgets. Shoulders, Wilder, and Myers (2011) pointed out the increased educational costs linked with the hands-on and student project aspects of agricultural education programs. However, agricultural education programs have a considerable number of avenues to pursue to obtain financial support. Besides the Carl D. Perkins funding, the National Research Council (2009) credited private supporters along with the United States Department of Education as financial donors to secondary agricultural education. Likewise, the National FFA Foundation contributes annually to agricultural education and the FFA and has donated in excess of \$200 million since the Foundation's creation in 1944 (National FFA Organization, 2011). The National FFA Organization identified "educational materials and teacher training" (p. 70) as two of the primary purposes for the Foundation's allocations. Individual supporters of agricultural education at the local level also can become primary resources for securing money for the agricultural education program (Shoulders et al., 2011). Although funding can be an issue, the number of sources available to provide financial support is promising. Furthermore, the operational costs associated with agricultural education rank lower than other educational programs at the secondary level (National Research Council, 1988).

Awareness Barrier

Among the most significant challenges confronting agricultural education, Dailey et al. (2001) recognized that many people lacked knowledge about the numerous and various courses available through agricultural education programs and why it is important to educate students about agriculture. Most Americans are completely unaware of how agriculture impacts their daily lives (Mozo, 2012). However, according to McCloud (2011), American farmers understand the need for more agricultural awareness by recognizing how growing numbers of non-farmers do not grasp agriculture's effect on their livelihood. With each new generation, more individuals are being removed from agriculturally related lifestyles, which may explain why so many people are unaware of agriculture and agricultural education. Awareness issues relating to agriculture and individuals moving to non-rural areas have simultaneously increased, resulting in the majority lack of understanding coming from those in urban locations (Warner & Washburn, 2009). Considering the lack of agriculture literacy and agricultural education awareness in urban locations, this likely creates a strong barrier for agricultural education being implemented in urban schools.

Because existing research indicates that many people are not fully aware of what agricultural education offers, the assumption could be made that many people also are unaware of the ability of agricultural education curriculum to include content from other disciplines. Conroy (2000) stated, "The importance of agriculture to our culture, history, and economy, and the increasing awareness of the scientific nature of agriculture, make it the premier content vehicle to tie academics together" (p. 75). A study conducted by Knobloch, Ball, and Allen (2007) evaluated how elementary and junior high teachers felt

about the incorporation of agricultural education into their instruction. The researchers concluded that teachers felt agricultural education was needed to increase students' literacy about food and environmental issues. As an example of how agriculture education already has been used to increase students' awareness about food, Anderson and Swafford (2011) described how an existing high school's agricultural department greenhouse was utilized to house a hydroponic system. Anderson and Swafford further explained that the hydroponic system was a collaborative project among several teachers and allowed students to conduct a research study on food production stimulated by a local concern of obesity.

Anderson and Swafford's (2011) example is one of few that depicts how the fundamentals of agricultural education can relate to other disciplines and benefit students. With current global and national educational interests on sustainability, the environment, and food production, educational decision makers are likely implementing small components of agricultural education into their school's curriculum without even realizing it. For example, Strange (2010) reported that Jerry Ralston, Superintendent of the Barren County School System in Kentucky, had plans for every elementary school in the county to receive a new greenhouse facility and for the county's high school to receive a second greenhouse. Strange went on to report that Ralston's motivation for so many new greenhouse facilities was his desire to connect students to gain skills about local food production. In comparison, Simon (2011) explained how, with the assistance of Cornell University, grants were provided to help build greenhouses at schools in New York State with future emphasis on those schools in urban locations. Similarly, a middle school located in Evansville, Indiana, used funding from a grant to construct a

community garden and greenhouse (Buffenbarger, Maiers, & Rosales, 2011). Both Simon and Buffenbarger et al. specified that a primary purpose of each project was to increase student awareness of food, health, and community needs. Nonetheless, the implementations of neither project were recognized as already being included in the existing curriculum contained within agricultural education programs.

In reflection, the statement can be made that many schools take actions toward implementing curriculum based on food production. Evidence indicates these actions often come in the form of greenhouses and other plant production facilities. However, little reference is made within the literature of the awareness linking these new and innovative strategies of teaching to the existing field of horticulture taught through many agricultural education programs. In the state of Kentucky, agricultural education programs have a track of study for students called the horticulture career pathway, which includes courses related to food and plant production (Kentucky FFA Association, 2010). The degree of awareness of educational decision makers regarding the connection between new curricula they are implementing and the curriculum of agricultural education is debatable. The possibility exists for some decision makers to be aware of the connection, but funding could be an underlying issue. Assuming funding is a factor for educational decision makers who are literate about agricultural education programs, it could be possible such actions as building a new greenhouse are serving as only a stepping stone for a more established program to be developed in the future. Defending such a scenario, Roberto (2009) explained it best with a title from one of his lectures, “Achieving Closure through Small Wins” (p. 38). Many decision makers may view agricultural education programs as the “closure” or ultimate goal for their school, starting

with the inclusion of greenhouses or like structures serving as the “small wins” they need in order to someday reach the goal. Provided the small agriculturally related implementations were to produce successful results at a school, the outcome would serve as a beneficial tool for influencing stakeholders with authority regarding financial decisions to more positively perceive agricultural education.

Benefits of Agricultural Education in a Changing Society

Existing research suggests that, as societal interests, trends, and needs are changing, so should people’s attitudes toward agricultural education and its many potential benefits. The possibilities derived from agricultural education programs and the impact they could have on numerous students is great (Warner & Washburn, 2009). In a society where national and global concerns relating to food and environmental sustainability are rising due to increased human populations, every student could find significance in being enrolled in an agricultural education program. The National Research Council (1988) recommended that some form of agricultural education should be available for every student in every grade (K-12), regardless of geographical location. However, as proven by researchers, the likelihood of urban and suburban students currently being exposed to agricultural education is slim. Given the chance, the National Research Council (2009) suggested that non-rural students may be intrigued by what agricultural education programs have to offer and be particularly interested in food-related careers. Increasing the availability of agricultural education to all students is arguably a must in order to respond to the rising societal issues and concerns mentioned. Nevertheless, members of society must have a common understanding of agriculture’s impact on their livelihood and also understand that instruction provided through

agricultural education is invaluable. The National Research Council (1988) claimed, “Most Americans know very little about agriculture, its social and economic significance in the United States, and particularly, its links to human health and environmental quality” (p. 9).

Environmental Sustainability and Food Issues

Public education initiatives throughout the United States, intended to make students more aware of environmental sustainability and food issues, are increasingly on the rise. An initiative sponsored by the National Education Association known as Green Across America (Buffenbarger et al., 2011) and the Kentucky Department of Agriculture’s Farm to School Program (Garland, 2012) are prime examples. As an “initiative” that has been time tested, agricultural education programs offer the same concepts of environmental sustainability and food production. Among the secondary agricultural education courses listed under Kentucky’s Program of Studies are numerous classes related to food and sustainability topics (Kentucky FFA Association, 2010). Considering secondary agricultural education’s place in CTE, Bernardino and Seaman (2011) affirmed that the ability of CTE to respond to new sustainability issues is great. As agricultural education programs continue to focus on environmental sustainability, student enrollment will likely increase. Bernardino and Seaman supported this statement by saying that today’s youth are more worried about environmental issues and are eager to participate in programs that teach about sustainability. Agricultural education’s ability to respond to an increased interest in sustainability also has become evident at the postsecondary level. The University of Kentucky has taught agriculture since its inception as one of the country’s Land Grant Universities, and Spence (2011) reported a

recent modification in their offerings to include a specific course of study focusing on sustainable agriculture. According to the Sustainable Agriculture Education Association (2012), numerous postsecondary institutions throughout the country have adopted some form of a sustainable agricultural education program.

While those associated with public education are beginning to recognize the growing concern related to food and sustainability, the majority of education professionals have yet to understand the strong relationship these issues have with agriculture. Conversely, many individuals outside of the educational realm understand the significance of agriculture toward environmental sustainability and food production. Steve Peterson, sourcing director for General Mills, acknowledged that the future of safe food production depends on sustaining our agricultural resources and further stated, “Agriculture plays an important role in helping America achieve meaningful environmental and sustainability gains” (American Farm Bureau Federation, 2012, p. 3). Gordon (2012) commended those in the agricultural industry who operate farms for their sustainability practices toward the environment. Similarly, Comer (2012) recognized those included in the Kentucky agricultural industry for being cognizant of sustainability concerns and, as a result, making advancements toward protecting the environment. It is evident that agriculture is the answer to sustainability and food production woes, and educators should find it evident that the best place to inform students about agriculture and its better management practices is through agricultural education programs.

A recent study by Johnson (2011) shed light on an overwhelming prediction – the global population is expected to reach nine billion by the year 2050. While this expectation is the main point of the research, Johnson repeatedly mentioned concerns for

food security and the responsibility U.S. agriculturalists will have in producing enough food to feed the world. In addition to these predicted worries regarding food, researchers also have discovered the topic to be a current issue. Following a 2010 survey by the United Soybean Board and the National Corn Growers Association, Stutsman (2011) reported the primary alarm from those surveyed to be food safety. Stutsman identified that Americans have confidence in the country's agriculturalists responsible for food production but also acknowledged that people not directly associated with agriculture do not fully understand its impact. In response to the food and sustainability anxiety hovering over agriculturalists, National FFA President Ryan Best referred to agricultural education students by stating, "There is no one better to address the challenge of hunger than students preparing to be leaders in providing food and fiber for our world" (FFA New Horizons, 2012, p. 16). In support, Bach (2012) defended that a new age group of highly educated agriculturalists would be needed in order to respond to the increased pressures placed upon U.S. agriculture to feed the world.

Career Opportunities

Dailey et al. (2001) recognized agricultural education as the ideal avenue in preparing students to successfully gain jobs in the agricultural industry. Although the United States is currently wading through an economic mudslide, the agricultural industry in America is quite stable. A recent study endorsed by the United States Department of Agriculture reported significant job growth over the next few years for those receiving postsecondary degrees in agriculturally related careers (Goecker, Smith, Smith, & Goetz, 2010). Presumably, secondary agricultural education is an essential building block for preparing students for earning postsecondary agricultural degrees. The

status of agriculturally related workplace positions already is on the rise. According to LaCross (2012), twenty-three million Americans currently hold a job in the agricultural industry, and agriculture "...is the only industry with a positive balance of trade" (p. 3). Statistics from the United States Department of Agriculture verified a progressive agriculture industry by informing that exports for American agriculture products increased by \$90 billion in four years, to reach \$137 billion during 2011 (Lockman, 2012). Due to the vast increase of American agriculture products being exported, Lockman also explained reports from the United States Department of Agriculture, claiming that during 2010 alone the demand for exports generated approximately 907,000 U.S. jobs.

Conclusions

In sum, secondary agricultural education is an educational discipline that has stood the test of time and has become recognized by many as an essential component of public education. Throughout many years of modifications, secondary agricultural education has managed to continue offering current curricula reflecting agricultural needs on local, state, national, and global levels. The three-component model under which agricultural education programs operate has proven to carry the capabilities of enhancing the learning of all students. Thus, present research findings indicate that many secondary principals and stakeholders positively perceive agricultural education programs. However, investigators also have pointed that some principals negatively perceive agricultural education.

While significant research is unavailable to determine the exact correlation between a secondary principal's perception and the existence of an agricultural education

program, evidence suggests that termination or implementation of a program of study usually reflect the principal's views and attitude toward the program. The assumption that agricultural education program implementation barriers, such as funding, cause some principals to perceive agricultural education in a negative manner would be accurate. Recent discoveries made by researchers in the field of agricultural education have confirmed that geographical location has an impact on secondary agricultural education programs, as the majority of programs are located in rural areas, while very few urban programs are in operation. Examiners have determined that many secondary principals and stakeholders in non-rural areas are unfamiliar with the potential benefits agricultural education can offer to students. Furthermore, researchers have confirmed that many individuals in non-rural locations are unaware of the complete contributions agriculture has on society. The hypothesis could be made that such urban and suburban deficits in agricultural literacy may be responsible for a low representation of secondary agricultural education programs in urban and suburban schools.

In their studies, which included the investigation of secondary principals and their perceptions on agricultural education, Kalme and Dyer (2000) and Gentry (2011) collectively summarized Fishbein and Ajzen's (1975) theory. According to the researchers, Fishbein and Ajzen believed that, if a person's perception could be evaluated, their future decisions could be predicted. Therefore, if decision makers such as principals hold negative attitudes toward secondary agricultural education, then their decisions regarding secondary agricultural education programs also will likely be negative. Under this consideration, the goal of agricultural education professionals should be to determine (1) what aspects of secondary agricultural education principals perceive

as negative, and (2) to provide evidence/information to increase secondary principals' amount of awareness of agricultural education and the agricultural industry in order to dispel their negative perceptions.

CHAPTER III: METHODOLOGY

This study was designed to determine how secondary principals in Kentucky perceive agricultural education programs. Research questions, design, procedures, instrumentation, limitations, and participant confidentiality are expressed in this chapter.

This research will provide insight into the attitudes and opinions of secondary principals toward agricultural education programs in Kentucky. Foremost, this research can be used by local school boards and decision-making councils to understand the potential benefits and contributions of secondary agricultural education programs. This research also can be very beneficial for the Kentucky Department of Education. Furthermore, the findings also can be advantageous to state-level agricultural education leaders and existing agricultural education programs by serving as a tool to address agricultural education literacy and awareness issues among stakeholders.

Through a survey, secondary principals' perceptions were measured regarding their feelings on the significance of agricultural education. One intent of this study was to determine to what extent secondary principals without agricultural education programs in their school are aware of the offerings of agricultural education. As stated by Kalme and Dyer (2000), the distinction of perceptions held by principals from schools with and without secondary agricultural education programs is necessary. Additionally, principals' perceptions of secondary agricultural education in relation to their personal background was considered and analyzed. The overall rationale of this study was to investigate how principals with agricultural education in their schools perceived the programs, compared to how principals without agricultural education in their schools perceived the programs. This research also considered how various demographic characteristics of a school

impacted principals' perceptions of secondary agricultural education. This study also analyzed secondary principals' perceptions based on the relationship between demographic characteristics of their school and the existence or nonexistence of an agricultural education program.

Research Questions

1. How do secondary principals with and without agricultural education programs in Kentucky perceive agricultural education programs in terms of program significance and contribution to student learning?
2. How does a Kentucky secondary principal's personal relationship or non-relationship with agricultural education influence his or her perception of agricultural education programs?
3. How do the perceptions of Kentucky principals toward FFA compare on the four constructs identified in this study?

Research Design

A descriptive survey design was utilized to conduct this quantitative research study. All participants were asked to respond to one survey questionnaire throughout the duration of the study. Participant protection and confidentiality were addressed by administering the survey questionnaire via e-mail to the selected sample population, where responses were returned in an anonymous manner through an Internet-based survey program. Only one version of the survey questionnaire was administered to all participants. No pre- or post-evaluations of any kind were included in this study, and a control group did not exist. This research design was modeled after the study by Gentry (2011); therefore, threats to internal validity have been considered. The research design

was intended to produce results that would determine what factors are responsible for secondary principals perceiving agricultural education programs differently. Furthermore, this study was designed to investigate whether secondary principals with agricultural education programs in their school have more positive perceptions than principals who do not have these programs in their school.

Only counties in Kentucky with at least one secondary school with an agricultural education program and at least one secondary school without an agricultural education program were identified for this study. The entire population ($N = 96$) of secondary principals of a Kentucky school meeting the study criteria were considered for participation. After failure to access an accurate e-mail address, one principal was removed from the list of potential participants, resulting in a population of ($N = 95$). The entire population ($N = 95$) of secondary principals was administered the survey via e-mail. Of the secondary principals contacted to participate, 48% represented schools with an agricultural education program, and 52% represented schools without an agricultural education program. The total number of secondary principals who responded to the survey was 42, indicating a 44% response rate. Of the 42 responses, 6 participants did not answer every item on the survey, therefore, providing only 36 completed responses. Representing the 36 completed responses, 17 (47%) principals were from schools with a secondary agricultural education program, and 19 (53%) were from schools without a secondary agricultural education program. Comparing the population of principals who were administered the survey to the respondents completing the survey, the proportions of principals from secondary schools with an agricultural education program and those from secondary schools without an agricultural education program were very consistent.

Research Procedures

Explanation for the procedures followed in this study will be provided in this section. All procedures were conducted based upon authorization by the Western Kentucky University Institutional Review Board (IRB). Description and permission for use of the instrument utilized to conduct this study also will be explained in this section. Likewise, the specific procedures followed for data collection will be described.

IRB Approval

The Institutional Review Board of Western Kentucky University (WKU IRB 13-024) authorized this study. Refer to Appendix A to review the application for permission and letter of approval.

Instrumentation

For use in a study of secondary agricultural education programs in Iowa, Kalme and Dyer (2000) originally created and deemed the instrument utilized as valid and reliable. The instrument was then modified (Gentry, 2011; Smith & Myers, 2012). Following the modifications, the instrument was pilot tested for design validity and reliability utilizing a sample of Georgia secondary principals and superintendents (Gentry; Smith & Myers). During the study by Gentry, “face and content validity were assessed utilizing a panel of experts in the Department of Agricultural Education and Communication at the University of Florida” (p. 54). Gentry reported that the Florida experts authorized the validity of the instrument. Furthermore, Gentry’s edited version of the instrument consisted of the majority of questions being worded positively; however, “...some items were reverse coded to help ensure instrument rigor” (p. 54). Prior to

utilizing the instrument, permission was granted by Gentry and Smith and Myers (Appendix D).

Prior to use of the instrument in this study, minor modifications were made and approved by a panel of experts from the Department of Agriculture, Center for Environmental Education and Sustainability, and Educational Leadership Doctoral Program at Western Kentucky University. The panel of experts from Western Kentucky University also granted assurance of content and face validity of the instrument in its modified form. All questions on the survey pertaining to superintendents in Gentry's (2011) study were removed prior to administering the survey. Additionally, some questions also were slightly reworded. However, all modifications were minimal and did not change the context of any question or previous design of the instrument. Some questions on the instrument required respondents to answer according to a Likert-type scale ranging from Strongly Disagree to Strongly Agree. Other questions were demographic in nature, while a few allowed for open-ended responses by the participants. The instrument was administered in a manner that required all respondents to respond to each question before advancing to the next. A copy of the instrument, in its edited form utilized in this study, can be found in Appendix E.

To more accurately measure how Kentucky secondary principals perceived agricultural education programs, four constructs were utilized from the survey instrument. Three of the constructs originally developed by Kalme and Dyer (2000) included: "Principals' Perceptions Toward Agricultural Education Programs," "Principals' Perceptions Toward Agricultural Education Courses," and "Quality and Perception of Agricultural Education Teachers." The fourth construct, "Principals'

Perceptions Toward FFA,” was developed by the researcher based upon suggestions made by the panel of experts from Western Kentucky University.

Process

The initial process for selecting participants for this study was to determine which secondary schools in Kentucky offered an agricultural education program. By directly contacting the Kentucky Agricultural Education Consultant, access was made available to the data listing each secondary school offering agricultural education in the state. The Kentucky counties in which agricultural education programs existed were identified. Through access of the school directory provided by the Kentucky Department of Education (2013a), the identification was made of all secondary schools without agricultural education programs that were located in the same county where at least one secondary school contained an agricultural education program. Any county with only one secondary school with or without an agricultural education program was excluded. Following the finalization of the list of schools to be included, access to principals’ names, principals’ school e-mail addresses, and physical addresses of each school also were accessed through the Kentucky Department of Education (2013a) website.

The researcher contacted all secondary principals selected to participate through a mailed letter (Appendix B) that explained the purpose of the study as well as an invitation to participate. Approximately one week later on September 19, 2012, all potential participants were contacted via e-mail containing instructions regarding the survey, the electronic link to access the survey, and an approved letter of consent (Appendix C). The e-mail further explained that accessing the electronic link to the survey implied the full

consent of each participant. The online survey was created and made available through the services provided through Qualtrics®.

In the weeks following the initial e-mail sent to the selected secondary principals, a series of follow-up and reminder e-mails also were sent. On September 28, 2012, a second e-mail was sent to thank those who had already responded to the survey and as a friendly reminder for the others to respond. A third e-mail was sent on October 13, 2012, which also served as a friendly reminder to complete the survey. The fourth and final e-mail was sent on October 22, 2012, and served as a final reminder for participating as well as to stress once more the significance of the study. All responses to be used were kept in a secure location by the researcher. Due to anonymity of the responses, maintaining respondent and school confidentiality was not an issue.

Completed survey responses were exported from Internet-based survey software Qualtrics® to statistical analysis software SAS® for data analysis. To investigate differences among each of the four constructs, t-tests were conducted. For each variable identified by the survey instrument, descriptive statistics and frequency tabulations were performed to analyze the data.

Summary

The intent of this study was to examine the perceptions of secondary principals in Kentucky of agricultural education programs. This research sought to determine any differences in the perceptions of principals who have agricultural education in their schools compared to the perceptions of those who do not have agricultural education in their schools. For differences identified among principals, this study also sought to determine what factors contributed most to the different perceptions. This chapter

described the primary research questions and how the study was designed in order to consider each question. This chapter clarified the information provided to IRB regarding participant selection, instrumentation, data collection processes, and data analysis. The origin and history of the instrument utilized in this study were explained in this chapter. Explanation of the four constructs utilized in this study was given. Additionally, instrument reliability and validity were confirmed.

CHAPTER IV: RESULTS

This study sought to determine how secondary principals in Kentucky perceived agricultural education programs. The relationships between the perceptions of Kentucky secondary principals with and without agricultural education programs in their schools were analyzed. Selection of secondary principals to participate in this study was narrowed by determining Kentucky counties that contained at least one secondary school with, and one secondary school without, an agricultural education program.

Once the desired counties were identified, only secondary principals (N = 96) from those counties were considered the study population and invited to participate. Failure to successfully contact one secondary principal reduced the number of Kentucky secondary principals contacted to participate in the study (N = 95). Unfortunately, only 36 principals returned completed surveys, a much lower response rate than anticipated. However, the proportions of secondary principals with and without agricultural education programs at their schools who responded to the study were extremely close to the overall statewide proportion of secondary principals with and without agricultural education programs. The statewide percentages associated with secondary principals included in the study indicated that 48% were from schools with agricultural education programs and 52% were from schools without such programs. The percentages associated with secondary principals who returned completed survey responses indicated that 47% were from schools with agricultural education programs and 53% were from schools without agricultural education programs. Based on proportion similarity, the researcher considered the results of the 36 completed responses to be a generalized representation of the entire population (N = 95) of eligible participants.

To determine how Kentucky principals perceived secondary agricultural education programs, a survey was administered to all participants. The survey asked respondents both Likert-type questions related to secondary agricultural education programs as well as personal demographic questions and demographic questions about the respondents' school. In analyzing responses to the 5-point Likert-type questions on the survey, the higher the rating a respondent gave to a question represented a higher score. Gentry's (2011) rating scale was utilized in this study and categorized responses in the following manner: scores of 1.0-1.49 indicated a low or negative perception of secondary agricultural education programs, scores of 1.5-3.49 indicated a medium or neutral perception, and scores of 3.5-5.0 indicated a high or positive perception.

The survey administered in this study was guided by three central research questions:

1. How do secondary principals with and without agricultural education programs in Kentucky perceive agricultural education programs in terms of program significance and contribution to student learning?
2. How does a Kentucky secondary principals' personal relationship or non-relationship with agricultural education influence his or her perception of agricultural education programs?
3. How do the perceptions of principals toward FFA compare on the four constructs identified in this study?

This study sought to determine not only how secondary principals in Kentucky perceive agricultural education programs differently, but also to determine what factors contribute to the different perceptions. For the field of agricultural education, it is

imperative to understand what awareness and/or demographic factors contribute most to secondary principals in Kentucky having positive or negative perceptions of agricultural education programs. To gain a better understanding of such factors, four constructs were considered and analyzed using t-tests for each central research question. All constructs were reviewed and approved by a panel of experts from Western Kentucky University prior to analyzing any data. Specific survey items utilized by each construct to obtain measurement of secondary principals' perceptions of agricultural education programs can be found in Tables 1 - 4.

Construct 1, "Principals' perceptions toward agricultural education programs," measured to what extent secondary principals perceived agricultural education programs as a whole (Table 1). Construct 2, "Principals perceptions toward agricultural education courses," measured to what extent secondary principals valued the instructional opportunities and content offered in courses associated with agricultural education programs (Table 2). Construct 3, "Quality and perceptions of agricultural education teachers," measured to what extent secondary principals viewed the performance and abilities of agricultural education teachers (Table 3). Construct 4, "Principals' perceptions toward FFA," measured to what extent secondary principals perceived FFA to be beneficial to student success (Table 4). Constructs 1, 2, and 3 were initially developed and used in the study by Kalme and Dyer (2000). Upon recommendation, construct 4 was developed by the researcher following consultation with educational professionals from Western Kentucky University.

Table 1

Construct 1: Principals' Perceptions Toward Agricultural Education Programs

Survey Item	Item Statement
2	College bound students should take agricultural education courses.
3	Students who take agricultural education courses tend to be less academically able.
5	Students are becoming more interested in enrolling in agricultural education courses.
7	There are numerous opportunities for employment in the field of agriculture.
8	The image of agriculture is improving.
9	Because of increased graduation requirements, there is little time for students to enroll in agricultural education courses.
17	Agricultural education programs are a positive force in the community.

Table 2

Construct 2: Principals' Perceptions Toward Agricultural Education Courses

Survey Item	Item Statement
1	High school agriculture courses are beneficial for high achievers.
4	High school agriculture courses are beneficial for low achievers.
6	Students enrolled in agricultural education courses seem to enjoy these courses.
10	Agricultural education courses should be offered in technical schools/centers rather than in high school.
11	Agricultural education courses reinforce learning in academic courses.
12	Agricultural education courses are easier than other courses.
13	Agricultural education courses encourage students to apply knowledge and skills to real-life problems.
14	Other elective courses are more valuable to college bound students than are agricultural education.
15	Agricultural education courses provide little for students' intellectual development.
18	High school agricultural education courses should be offered primarily in rural areas.

Table 3

Construct 3: Quality and Perceptions of Agricultural Education Teachers

Survey Item	Item Statement
5	Students are becoming more interested in enrolling in agricultural education courses.
22	Agricultural education teachers have positive professional relationships with principals.
23	Agricultural education teachers collaborate with other teachers to integrate other subjects into agricultural education courses.
25	Agricultural education teachers utilize many community members/resources in their class topics.
26	The agricultural education teacher keeps the agricultural education program current to meet higher educational needs.

Table 4

Construct 4: Principals' Perceptions Toward FFA

Survey Item	Item Statement
19	FFA promotes leadership development that is beneficial for students enrolled in agricultural education.
20	FFA is a highly supported organization in my community.
21	Involvement in FFA detracts from student learning in agricultural education.

Findings for Research Question 1

Research Question 1 asks: How do secondary principals with and without agricultural education programs in Kentucky perceive agricultural education programs in terms of program significance and contribution to student learning?

Results indicated that 17 respondents were from schools with secondary agricultural education programs, and 19 were from schools without secondary agricultural education programs. To examine differences in each construct between principals with and without secondary agricultural education programs, independent samples t-tests were conducted. Descriptive statistics associated with Question 1 and each construct are presented in Table 5. No significant differences were found between principal groups for construct 1, principals' perceptions toward agricultural education programs, or construct 2, principals' perceptions toward agricultural education courses.

Table 5

Descriptive Statistics for Research Question 1

Construct	Principal Group									
	With Ag Ed					Without Ag Ed				
	N	M	SD	Min	Max	N	M	SD	Min	Max
(1) Ag Programs	17	3.40	.45	2.57	4.14	19	3.34	.46	2.57	4.00
(2) Ag Courses	17	3.34	.33	3.00	4.40	19	3.18	.24	2.80	3.80
(3) Ag Teachers	17	3.79	.55	2.60	4.60	19	3.39	.52	2.40	4.20
(4) FFA	17	3.55	.26	3.00	4.00	19	3.11	.54	2.33	4.00

A significant difference was found between principal groups for construct 3, quality and perceptions of agricultural education teachers, $t(34) = 2.22$; $p < .05$, and

construct 4, principals' perceptions toward FFA, $t(26.51) = 3.16; p < .05$. As shown in Table 5, principals with agricultural education programs in their schools had mean scores higher on construct 3, quality and perceptions of agricultural education teachers, and construct 4, principals' perceptions toward FFA, than principals without agricultural education programs in their schools.

Findings for Research Question 2

Research Question 2 asks: How does a Kentucky secondary principal's personal relationship or non-relationship with agricultural education influence his or her perception of agricultural education programs?

Research Question 2 was guided by survey items 32 - 37, which are presented in Table 6. Due to a low response rate on survey items 33, 34, 35, and 37, only survey items 32 and 36 were analyzed to answer Research Question 2. These items were analyzed independently to address Research Question 2.

To answer survey items 32 and 36, respondents were provided the options of yes or no. As a caution, the researcher recognized the unbalanced proportion of respondents who had a son or daughter who completed one or more high school agriculture courses ($N = 5$), and respondents who did not have a son or daughter complete one or more high school agriculture courses ($N = 34$).

Table 6

Survey Items for Research Question 2

Survey Item	Item Statement
32	Do you have a son or daughter who has completed one or more high school agriculture courses?
33	What was the quality of your child's experience?
34	Did you complete one or more agricultural education courses as a high school student?
35	What was the quality of your experience with the agriculture course(s)?
36	Do you have any work experience in the field of agriculture?
37	What was the quality of your work experience in the field of agriculture?

Survey question 2 sought to determine whether there were any significant differences between principals who had a personal relationship with agricultural education and those who had a personal non-relationship with agricultural education, among all constructs of this study. Results were analyzed for all constructs based on the responses of survey items 32 and 36. For analysis of survey item 32, principals who responded yes were considered to have a personal relationship with agricultural education, and principals who responded no were considered to have a personal non-relationship with agricultural education. Likewise, for survey item 36, principals who responded yes were considered to have a personal relationship with agricultural education, and principals who responded no were considered to have a personal non-relationship with agricultural education.

Descriptive statistics for survey item 32 and all constructs are displayed in Table 7. T-test analysis for survey item 32 (Do you have a son or daughter who has completed one or more agriculture courses?) indicated no significant differences for construct 1, principals' perceptions toward agricultural education programs; construct 2, principals' perceptions toward agricultural education courses; or construct 4, principals' perceptions toward FFA.

Table 7

Descriptive Statistics for Research Question 2, Survey Item 32

Construct	Principal Groups									
	Yes Son/Daughter Completed Ag					No Son/Daughter Completed Ag				
	N	M	SD	Min	Max	N	M	SD	Min	Max
(1) Ag Programs	5	3.60	.40	3.14	4.00	34	3.36	.45	2.57	4.14
(2) Ag Courses	5	3.12	.11	3.00	3.20	34	3.26	.30	2.80	4.40
(3) Ag Teachers	5	4.12	.58	3.20	4.60	34	3.49	.52	2.40	4.60
(4) FFA	5	3.67	.33	3.33	4.00	34	3.23	.48	2.33	4.00

T-test analysis revealed that principals who had a son or daughter who completed at least one agriculture course had means significantly higher on construct 3, quality and perceptions of agricultural education teachers, than did those who did not have a son or daughter complete at least one agriculture course (survey item 32), $t(37) = 2.49$; $p < .05$. The sample means for this analysis are displayed in Table 7.

To further address Research Question 2 and determine a principal's personal relationship or non-relationship with agricultural education, survey item 36 was utilized to examine differences among principals who had work experience in the field of

agriculture and those who did not, on each construct. Descriptive statistics for survey item 36 and all constructs are displayed in Table 8. T-test analysis for survey item 36 (Do you have any work experience in the field of agriculture?) indicated no significant differences for construct 1, principals' perceptions toward agricultural education programs; construct 3, quality and perceptions of agricultural education teachers; or construct 4, principals' perceptions toward FFA.

Table 8

Descriptive Statistics for Research Question 2, Survey Item 36

Construct	Principal Groups									
	Yes Work Experience					No Work Experience				
	N	M	SD	Min	Max	N	M	SD	Min	Max
(1) Ag Programs	17	3.37	.49	2.57	4.00	21	3.37	.42	2.57	4.14
(2) Ag Courses	17	3.36	.37	3.00	4.40	21	3.16	.17	2.80	3.50
(3) Ag Teachers	17	3.59	.63	2.40	4.60	21	3.52	.52	2.80	4.60
(4) FFA	17	3.41	.55	2.33	4.00	21	3.17	.43	2.33	3.67

T-test analysis identified a significant difference between principals with work experience in the field of agriculture and those without work experience for construct 2, principals' perceptions toward agricultural education courses, $t(21.26) = 2.10$; $p < .05$. The sample means are displayed in Table 8, which shows that principals who have work experience have means higher on construct 2, principals' perceptions toward agricultural education courses, than those who do not.

Findings for Research Question 3

Research Question 3 asks: How do the perceptions of principals toward FFA compare on the four constructs identified in this study?

Research Question 3 was directed by survey item 42 (How would you rate your familiarity with the FFA?). To answer survey item 42, respondents were provided the rating options of “Poor,” “Fair,” “Good,” and “Excellent.” In distinguishing a principal’s familiarity with the FFA, principals who selected ratings of “Poor” or “Fair” were considered to have no familiarity. Similarly, principals who selected ratings of “Good” or “Excellent” were considered to be familiar with the FFA. Descriptive statistics for participants’ familiarity with the FFA are represented in Table 9. To examine differences in each construct between principals with and those without a familiarity with the FFA, independent samples t-tests were conducted. No significant differences were found among principals who were familiar with the FFA and those who were not familiar for construct 1, principals’ perceptions toward agricultural education programs, or construct 4, principals’ perceptions toward FFA.

Table 9

Descriptive Statistics for Research Question 3, Survey Item 42

Construct	Principal Groups									
	Yes Familiar (Good/Excellent)					No Familiar (Poor/Fair)				
	N	M	SD	Min	Max	N	M	SD	Min	Max
(1) Ag Programs	22	3.45	.43	2.57	4.14	14	3.24	.47	2.57	4.00
(2) Ag Courses	22	3.35	.32	3.00	4.40	14	3.11	.15	2.80	3.40
(3) Ag Teachers	22	3.80	.53	2.40	4.60	14	3.24	.47	2.60	4.00
(4) FFA	22	3.44	.49	2.33	4.00	14	3.12	.43	2.33	3.67

This analysis revealed a significant difference between principals who were familiar with the FFA and those who were not for construct 2, principals' perceptions toward agricultural education courses, $t(31.35) = -2.97$; $p < .05$; and construct 3, quality and perceptions of agricultural education teachers, $t(34) = -3.17$; $p < .05$. The sample means are displayed in Table 9, which shows that principals who are familiar with the FFA had higher means on construct 2, principals' perceptions toward agricultural education courses, and construct 3, quality and perceptions of agricultural education teachers, than principals not familiar with the FFA.

Conclusions

Analysis of data in this chapter identified the relationships between the perceptions of Kentucky secondary principals, with and without agricultural education programs in their schools, toward agricultural education programs. The relationships between the perceptions of Kentucky secondary principals, with a personal relationship or non-relationship with agriculture, toward agricultural education programs were

identified. This chapter revealed the relationships between the perceptions of Kentucky secondary principals, with a familiarity and non-familiarity of the FFA, toward agricultural education programs. All relationships were identified by the representation of quantitative results. The effect of construct 1, principals' perceptions toward agricultural education programs; construct 2, principals' perceptions toward agricultural education courses; construct 3, quality and perceptions of agricultural education teachers; and construct 4, principals' perceptions toward FFA, were considered when identifying each relationship. Descriptive statistics of the results that identified each relationship, with consideration of the four constructs utilized in this study, were represented.

The findings for each research question included discussion of the results of the associated independent-samples t-test. Analysis of Research Question 1 indicated that construct 3, quality and perceptions of agricultural education teachers, and construct 4, principals' perceptions toward FFA, were significant indicators for Kentucky secondary principals, with and without agricultural education programs in their schools, holding different perceptions of agricultural education programs. Analysis of Research Question 2 indicated that construct 3, quality and perceptions of agricultural education teachers, was a significant indicator for Kentucky secondary principals, whose children had and had not completed at least one agriculture course, holding different perceptions of agricultural education programs. Similarly, analysis of Research Question 2 also indicated that construct 2, principals' perceptions toward agricultural education courses, was a significant indicator for Kentucky secondary principals, with and without prior work experience in the field of agriculture, holding different perceptions of agricultural education programs. Analysis of Research Question 3 indicated that construct 2,

principals' perceptions toward agricultural education courses, and construct 3, quality and perceptions of agricultural education teachers, were significant indicators for Kentucky secondary principals, with a familiarity and non-familiarity of the FFA, holding different perceptions of agricultural education programs.

CHAPTER V: CONCLUSION

This study centered on determining the differences in how Kentucky secondary principals perceive agricultural education programs. Perceptions of Kentucky secondary principals, with and without agricultural education programs, were measured. Though many Kentucky secondary schools have operational agricultural education programs, a large number have yet to adopt agricultural education as part of their curricular offerings. Understanding how Kentucky secondary principals perceive agricultural education programs is very beneficial toward the expansion of secondary agricultural education programs into more Kentucky schools. This research can be utilized by agricultural education professionals in Kentucky to better understand what factors cause some secondary principals to perceive agricultural education in a positive manner and others in a negative manner.

While studies of a similar nature have been conducted in other states, this research is significant because it is the first to indicate how secondary principals in Kentucky perceive agricultural education programs. Evidence is provided that Kentucky secondary principals with agricultural education programs in their schools hold a commonly positive perception of agricultural education, which is significantly higher than the perceptions of those without such programs in their schools. Stronger personal relationships with agricultural education also played a role in participants' significantly higher perceptions of agricultural education programs. Construct 2, principals' perceptions toward agricultural education courses, and construct 3, quality and perceptions of agricultural education teachers, were significant indicators in participants having different perceptions of the FFA component of secondary agricultural education

programs. Thus, the assumption could be made that many secondary principals in Kentucky have a general lack of awareness of agricultural education programs.

Professionals in the field of secondary agricultural education may find it very promising that many principals in Kentucky, with and without agricultural education programs, are overall supportive of agricultural education. Such support provides hope to a national initiative created by The National Council for Agricultural Education (2008), which recommended 10,000 operational secondary agricultural education programs throughout the country by the year 2015. However, in light of the positive support, secondary agricultural education professionals also should recognize the continued need to better inform school leaders across Kentucky about the numerous benefits and opportunities available to students through agricultural education programs. School decision makers and administrators unfamiliar with the benefits of secondary agricultural education programs should be invited to attend and participate in the agricultural education conferences and conventions, as well as interact with students in the classroom. Likewise, unfamiliar school leaders and administrators also should be encouraged to become involved with FFA competitions, leadership events, and community activities. For instance, school leaders and administrators should be invited to serve as judges for an FFA contest, invited to attend the chapter FFA banquet or other similar receptions, and be considered when creating cooperative FFA and/or agricultural education projects within the school.

The research questions included in this study were:

Research Question 1: How do secondary principals with and without agricultural education programs in Kentucky perceive agricultural education programs in terms of program significance and contribution to student learning?

Research Question 2: How does a Kentucky secondary principal's personal relationship or non-relationship with agricultural education influence his or her perception of agricultural education programs?

Research Question 3: How do the perceptions of principals toward FFA compare on the four constructs identified in this study?

Discussion of the Findings

Findings for each research question specifically, and overall findings of this study, are discussed in the following section.

Findings for Research Question 1

Research Question 1 determined the perceptions Kentucky secondary principals held toward agricultural education programs by examining four constructs: (1) principals' perceptions toward agricultural education programs, (2) principals' perceptions toward agricultural education courses, (3) quality and perceptions of agricultural education teachers, and (4) principals' perceptions toward FFA. Research Question 1 further explained the perceptions of Kentucky secondary principals held toward agricultural education programs by comparing the perceptions of principals with agricultural education programs in their schools with the perceptions of those without such programs in their schools.

The t-tests conducted for Research Question 1 highlighted that principals with secondary agricultural education programs in their schools scored significantly higher on the constructs regarding the quality of agriculture teachers and the FFA than principals without programs in their schools. This finding is likely due to the exposure and familiarity of principals with agricultural education programs in their schools with both agriculture teachers and the FFA. No significant differences were found among both groups of principals for construct 1, principals' perceptions toward agricultural education programs, or construct 2, principals' perceptions toward agricultural education courses. Results indicated that secondary principals with agricultural education programs in their schools had a combined score of $M = 3.52$ for all constructs. Results revealed that secondary principals without agricultural education programs in their schools had a combined score of $M = 3.25$ for all constructs. Gentry's (2011) rating scale was utilized in this study, identifying that a score of 1.5-3.49 represented a medium/neutral perception and 3.5-5.0 represented a high/positive perception. In relation to Gentry's scale, secondary principals in Kentucky with agricultural education programs in their schools have high/positive perceptions of agricultural education, and those without agricultural education programs have medium/neutral perceptions.

Overall, the results of this study proved accurate with the hypothesis for Research Question 1. The results also are representative of all Kentucky secondary principals having more positive than negative perceptions of agricultural education programs.

Findings for Research Question 2

Research Question 2 first evaluated how secondary principals in Kentucky perceived agricultural education programs on the basis of having a son or daughter who

had previously completed at least one agriculture course. The t-tests conducted for Research Question 2 produced results indicating that principals who had a child who completed at least one agriculture course placed a significantly higher value on the quality of agriculture teachers than principals who did not have a child complete at least one agriculture course. One could imply that, if a principal's child had a positive experience in the agriculture course, the result would be a higher perception of the agriculture teacher by the principal. Results also indicated no significant differences between principals who did and did not have a child previously complete an agriculture course in terms of the value they placed on agricultural education programs, agricultural education courses, and the FFA. Principals who had a child complete at least one course had a combined score of $M = 3.63$ across all constructs. Principals who did not have a child who had completed at least one course had a combined score of $M = 3.33$ across all constructs. While principals whose children have completed at least one agriculture course have a high/positive perception of secondary agricultural education programs, principals who did not have a child who had previously completed at least one agriculture course have a medium/neutral perception of secondary agricultural education programs.

The second component of Research Question 2 evaluated how secondary principals in Kentucky perceived agricultural education programs in relation to having prior work experience in the field of agriculture. The t-tests conducted for this portion of Research Question 2 produced results revealing that principals with prior work experience in the field of agriculture had significantly more positive views on courses offered in secondary agricultural education programs. Whether they had work experience did not make any significant differences in the way principals viewed secondary

agricultural education programs in terms of the overall program, the quality of agriculture teachers, and the student benefits of the FFA. Principals with prior work experience had a combined score of $M = 3.43$ across all constructs. Principals without prior work had a combined score of $M = 3.31$ across all constructs. Possessing prior work experience in the field of agriculture played a role in Kentucky secondary principals having a slightly more positive perception of agricultural education programs compared to principals with no prior work experience. The suggestion could be made that principals who had prior work experience in the field of agriculture were more aware of the opportunities available through agriculture. Nonetheless, one possible reason that prior work experience did not contribute to more significant differences is that society's awareness of agriculture is changing. The results for survey item 8 that stated, "The image of agriculture is improving," indicated that the majority of principals responded by selecting "Agree" or "Strongly Agree."

In general, the results proved accurate with the hypothesis for Research Question 2 defending the perception that the stronger the personal relationship a Kentucky secondary principal had with agriculture, the more positive their perception of agricultural education programs.

Findings for Research Question 3

Since the student led FFA organization is a significant element of secondary agricultural education programs, Research Question 3 was directed toward verifying the level of familiarity of Kentucky secondary principals with the FFA. Results produced from the t-tests conducted for Research Question 3 disclosed that Kentucky secondary principals who rated their familiarity with the FFA as "good" or "excellent" perceived

agricultural education courses and teachers in a significantly more positive manner than principals who rated their familiarity as “poor” or “fair.” Principals with a good/excellent familiarity with the FFA had a combined score of $M = 3.51$ across all constructs. Those with a poor/fair familiarity with the FFA had a combined score of $M = 3.18$ across all constructs. Results from Research Question 3 confirmed that Kentucky secondary principals familiar with the FFA positively perceive agricultural education programs as a whole. In relation, Kentucky secondary principals unfamiliar with the FFA have more neutral perceptions of agricultural education programs as a whole.

In addition to inviting principals to participate in agricultural education and FFA related activities, agricultural education teachers must strive to better publicize the success stories and accomplishments of their agriculture students and FFA members. Doing so would help principals who are unfamiliar with the FFA become more aware. As possible suggestions for better publicizing the positive works of an agricultural education program and/or FFA chapter, agricultural education teachers could make an increased effort to regularly submit the achievements of their agriculture students and FFA members to the local newspaper. Additionally, those teachers should encourage their FFA members to assist with various school functions hosted by other school groups or extracurricular sponsors. Furthermore, agricultural education teachers should seek to provide opportunities for their agriculture students and FFA members to attend and participate in community and civic events whenever possible. All forms of public relations should be considered by agriculture teachers and agricultural education professionals in order to better inform school leaders and community members about the

many opportunities provided through secondary agricultural education programs and the FFA.

The results of Research Question 1 revealed that a Kentucky secondary principal without an agricultural education program in his/or school scored significantly lower on construct 4, principals' perceptions toward FFA, than a principal with an agricultural education program in his/her school. For Research Question 3, this result could suggest that a principal with a poor/fair familiarity with the FFA represents a school without an agricultural education programs. This suggestion also affirms the hypothesis for Research Question 3.

Implications

The results of this study present evidence that the image of agriculture and secondary agricultural education is positive in Kentucky schools with agricultural education programs. State educational directors and leaders of agricultural education in Kentucky can use this research to examine areas of strength and weakness in the current secondary agricultural education structure. Furthermore, the results of this study serve as a benchmark indicator for how secondary principals in Kentucky perceive agricultural education programs. This information can serve as a reference in the future for measuring changes in how secondary principals in Kentucky perceive agricultural education. This study could be utilized by agricultural education professionals as a model to research the perceptions of secondary agricultural education programs held by principals in other states. National FFA Organization directors may find the results of this research helpful in making marketing changes to improve the awareness of FFA held by all principals in

Kentucky and other states. CTE directors and decision makers on state and national levels could analyze the results of this study and then evaluate other CTE program areas.

Agricultural educators should utilize this study to understand the significance a principal's perception can have on the existence or non-existence of a secondary agricultural education program. Agricultural educators in Kentucky also should reference the results of this research to realize many school principals without agricultural education programs, located within the same county and community, are unaware of many of the aspects of agricultural education. To sustain the longevity of the field of secondary agricultural education, agricultural educators should make an effort to better publicize and promote the successes and benefits experienced by students within their programs. As shown in this research, the perceptions and confidence of many principals in Kentucky toward agriculture teachers need to improve. Agriculture teachers should strive to maintain an open and clear line of communication with principals. For example, agriculture teachers should keep principals informed about student SAE projects by inviting them to go along when making student SAE visits. In relation, agriculture teachers should keep principals updated on all student achievement in their content area by sharing state-mandated agricultural standardized test scores. Likewise, agriculture teachers can use the results of this study to understand the importance of collaborating with teachers of other disciplines and incorporating content from other disciplines into their own classrooms.

Ultimately, the results of this research should be used to inform the uninformed. For the purpose of implementing new secondary agricultural education programs in schools where they do not currently exist, school, district, and state level decision makers

and stakeholders should be made aware of the following: (1) the current perceptions of secondary agricultural education programs held by high school principals in Kentucky, and (2) the benefits of secondary agricultural education in terms of contribution to student learning and student achievement.

Limitations

The major limitation to this study was the low response rate from Kentucky secondary principals who were asked to participate. An e-mail survey was administered to participants early during the fall semester – a very busy time for many principals. An e-mailed survey to participants during a time of year when school was not in session may have been a better option. Moreover, administering a paper/pencil survey during a school administrator’s conference or convention would have improved accessibility to participants and likely generated a larger response rate. In addition, a school administrator organization’s endorsement of the study through a letter sent to the principals selected could have been a contributing factor in receiving a higher response rate. In relation, this study specifically adopted the term “principal” rather than “administrator” and sought only to determine the perceptions of head principals of secondary schools. Allowing all personnel in a secondary school labeled as an administrator to participate in the study would have increased the sample size and likely generated a higher number of completed responses. Finally, isolating participation to only Kentucky secondary principals from counties containing at least one secondary school with and without agricultural education programs could have had an indirect effect on the number of completed surveys returned. However, while this process excluded some principals from participating, the specific selection of counties and corresponding

principals to participate supported the concept that agricultural education awareness issues can exist in any community.

Future Research

This study offers great insight into the role and significance secondary agricultural education has established in public schools, as viewed by Kentucky's secondary principals. Nonetheless, a better understanding of how to maintain and improve the perception of secondary agricultural education programs held by principals could be determined through a more thorough and comprehensive examination of certain aspects. Specifically, a study focusing more exclusively on the level of influence of a principal's perception on the existence or non-existence of an agricultural education program would be beneficial to secondary agricultural education. Research of this nature would not only be advantageous for secondary agricultural education in Kentucky, as supported by Kalme and Dyer (2000), but advantageous also for secondary agricultural education nationwide.

Future researchers should seek to examine how secondary principals from schools located in rural areas perceive agricultural education compared to those located in urban areas. Understanding how principal perceptions of secondary agricultural education vary based solely on geographic location would be significant for the entire field of secondary agricultural education. A national study focused only on the perceptions of secondary urban principals with agricultural education programs in their schools would be intriguing. Considering the need for an increase in agricultural education awareness, the discovery of the perceptions of urban principals with agricultural education programs in

their schools could serve as an influential tool in implementing new agricultural education programs in secondary schools throughout the country.

Research similar to this study that would evaluate how all public school superintendents in Kentucky perceive secondary agricultural education programs is needed. Following a study of this nature, it would be interesting to determine whether the perceptions of secondary principals or superintendents play a larger role in making the decision to implement a secondary agricultural education program. Furthermore, it also would be interesting to compare the difference in how superintendents of rural and urban school districts perceive secondary agricultural education programs.

As a final point, any future study conducted on the state and/or national level that measures how school leaders, decision-making council members, school district leaders, or agricultural education stakeholders perceive secondary agricultural education programs should be desired and encouraged. When agricultural education teachers and professionals can obtain a better grasp of how agricultural education is perceived, more students can be exposed to the opportunities and learning enhancements provided through such programs.

Conclusions

Agricultural education is a field that is arguably a perfect fit in filling a massive void in the public educational system of a society eager to learn more about food production, natural resources, and sustainability. It is imperative that the versatility of secondary agricultural education programs be advocated to educational leaders for the purpose of the expansion of secondary agricultural education programs throughout the country. Clearly, a common theme has emerged that many school decision makers are not

fully aware of what agricultural education consists of and how it relates to common curricular frameworks. Through additional research, agricultural education leaders must create the opportunity to overturn the ideology held by a relatively large audience that agricultural education is beneficial only for students in rural-farm communities. Many practitioners agree that the image of agriculture is improving in society. The time to promote agricultural education is now.

While increasing the number of agricultural education programs and agriculture teachers is significant, the driving force behind the needed expansion of secondary agricultural education programs in every school is much simpler. With growing global concerns for food safety and population overcrowding, the fundamentals of agriculture and food supply are essential to every student in every city and state. The possibilities and successes of such programs must first be shared and advertised to all potential audiences. Secondary principals and other decision makers must then realize that the fundamentals of agriculture can be taught just the same to students on a rural school farm or an urban school rooftop garden. Once the perceptual gaps are recognized and stereotypes erased, secondary principals will likely understand the full benefit of having agricultural education programs in their schools and make the decisions needed for implementation for successful programs.

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APPENDIX A: IRB APPROVAL



A LEADING AMERICAN UNIVERSITY WITH INTERNATIONAL REACH
OFFICE OF COMPLIANCE

DATE: August 27, 2012

TO: Andy Moore
FROM: Western Kentucky University (WKU) IRB

PROJECT TITLE: [365307-1] PERCEPTIONS OF KENTUCKY SECONDARY SCHOOL PRINCIPALS ABOUT AGRICULTURAL EDUCATION PROGRAMS: A COMPARISON OF SCHOOLS WITH AND WITHOUT AGRICULTURAL EDUCATION PROGRAMS

REFERENCE #: IRB 13-024
SUBMISSION TYPE: New Project

ACTION: APPROVED
APPROVAL DATE: August 27, 2012
EXPIRATION DATE: May 31, 2013
REVIEW TYPE: Expedited Review

Thank you for your submission of New Project materials for this project. The Western Kentucky University (WKU) IRB has APPROVED your submission. This approval is based on an appropriate risk/benefit ratio and a project design wherein the risks have been minimized. All research must be conducted in accordance with this approved submission.

This submission has received Expedited Review based on the applicable federal regulation.

Please remember that informed consent is a process beginning with a description of the project and insurance of participant understanding followed by an *implied* consent form. Informed consent must continue throughout the project via a dialogue between the researcher and research participant. Federal regulations require each participant receive a copy of the consent document.

Please note that any revision to previously approved materials must be approved by this office prior to initiation. Please use the appropriate revision forms for this procedure.

All UNANTICIPATED PROBLEMS involving risks to subjects or others and SERIOUS and UNEXPECTED adverse events must be reported promptly to this office. Please use the appropriate reporting forms for this procedure. All FDA and sponsor reporting requirements should also be followed.

All NON-COMPLIANCE issues or COMPLAINTS regarding this project must be reported promptly to this office.

This project has been determined to be a Minimal Risk project. Based on the risks, this project requires continuing review by this committee on an annual basis. Please use the appropriate forms for this procedure. Your documentation for continuing review must be received with sufficient time for review and continued approval before the expiration date of May 31, 2013.

Please note that all research records must be retained for a minimum of three years after the completion of the project.

If you have any questions, please contact Paul Mooney at (270) 745-2129 or paul.mooney@wku.edu. Please include your project title and reference number in all correspondence with this committee.

This letter has been electronically signed in accordance with all applicable regulations, and a copy is retained within Western Kentucky University (WKU) IRB's records.

APPENDIX B: INVITATION LETTER TO PARTICIPANTS

Teachers of Agriculture

ANDY MOORE
CHRIS SCHALK
DOUG BERRY



SERVING BARREN
COUNTY AGRICULTURE

AGRICULTURAL EDUCATION DEPARTMENT

BARREN COUNTY HIGH SCHOOL
507 TROJAN TRAIL
GLASGOW, KENTUCKY 42141
PHONE 270-651-2627 • FAX 270-651-9211

Dear Kentucky Principal,

Please enjoy the enclosed Kentucky Proud beef jerky while reading this request! As a doctoral candidate at Western Kentucky University, I am currently working on a study under the advisement of Dr. David Coffey. The purpose of the study is to determine how high school principals in Kentucky perceive agricultural education programs. The financial strife schools face due to today's tough economy is of course an issue you are very familiar with. However, the results from this study could help educators across the state make and defend decisions related to the curriculum taught and programs offered in their schools.

By receiving this letter, you have been selected and will be asked to participate in the study. Within the next two weeks, a short survey will be sent to you via e-mail. Recognizing your contribution to the study is invaluable, I would like to express in advance my appreciation for your participation. In return for your assistance, I will gladly provide you a copy of the completed study results upon your request, once they become available.

Again, thank you for your cooperation. Please feel free to contact me at anytime regarding any questions you may have about the study.

Best Regards,

Andy Joe Moore
WKU Doctoral Candidate
Cell: (270) 590-0841

APPENDIX C: LETTER OF CONSENT

Informed Consent for Principal Perception Survey



Dear Kentucky Principal:

As a doctoral student in the Educational Leadership program at Western Kentucky University, I am conducting a research study on the perception of secondary school principals about agricultural education programs. I am asking principals throughout Kentucky who work at schools which have agricultural education programs as well as those who work at schools which do not have agricultural education programs, to complete a short survey. The survey should take approximately 10 – 15 minutes to complete. While you are not forced to answer any question, it is very important to complete the survey in its entirety.

This study will allow me, educators in the state of Kentucky, and those throughout the country who are involved with agricultural education to better understand how principals from both predominately rural and predominately urban schools view agricultural education programs. Your survey response will be grouped with other similar responses, in order to look for any patterns or comparisons in perception. However, at no time during the study will your individual answers be linked to your personal identity or the identity of your school. There are no anticipated risks to you or your school associated with this study.

In this survey you will be asked questions regarding your views on and familiarity with agricultural education programs. You will also be asked some simple demographic questions. There are no identified correct or incorrect responses to any question, and each question should be answered openly based upon your personal experiences. By proceeding to the web link accessing the online survey implies your understanding of this study, and cooperation and full consent to participate in this study. If you encounter any questions about this survey, please contact Andy Joe Moore at (270) 590-0841.

Thank You,

Andy Joe Moore, WKU Doctoral Candidate

WKU IRB# 13-024
Approval - 8/27/2012
End Date - 5/31/2012
Expedited
Original - 8/27/2012

APPENDIX D: PERMISSION TO USE SURVEY INSTRUMENT

RE: Adrienne Gentry

Page 1 of 1

RE: Adrienne Gentry

Myers, Brian E [bmyers@ufl.edu]

Sent: Thursday, June 21, 2012 7:32 AM

To: Moore, Andy

Andy,

I am able to grant you permission to use the instrument in your research. Adrienne and I only request two things: 1) you share your findings with us; and 2) you cite our pending article in the *Journal of Agricultural Education*. We expect the article to be included in the next issue of *JAIE*.

Smith, A. G., & Myers, B. E. (In press). Perceptions of Florida secondary school principals toward agricultural education. *Journal of Agricultural Education*.

You'll notice the reference to "Smith, A. G." in the citation. Ms. Gentry is now Mrs. Smith. She was married last summer and the article will be published under her married name rather than her maiden name. Adrienne is currently teaching high school agriculture in Georgia.

If I can be of any further assistance, please let me know.

Brian



Brian E. Myers | Associate Professor & Associate Chair | [Agricultural Education and Communication](#)
Coordinator | [AEC Graduate Program](#) | University of Florida | 307A Rolfs Hall | PO Box 110540
Gainesville, FL 32611-0540 | Phone: 352-273-2567 | Fax: 352-392-9585 | bmyers@ufl.edu

From: Moore, Andy [mailto:andy.moore@barren.kyschools.us]

Sent: Wednesday, June 20, 2012 8:09 PM

To: Myers, Brian E

Subject: Adrienne Gentry

Dr. Myers,

I am currently working on a research project through Western Kentucky University, with Dr. David Coffey, who has suggested I contact you. Recently I came across the study completed by one of your advisees, Adrienne Gentry, which deals with the perceptions of administrators in Florida. I am in the process of conducting a similar study in Kentucky. I would like to contact Adrienne and ask for permission to use a form of her survey instrument in my study. However, I have attempted to contact her through an e-mail address, adrienne.gentry@gmail.com, but have been unsuccessful in getting a response. Could you possibly offer any assistance in how I could best get in touch with her?

Thank you for your help,

Andy Joe Moore
Agriculture Teacher
Barren County High School
(270)651-2627

<https://ch1prd0202.outlook.com/owa/?ae=Item&t=IPM.Note&id=RgAAAADRDeFN%2f3...> 6/21/2012

Re: Kentucky Agricultural Education

Adrienne Gentry Smith [a.gentry.smith@gmail.com]

Sent: Tuesday, September 11, 2012 10:44 AM

To: Moore, Andy

Andy,

Feel free to use the survey. I apologize for the late response.

Thanks,
Adrienne Smith

On Fri, Jun 1, 2012 at 2:44 PM, Moore, Andy <andy.moore@barren.kyschools.us> wrote:

Good Afternoon,

To introduce myself, I am an agriculture teacher at Barren County High School in Glasgow, Kentucky. As a fifth year teacher I am also currently working on my doctorate degree from Western Kentucky University. I've come across the research study you have conducted in Florida and it is very similar to the study I wish to conduct on high school agricultural education programs in Kentucky. I too am interested in the perceptions of high school administrators on agricultural education programs, but with specific focus on how the perceptions may differ among administrators from rural schools and those from urban schools. My motivation for conducting this study is to hopefully determine that many of the urban high schools in Kentucky don't have agricultural education programs due to the administrators having poor perceptions of the programs. Similarly, I hope to discover that many of these poor perceptions are the result of a lack of agricultural awareness.

Based on the similarities of our studies, I would like to ask permission to utilize your revised version of the Kalme and Dyer survey instrument in my study. The study I have described, accompanied with your instrument, has potential to make a significant impact on Agricultural Education in Kentucky by making many urban communities realize their is a fit for the program in their schools!

Thank you for your time and I look forward to hearing from you soon!

Thank You,

Andy Joe Moore
Agriculture Teacher
Barren County High School
(270)651-2627

APPENDIX E: SURVEY INSTRUMENT

Default Question Block

High school agriculture courses are beneficial for high achievers.

Strongly Disagree Disagree Uncertain Agree Strongly Agree

College bound students should take agricultural education courses.

Strongly Disagree Disagree Uncertain Agree Strongly Agree

Students who take agricultural education courses tend to be less academically able.

Strongly Disagree Disagree Uncertain Agree Strongly Agree

High school agriculture courses are beneficial for low achievers.

Strongly Disagree Disagree Uncertain Agree Strongly Agree

Students are becoming more interested in enrolling in agricultural education courses.

Strongly Disagree Disagree Uncertain Agree Strongly Agree

Students enrolled in agricultural education courses seem to enjoy these courses.

Strongly Disagree Disagree Uncertain Agree Strongly Agree

There are numerous opportunities for employment in the field of agriculture.

Strongly Disagree Disagree Uncertain Agree Strongly Agree

The image of agriculture is improving.

Strongly Disagree Disagree Uncertain Agree Strongly Agree

Because of increased graduation requirements, there is little time for students to enroll in agricultural education courses.

Strongly Disagree Disagree Uncertain Agree Strongly Agree

Agricultural education courses should be offered in technical schools/centers rather than in high school.

Strongly Disagree Disagree Uncertain Agree Strongly Agree

Agricultural education courses reinforce learning in academic courses.

Strongly Disagree Disagree Uncertain Agree Strongly Agree

Agricultural education courses are easier than other courses.

Strongly Disagree Disagree Uncertain Agree Strongly Agree

Agricultural education courses encourage students to apply knowledge and skills to real-life problems.

Strongly Disagree Disagree Uncertain Agree Strongly Agree

Other elective courses are more valuable to college bound students than are agricultural education.

Strongly Disagree Disagree Uncertain Agree Strongly Agree

Agricultural education courses provide little for students' intellectual development.

Strongly Disagree Disagree Uncertain Agree Strongly Agree

Agricultural education courses reinforce academic concepts in an applied setting.

Strongly Disagree Disagree Uncertain Agree Strongly Agree

Agricultural education programs are a positive force in the community.

Strongly Disagree Disagree Uncertain Agree Strongly Agree

High school agricultural education courses should be offered primarily in rural areas.

Strongly Disagree Disagree Uncertain Agree Strongly Agree

FFA promotes leadership development that is beneficial for students enrolled in agricultural education.

Strongly Disagree Disagree Uncertain Agree Strongly Agree

FFA is a highly supported organization in my community.

Strongly Disagree Disagree Uncertain Agree Strongly Agree

Involvement in FFA detracts from student learning in agricultural education.

Strongly Disagree Disagree Uncertain Agree Strongly Agree

Agricultural education teachers have positive professional relationships with principals.

Strongly Disagree Disagree Uncertain Agree Strongly Agree

Agricultural education teachers collaborate with other teachers to integrate other subjects into agricultural education courses.

Strongly Disagree Disagree Uncertain Agree Strongly Agree

Agricultural education teachers integrate other academic subjects into their lessons regularly.

Strongly Disagree Disagree Uncertain Agree Strongly Agree

Agricultural education teachers utilize many community members/resources in their class topics.

Strongly Disagree Disagree Uncertain Agree Strongly Agree

The agricultural education teacher keeps the agricultural education program current to meet higher educational needs.

Strongly Disagree Disagree Uncertain Agree Strongly Agree

What is your gender? (select one)

Male Female

What geographical description best describes the location of your school system?

Rural (Population 2,500 or less) Suburban (Population between 2,501 and 9,999) Urban (Population of 10,000 or higher)

How many years, including this year, have you...

Been a Principal

Been a Principal where Agricultural Education was Taught

Taught (Include Subjects Taught)

Held Other School Positions (Describe)

Have you ever been at a school where a brand new agricultural education program was started?

Yes No

Have you ever been at a school where the agricultural education program was discontinued?

Yes No

Do you have a son or daughter who has completed one or more high school agriculture

<https://wku.qualtrics.com/ControlPanel/Ajax.php?action=GetSur...> 3/19/2013

courses?

Yes

No

What was the quality of your child's experience with the agriculture course(s)?

Poor

Fair

Good

Excellent

Did you complete one or more agricultural education courses as a high school student?

Yes

No

What was the quality of your experience with the agriculture course(s)?

Poor

Fair

Good

Excellent

Do you have any work experience in the field of agriculture?

Yes

No

What was the quality of your work experience in the field of agriculture?

Poor

Fair

Good

Excellent

Did your school meet AYP last year?

Yes

No

What is the total number of students enrolled at your high school, grades 9-12?

Is there an agricultural education program at your school?

Yes

No

What is the total number of students, grades 9-12 enrolled in agricultural education courses this school year?

How would you rate your familiarity with the FFA?

Poor

☐

Fair

☐

Good

☐

Excellent

☐

What percentage of students at your school is on free and reduced lunch?

What is the ethnic breakdown of your school?

When making decisions about program funding, I take the following items into consideration:
(Please list)

CURRICULUM VITAE

ANDY JOE MOORE

Education

Ed.D. in Educational Leadership 2013

Western Kentucky University

Bowling Green, Kentucky

Emphasis: Teacher Leadership

Dissertation: Perceptions of Kentucky Secondary School Principals About Agricultural Education Programs: A Comparison of Schools With and Without Agricultural Education Programs

Master of Arts in Education 2010

Western Kentucky University

Bowling Green, Kentucky

Major: Secondary Education

Emphasis: Agriculture Education

Bachelor of Science 2007

Western Kentucky University

Bowling Green, Kentucky

Major: Agriculture Education

Teaching Certificate

Kentucky

Agriculture Education (5-12)

Teaching Experience

Barren County High School

Department of Agriculture

Glasgow, Kentucky 42141

2008 - Present

- Agriculture Teacher, Horticulture Division
- FFA Advisor
- Campus Sports Turf Coordinator

Westmoreland High School

Department of Agriculture

Westmoreland, Tennessee 37186

2007 - 2008

- Agriculture Teacher
- Agriculture Department Head
- FFA Advisor
- FFA Alumni Co-Chairman
- Quantum Learning Leader

Simpson County Schools
 Franklin-Simpson High School
 Franklin, Kentucky 42134

2007

- Substitute Teacher
- Chaperone for the FSHS FFA

Presentations
and
Workshops

Moore, A. J. (2010). *Promoting Higher Education Seminar*. Barren County Middle School, Glasgow, Kentucky

Moore, A. J. (2010) *Introducing the Pork Industry Workshop*. Barren County 4-H Organization, Glasgow, Kentucky

Moore, A. J. (2010) *How to Recruit FFA Members as Jr. Cattlemen*. Barren County Cattlemen's Association, Glasgow, Kentucky

Moore, A. J. (2009) *Kentucky Gear-up Program for Higher Education Kick-off Event*. Barren County High School Chapter, Glasgow, Kentucky

Moore, A. J. (2008) *Hosted A Field Day for the Hardin County Cattlemen's Association*. Personal Family Farm in Barren County, Glasgow, Kentucky

Moore, A. J. (2008) *Tour and Presentation of Agricultural Facilities and Operations to the Western Kentucky University Glasgow Regional Campus Agriculture Students*. Barren County High School Agriculture Department, Glasgow, Kentucky

Moore, A. J. (2007) *Agricultural Awareness Workshop for Elementary Students and Teachers*. Westmoreland High School, Westmoreland, Tennessee

Courses Taught

Barren County High School

2008 - Present

- Agribiology
- Agricultural Sales and Marketing
- Agriculture Science and Technology
- Greenhouse Technology
- Turf and Landscape Management

Westmoreland High School

2007 - 2008

- Agriculture Mechanics
- Equine Science
- Greenhouse Technology
- Livestock Management
- Wildlife Management

Responsibilities and Offices Held

Committee Member, Barren County Agriculture Development Board (2012 - Present)

Committee Member, Barren County Horticulture Advisory Board (2012 - Present)

Director, Barren County Cattlemen's Association Board of Directors (2010 - Present)

Committee Chairperson, North Jackson Elementary School Edible Schoolyard Project, Barren County Schools (2010)

Sunday School Superintendent, Hanging Fork Missionary Baptist Church (2007 - Present)

Young Farmer Chairman, Barren County Farm Bureau (2005 - 2007)

Service Activities

Barren County High School

2008 - Present

- Facilitator, Nursery and Landscape State FFA CDE, Louisville, Kentucky
- Delegate Representing Barren County Cattlemen's Association at the Kentucky Cattlemen's Association State Convention, Lexington, Kentucky
- Instructor for FFA Treasurer Officer Class, Kentucky FFA Leadership Training Center, Hardinsburg, Kentucky

- Judge, Barren River Region FFA Proficiency Applications, Bowling Green, Kentucky
- Judge, Barren River Region FFA Nursery and Landscape Impromptu Speaking CDE, Bowling Green, Kentucky
- Coordinator, Beef and Dairy Cattle Shows for the Barren County Fair, Glasgow, Kentucky
- Coach, Nursery and Landscape FFA CDE, Barren County FFA Glasgow, Kentucky
- Coach, Archery FFA CDE, Barren County FFA, Glasgow, Kentucky
- Coach, Record Keeping Team FFA CDE, Barren County FFA, Glasgow, Kentucky
- Participated in numerous ARC Meetings, Barren County High School, Glasgow, Kentucky
- Organized numerous advisory and scheduling sessions
- Event Coordinator, Barren County High School Athletic Booster Club Glasgow, Kentucky

Westmoreland High School

2007 - 2008

- Judge, Middle Tennessee FFA Proficiency Applications, Lebanon, Tennessee
- Judge, Middle Tennessee FFA Speaking CDE, Lebanon, Tennessee
- Coach, All FFA CDE Events at Westmoreland High School, Westmoreland, Tennessee
- Held numerous advisory and scheduling sessions
- Collaborated with local elementary schools for the FFA PALS Program

Certifications and Trainings

- Kentucky Department of Agriculture, Division of Environmental Service Commercial Pesticide Certification (2009 - Present)
- Kentucky Beef Council, Quality Beef Assurance Certification (2008 - Present)
- Kentucky Department of Education, Career and Technical Education, Highly Qualified Agribiology Certification (2007 - Present)

Professional Organization Affiliations

- Association for Career and Technical Education (ACTE) (2008 - Present)
- National Association of Agricultural Educators (NAAE) (2008 - Present)
- Kentucky Vocational Agriculture Teachers Association (KVATA) (2008 - Present)
- Barren County Education Association (BCEA) (2008 - Present)

- Kentucky Education Association (KEA) (2008 - Present)
- National Education Association (NEA) (2008 - Present)
- Barren County Cattlemen's Association (2008 - Present)
- National Cattlemen's Beef Association (2008 - Present)
- Kentucky Cattlemen's Association (2008 - Present)
- Kentucky Farm Bureau (2008 - Present)
- Warren County Farm Bureau (2008 - Present)
- Barren County FFA Alumni (2008 - Present)
- Barren County Young Farmer Association (2008 - Present)
- Sports Turf Managers Association (2008 - Present)
- Sumner County Education Association (2007 - 2008)
- Tennessee Education Association (2007 - 2008)
- Westmoreland FFA Alumni Association (2007 - 2008)
- Western Kentucky University Collegiate FFA (2003 - 2007)

Conferences Attended

- Kentucky Career and Technical Education Conference, Louisville, Kentucky (2008 - Present)
- Kentucky Cattlemen's Association State Convention, Lexington, Kentucky (2009, 2010)
- Kentucky Young Farmer Association State Convention, Bowling Green, Kentucky (2009)

Honors and Awards

- Barren County FFA Honorary Degree (2009)
- Barren County Agriculture Department Turf Management Pilot Program Award (2009)

