

PERCEPTIONS OF SECONDARY AGRICULTURE TEACHERS  
AND 4-H YOUTH DEVELOPMENT EXTENSION PERSONNEL  
REGARDING COOPERATIVE BEHAVIOR

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Master of Science

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by  
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MAY 2008

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PERCEPTIONS OF SECONDARY AGRICULTURE TEACHERS  
AND 4-H YOUTH DEVELOPMENT EXTENSION PERSONNEL  
REGARDING COOPERATIVE BEHAVIOR

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And hereby certify that in their opinion it is worthy of acceptance.

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## DEDICATION

I dedicate this work to the memory of my brother Rodger Jessen,  
and my grandparents, Ray and Marion Stock.

## ACKNOWLEDGEMENTS

This project would not have been possible without the aid and guidance of many people. I am especially grateful for the assistance I received from the faculty of the Agricultural Education Department and my fellow graduate students at Mizzou.

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ABSTRACT

Numerous cooperative agreements and memoranda exist at the federal and state levels that suggest or require cooperation between the Extension agents and agriculture teachers. The purpose of this descriptive study was to determine the degree and types of cooperation that occur between secondary agriculture teachers and 4-H youth development personnel in Missouri.

Secondary agriculture teachers and 4-H youth development personnel acknowledge cooperation is important for secondary agricultural education and Extension youth development to succeed. However, discrepancies existed between the perceived level of participation in cooperative activities and the desired level of participation in cooperative activities. This study also investigated perceptions of cooperative activities, factors that are important to cooperation, and cooperative behaviors of secondary agriculture teachers and 4-H youth development personnel.

Twelve mean weighted discrepancy scores were calculated to determine and categorize discrepancies between the perceived level of participation in cooperative activities and desired level of participation in cooperative activities. Importance and affect of factors were ranked according to mean values. Furthermore, two context specific, case-type hypothetical scenarios were utilized to determine cooperative behaviors of agriculture teachers and Extension personnel. Mean weighted discrepancy scores were calculated to determine and categorize discrepancies between the perceived importance and desired importance of thirteen activity/factor items.

## CHAPTER I: INTRODUCTION

### Background and Setting

Secondary school agricultural education programs and University of Missouri Extension are individual programs charged with providing educational services to people. Similarly, the youth organizations associated with secondary agricultural education and the Extension service, FFA and 4-H, are also independent of each other. However, the missions and visions of these youth organizations are relatively similar.

The mission of secondary agricultural education programs in Missouri is to “prepare students for successful careers and a lifetime of informed choices in the global agriculture and natural resources systems” (Agricultural Education in Missouri, n.d., p. n.a.). This mission is accomplished through “a cooperative effort of practitioners, students, government, and industry” (Agricultural Education in Missouri, n.d., p. n.a.).

Public Law 740 was passed by Congress in 1950, which granted FFA a federal charter and identified FFA as a component of agricultural education (FFA, 2007). It is important to further note the mission of the FFA, as it directly pertains to secondary agricultural education. The *Official FFA Manual* (2007) stated the mission as: “FFA makes a positive difference in the lives of students by developing their potential for premier leadership, personal growth, and career success through agricultural education” (p. 5). Moreover, FFA “promotes cooperation and cooperative attitudes among all people” (p. 5). 4-H uses the motto “Learning to do by doing” which reflects similarity to the FFA motto, “Learning to Do, Doing to Learn, Earning to Live, Living to Serve”(FFA,

2007, p. 17). Further similarities beyond mottos may also be found in the mission statements and structures of both educational organizations.

4-H in Missouri is a youth development program of University of Missouri-Extension and Lincoln University. The mission of 4-H in Missouri is to “create environments in which young people are valued, contributing members of their community” (Linville, 2007, p. n.a.). In support of this mission, 4-H provides formal and non-formal community-focused experiential learning through volunteers and coordination by University of Missouri Extension faculty. Furthermore, 4-H offers school enrichment programs which are aligned to the Missouri educational standards determined by the MO Department of Secondary and Elementary Education (Linville, 2007).

*Historical Review of Agriculturally-Based Education in the United States*

Rufus W. Stimson, a leader in secondary agricultural education (Moore, 1988), stated, “too often new movements in education are launched in utter disregard for previous accomplishments and present agencies”(Stimson, 1920, p. 384). Therefore, a historical review of agriculturally-based education in the United States was conducted to determine the evolution of systems leading to the current Extension service and secondary agricultural education programs.

America was originally settled by people who had no choice but to become engaged in some facet of agriculture (Ball, 1936). These people were familiar with techniques used for generations in their countries of origin. However, in the 75 years preceding the Civil War, a greater amount of progress was made in agriculture than in all previous history, resulting in the people of the United States needing agricultural

instruction (Ball, 1936, 1938). As the United States expanded westward, the population increased exponentially resulting in greater urbanization and less self-sufficient farmers. As the population expanded, so did the need for teaching agriculture. Ball (1936) noted that the teaching of agriculture in American schools “grew from a single chair in Columbia University in 1792, through a series of short-lived local schools beginning in 1823, to agricultural colleges, of which five developed between 1854 and 1860” (p. 3).

The creation of the United States Department of Agriculture (USDA) was approved by President Lincoln in 1862; the same year that the Morrill Act allowed for the creation of the Land-Grant system of colleges (Ball, 1936). Notably, the early history of the USDA, from 1862 to 1962, reflected four major trends in American agriculture: improvement, protection, education, and stabilization (Ball, 1936). Each stage was a direct reflection of some aspect of educating the American public. While Ball noted that the classification of each period was somewhat arbitrary, the first two periods, which spanned from 1862 to 1887 and 1888 to 1912, were primarily characterized by a focus on developing USDA services to improve and protect the American producer and consumer. Ball further noted that the third period, from 1913 to 1932, was characterized as a time of “fact distribution”(p. 8), which focused on education, Extension, and non-resident teaching; made further evident by the passage of the Smith-Lever Act in 1914. Ball (1936) suggested that “education of the farm family, adult and juvenile alike, in better materials, methods, and living standards, and education of all consumers in the agricultural problem as it affects the entire country”(p. 7). Ball’s fourth period was a forecast from 1933 to 1962 which he predicted to be a time characterized by the stabilization of agriculture.

The state of Missouri followed the lead of the federal government toward educating the public about agriculture. Established by the Geyer Act of the 10<sup>th</sup> General Assembly in 1839, the University of Missouri was the first state university west of the Mississippi River, and is located in Columbia (Barber, 1990). As Barber noted, the Morrill Act of 1862 established the University of Missouri as a Land Grant institution and provided the University the ability to secure 330,000 acres of land. Lincoln University, located in Jefferson City, MO, was founded in 1866 as the Lincoln Institute, which later became a Land Grant institution under the Second Morrill Act in 1890. Lincoln Institute, which later became Lincoln University, added agricultural and industrial courses to the curriculum in 1891 ("History of Lincoln University," n.d.).

The Morrill Act of 1862 was the first specific action of the federal government to educate the American public about agriculture, followed by the Hatch Act of 1887, and the second Morrill Act passed in 1890 (Barber, 1990). The historical roots of agriculturally-based education can be found in the Morrill Act of 1862, which led to Public Law No. 95, of the 63<sup>rd</sup> Congress passed in 1914, and Public Law No. 347 of the 64<sup>th</sup> Congress passed in 1917. These laws collectively provided for the promotion of vocational education and cooperation between the states and federal government for the promotion of agriculturally-based education (Shinn & Cheek, 1981). Furthermore, the Morrill Acts (1862 and 1890), also known as the Land-Grant Acts, and the Hatch Act provided the means to nationally establish land-grant universities and eventually the Cooperative Extension Service.

The Smith-Lever Act of 1914 established the Cooperative Extension Service with the goal to “extend educational opportunities to all and to apply the benefits of scholarly

research to the needs of people at the local level” (Barber, 1990, p. 17). Furthermore, the Act required Cooperative Extension work between agricultural colleges in states receiving benefits of the 1862 and 1890 Morrill Acts (Seevers, Graham, Gamon, & Conklin, 1997). As Barber noted, “the Smith-Lever Act made the transfer of information a national priority.... [It established] a staff of qualified teachers to take research data to all sections of the county – bringing information to all Americans” (p. 17).

### *Historical Perspective of Cooperative Efforts in Agricultural Education*

In 1893, the Agriculture Office of Experiment Stations (AOES), a division of the USDA, began to demonstrate interest in below-college grade agricultural education, which was indicated in the office director’s annual reports of 1893 and 1894 (True, 1929). According to True, the AOES Director stated, “what is needed is courses in agriculture in numerous schools to which farmers’ children resort, near their home, to ‘finish’ their education after they are through with the common schools” (p. 329). True further noted that AOES began to promote the idea of agricultural education in secondary schools in 1902 through publications and meetings with farmers and educators. After 1902, the movement for secondary education in agriculture was quickly expanding as it was promoted by federal, state, and local agencies. A federal Department of Agricultural Education was established in 1905 (True, 1929). The movement succeeded with the introduction of agriculture into various kinds of schools.

An appropriation Act passed by the USDA authorized the AOES to investigate and report upon “plans and methods for making such [agricultural schools] more effective in the dissemination of the results of the Department of Agriculture and the

agricultural experiment stations, and of improved methods of agricultural practice” (True, 1929, p. 330). The AOES continued to publish special reports on the American system of agricultural education and home projects in secondary agriculture (True, 1929). True further noted that after the formation of the Department of Rural and Agricultural Education was formed in 1907, a roundtable of agricultural educators was attended by representatives from the USDA, the United States Commissioner of Education, the president of the Massachusetts Agricultural College, and the president of the State Normal School at Kirksville, MO. At the roundtable, a presentation was made regarding cooperation between the USDA and state school authorities that resulted in the document titled, *Cooperation between the United States Department of Agriculture and State School Authorities to Promote Agricultural Education* (True, 1929).

In 1914, the Commission on National Aid to Vocational Education began an investigation to determine the level of skills preparation that students were receiving in public schools. The results provided the necessary justification for agricultural education in public schools, which led to the Smith-Hughes Act in 1917. The stated purpose of the Smith-Hughes Act was to promote vocational education in agriculture, trade and industry, and homemaking (Buddle, 1981). Hamlin (1949) noted that education in the community and the school are closely related; the school cooperates with the agencies of the community, but remains independent of them.

Though the Smith-Lever Act and the Smith-Hughes Act essentially established two separate educational systems, both systems were sponsored by the federal government and both addressed the need for educating rural people in agriculture (Lemons, 1958). As Lemons noted in his review of literature, *The Joint Committee*

*Report on Extension Programs, Policies, and Goals* (1948) stated: “Close and harmonious operating relationships between extension [*sic*] workers and local teachers of vocational agriculture and home economics are particularly essential.... Workers in both fields are public servants engaged in educational work, many times both with the same individuals” (p. 21). Omar (1963) noted in his review of literature that in 1959 the *Scope Report* was published which stated, “Cooperating public agencies will always have an important role to perform in Extension work, and as the educational arm of the U.S.D.A. and Land Grant system, Extension itself has specific responsibilities to these agencies...” (Omar, p. 3). Omar further noted that Extension has a responsibility to cooperate with public agencies to:

1. make sure its own people know the personnel and understand the mission of the other agencies, and also fully understand their own educational responsibilities in connection with the work of other agencies.
2. offer other agencies the opportunities to become familiar with Extension personnel and programs.
3. provide research information and other specialized help needed by other agencies.
4. ask freely for appropriate help and advice and service from other agencies in connection with extension projects (p. 3).

In addition to the publications previously cited, several other documents specifically outline ways in which various state and federal legislators, as well as state and federal program administrators, suggested that Extension personnel and agriculture teachers cooperate. However, concern of the duplication or overlap of services paid for by tax dollars was pointed out by Horne (1940) and Lemons (1958). Several researchers (Boyle, 1958; Bryant, 1965; Buddle, 1981; Hamlin, 1949; Horne, 1940; Jefferies, 1949; Lemons, 1958; Omar, 1963; Rutherford, 1929) have noted that overlapping of the Smith-

Hughes Act and Smith-Lever Act may occur in several areas, most of which are related to how both programs disseminate agricultural information to people in the same community. Many of the same people are involved in both organizations because both organizations often exist in the same communities (Stimson & Lathrop, 1942). Hamlin (1949) noted that previous attempts made to develop memoranda of understanding on the state and national levels were not successful. Hamlin further noted that the Extension service and secondary agricultural education are both regulated by state and federal governments; therefore, “neither has precedence over the other” (p. 161). Hamlin suggested that although agreements of cooperation must be developed, “a certain amount of friendly rivalry may be desirable” (p. 162).

#### Secondary Agricultural Education and Extension Service in Missouri

The observance of Arbor Day in 1886 was suggested to be the first movement toward agricultural education in public schools in Missouri (Stimson & Lathrop, 1942). Stimson and Lathrop further identified that in 1899, Senate Bill No. 448 outlining requirements of teachers’ certificates, determined that teachers with a first-grade certificate were expected to be able to teach agriculture. In 1909, the previous requirements were amended to require teachers of all grades to pass an examination in elementary agriculture.

Secondary schools in the State of Missouri were among the first to offer courses in agriculture (True, 1929). True noted that the State Normal School in Kirksville was the first secondary school in the United States to attempt a systematic course in agriculture, followed by schools in Cape Girardeau and Warrensburg.

Numerous changes have affected the structure and identity of the Extension service in Missouri, most notably by the administration of the University or state-level administrators of the Extension service. In 1910, the Curators of the University of Missouri established the University Extension Division, and in 1912 the Agricultural Extension Service (Barber, 1990). The Agricultural Extension Service provided counties with a “County Farm Advisor,” who was a representative from the College of Agriculture. By 1920, 54 of the 144 counties in Missouri had County Farm Advisors, later referred to as County Extension Agents who were charged with providing “all farmers with practical and scientific information” (Barber, 1990, p. 25).

As Barber (1990) noted, in 1960 under the directorship of Dr. C. Brice Ratchford, the Missouri Extension Service reassigned many county Extension agents to the role of Extension Specialist; therefore, shifting their responsibility from a single county to multiple counties. Further, Dr. Ratchford was noted for his position that the Land Grant University was obligated to work closely with other agencies and farm organizations to serve all citizens. In 1972, Lincoln University and the University of Missouri established the first unified Extension program in the nation (Bennett, 2005).

Unlike some state’s Extension systems which have strong administrative and resource ties predominantly within the College of Agriculture, the University of Missouri Extension system (Figure 1) has a central administration within the University of Missouri System. University of Missouri Extension draws expertise and faculty from each of the universities (University of Missouri – Columbia, Kansas City, Saint Louis, and Missouri University of Science and Technology) within the University of Missouri System and from Lincoln University.

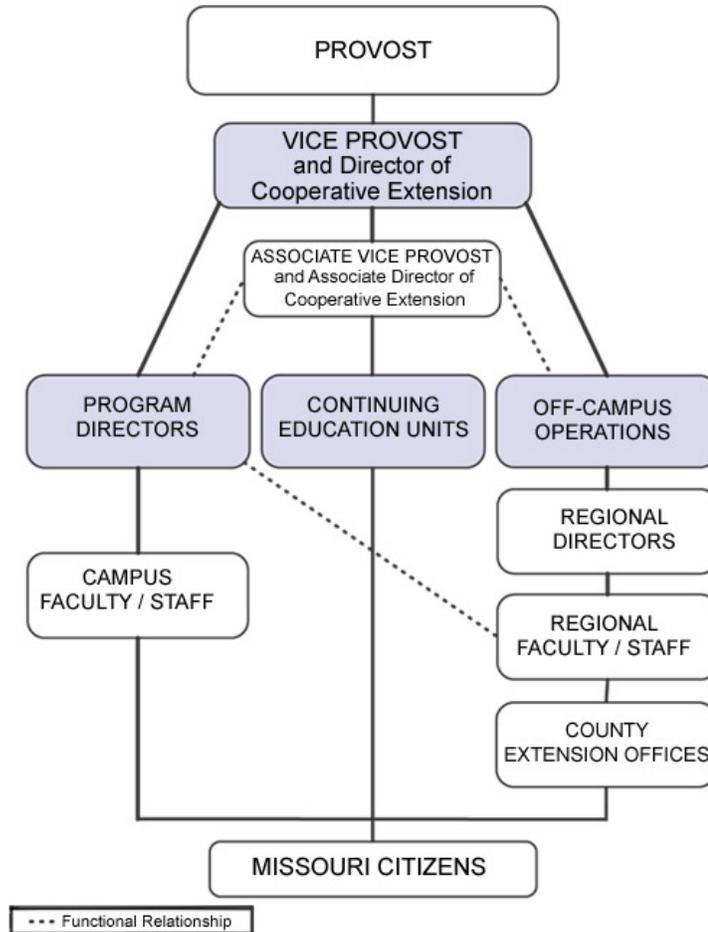


Figure 1. University of Missouri Extension Structure (*MU Extension, 2007*)

### *Training Programs for each Profession*

The Smith-Hughes and Smith-Lever Acts identified similarities in the roles of agriculture teachers and Extension personnel. Few have argued that each program approaches their role in educating the people in different ways (formal versus nonformal) both programs nevertheless are types of agricultural educators.

Miller, Kahler, & Rheault (1989) suggested that an effective agricultural educator will develop course activities which reflect life-like situations, engage in positive

interpersonal relationships, uphold professional responsibilities, and promotes positive interaction. One example reflecting life-like situations is frequently noted in the implementation of the project method (Moore, 1988), developed by Stimson (1920). Furthermore, the National FFA Organization promotes the *Agricultural Education 3 Part Model* (Appendix A), which suggests a balance of supervised agricultural experience, classroom instruction, and FFA; a further example of life-like learning and professional responsibilities provided to all members of the FFA. Moreover, according to the National FFA website, FFA strives to develop “interpersonal skills in teamwork, communications, human relations and social interaction” (FFA, n.d.) Similarly, the Extension service implements the *Experiential Learning Model* (Appendix B) which reflects life-like learning situations, promotes positive interaction, and engages youths in positive interpersonal relationships.

Roberts and Dyer (2004) suggested that schools strive to hire and retain “effective teachers” as a mean to increase student performance (p. 82). Additionally, Roberts and Dyer’s Delphi study suggested that an effective agricultural teacher communicates well with others, is passionate for their subject matter, and effectively plans for instruction, as being among their upper results. Similar to a public school’s dependence on teachers, “the success of Extension programs will be determined to a large degree by the ability of the ability of the Cooperative Extension Service to keep highly qualified agents” (Cooper & Graham, 2001, p. n.a.). Cooper and Graham (2001), suggested that public relations skills as well as personal and professional development, ability to plan programs, and involving people in program planning, were among the most needed competencies of a successful county agent in Arkansas. Furthermore, Cooper and Graham also found that

having positive relations with key leaders, and personnel were viewed as important competencies. Several personal qualities of an agent were described including having experience as a teacher, being credible and respected, and having positive attitude.

The idea of jointly educating secondary agriculture teachers and 4-H youth development personnel has been debated for decades (Bender, 1977; Crawford, 1977; Hillison, 1996; Shinn & Cheek, 1981). Land-Grant universities have the “responsibility for preparing extension workers the same as they have for teachers of vocational agriculture” (Bender, 1977, p. 2). Bender further suggested that similarities exist in preparation of secondary agriculture teachers and 4-H youth development Extension personnel. Thus, the function of agricultural education departments could adequately train the 4-H Extension agents as well. Bender pointed out that the clientele of each organization is similar. Furthermore, Bender suggested that training both professions in one program would result in graduates prepared to serve the clientele of either organization.

Crawford (1977, p. 7) suggested that if a student graduated with the ability to enter into either profession, the students should receive adequate training to enter either profession. Additionally, Crawford suggested that because secondary agriculture teachers receive a student teaching practicum, so should extension educators. Crawford further suggested that students who graduate with the option of entering either profession should be required to receive practicum in both. Although Crawford acknowledged the benefit of the additional experience of students receiving both practicums, he questioned whether adequate time is available in an undergraduate program. Moreover, Bender suggested that

both organizations can benefit from joint learning experiences and may prevent misunderstandings regarding the other organization.

### Summary

Secondary school agricultural education programs and University of Missouri Extension are federally sponsored programs with historical roots in the United States Department of Agriculture. The Smith-Hughes Act and the Smith-Lever Act essentially established two separate educational systems to meet the need of educating rural people in agriculture (Lemons, 1958). Missouri was the place of the first secondary school in the United States to attempt a systematic course in agriculture (True, 1929) as well as the first state to form a unified Extension program (Bennett, 2005). Both educational programs have experienced substantial changes since their founding. However, both educational systems remain responsible for the dissemination of agricultural information to the people of Missouri; many of which are involved in both organizations because both organizations often exist in the same communities.

### Statement of the Problem

Lemons (1958) and Omar (1963) both noted that Rogers conducted a study of the nature of memoranda of understanding between Extension services and State Departments of Vocational Education. Rogers obtained 17 memoranda by contacting directors of the Extension service in each state by mail. Rogers, in an unpublished seminar report (as cited in Lemons, 1958; Omar, 1963), reported the following:

1. Fourteen out of seventeen states were in agreement that separate projects can be carried out by members belonging to both programs.

Two states stated that the decision should be left up to the boy and his parents.

2. In regard to activities conducted jointly by the 4-H club and FFA, twelve states felt that exhibits, fairs, and shows participated in by boys and girls enrolled in vocational agriculture and 4-H club work would be separate. Two states felt that exhibits, fairs, and shows should be held jointly.
3. Concerning the Question of whether or not to belong to both the 4-H club and the FFA, six states felt that eligible youths could be members of both a 4-H club and FFA chapter or of either group. Five states felt that every effort possible to prevent duplication of membership should be exercised. (p. 14)

Omar (1963) further noted that all of the previously presented memoranda were designed to clarify the differences of the organizations, identify areas of overlap, and promote positive working relationships for the benefit of the people.

The mere existence of the numerous cooperative agreements and memoranda suggest that states and the federal government have acknowledged that cooperation between the Extension agents and agriculture teachers is important and must be clarified. Despite the importance of this premise, most of the supporting evidence has been drawn from research conducted regarding business and industry. Kogut noted that “competitive conflicts disturb the stability of the cooperative agreement”(1989, p. 183). Furthermore, joint ventures or partnerships are frequently unstable and that stability is promoted by the potential to reciprocate. Mohr and Spekman (1994) suggested that partnerships are formed to achieve a set of goals. Therefore, clarification is necessary to determine appropriate levels of cooperation between agriculture teachers and Extension agents.

Despite the numerous studies on cooperation present in the literature (Boyle, 1958; Buddle, 1981; Bundy, 1929; Cardenas & McComas, 1963; Diatta & Luft, 1986; Horne, 1940; Jefferies, 1949; Lemons, 1958; Omar, 1963; Rutherford, 1929; Smith, 1966), ambiguity exists whether cooperative agreements are affective, primarily from the number of revisions made to previously written documents and the continuous research that has previously been conducted regarding cooperation between organizations. Moreover, the researcher is not aware of any study has been conducted in the state of Missouri to determine what extent secondary agriculture teachers and Extension personnel cooperate.

Therefore, the previous similar studies have provided guidance in formulating an appropriate research question: What are the perceptions of cooperation between secondary agriculture teachers and 4-H youth development personnel in Missouri?

#### Purpose of the Study

Previous similar studies (Bryant, 1965; Buddle, 1981; Diatta & Luft, 1986; Lemons, 1958; Omar, 1963; W. L. Smith, 1966) have provided valuable insight and have aided in determining the purposes of this study. Similar to the findings of the previously stated studies, Ball (1938) stated that “a corollary has been the habit of individual achievement for personal credit rather than of teamwork for the public welfare” (p. 11). Therefore, the purpose of this study was to determine the degree and types of cooperation that occur between secondary agriculture teachers and 4-H youth development personnel in Missouri.

## Research Objectives

An extensive review of the literature has indicated that ambiguity exists within the findings of previous similar studies (Boyle, 1958; Bruce & Ricketts, 2007; Bryant, 1965; Buddle, 1981; Cardenas & McComas, 1963; Diatta & Luft, 1986; Grage & Place, 2004; Grage, Ricketts, & Place, 2002; Horne, 1940; Jefferies, 1949; Lemons, 1958; Omar, 1963; Ricketts & Place, 2005; Rutherford, 1929; Schroeder & Moss, 1984; W. L. Smith, 1966). These studies indicate disagreement on factors suggested to influence the level and extent of cooperative behavior. These factors include demographics, activities and factors perceived to be appropriate, interorganizational behaviors toward goals, and the extent of promotion of between the organizations. Therefore, this study sought to determine the following research objectives:

1. Determine the demographics (gender, age, location of residence, level of academic degree attained, and length of experience) of secondary agriculture teachers and 4-H youth development personnel in Missouri.
2. Determine how many secondary agriculture teachers and 4-H youth development personnel were members of 4-H and/or FFA as a youth.
3. Determine what factors secondary agriculture teachers and 4-H youth development personnel perceive as being important to cooperative relationships.
4. Determine what cooperative activities secondary agriculture teachers and 4-H youth development personnel participate in.

5. Determine what the discrepancy is between the actual and the desired level of participation in activities of secondary agriculture teachers and 4-H youth development personnel.
6. Determine what levels of cooperative behavior (cooperate, give and take, defect) secondary agriculture teachers and 4-H youth development Extension personnel exhibit.
7. Determine the perceived level of importance of activities or factors that affect cooperative behavior between secondary agriculture teachers and 4-H youth development personnel.
8. Determine the discrepancy between the actual and the desired level of importance of activities or factors that affect cooperative behavior of secondary agriculture teachers and 4-H youth development personnel?
9. Determine if secondary agriculture teachers and 4-H youth development personnel aware of cooperative agreements in Missouri?

#### Definition of Terms

Competition – A win-lose mentality, typically evidenced by goal incompatibility (Rentsch & Zelno, 2003); the idea that one’s goal attainment precludes, or at least makes less likely, the goal attainment of others (Tjosvold, West, & Smith, 2003).

Conflict – A state of discord caused by the actual or perceived incompatibilities in interests, goals, or behaviors (Deutsch, 2000).

Cooperation – The ability of individuals or groups to share resources, in an effort to jointly pursue compatible interests and obtain mutual rewards (Das & Teng, 1998; Deutsch, Epstein, Canavan, & Gumpert, 1967; Perry, 1975).

County 4-H Youth Development Personnel – Persons employed cooperatively by county governments and the University of Missouri Extension to develop and conduct youth development educational programs for the people of Missouri. This term refers to faculty and staff with the title of assistant, associate, educator, or specialist as determined by the University of Missouri Extension Service.

Extension Service – A public-funded nonformal, educational system that links the education and research resources of the USDA, the joint Extension of the University of Missouri and Lincoln University, and county administrative units. The basic mission of the system is to help people improve their lives through an educational process that uses scientific knowledge focused on issues and needs of the people (Seevers et al., 1997).

Independence – Incidences when one believes their goals are unrelated; therefore, the goal attainment of one neither helps, nor hinders the goal attainment of the other (Tjosvold et al., 2003).

Interdependence – Incidences when goals are related; therefore, the goal attainment of one helps or hinders the goal attainment of the other (Tjosvold et al., 2003).

Partnerships – Purposive strategic relationships between independent [organizations] who share compatible goals, strive for mutual benefit, and acknowledge a high level of interdependence (Mohr & Spekman, 1994, p. 135).

Secondary Agricultural Education – A public-funded, formal education system, consisting of public school programs providing instruction in agriculture to secondary school students in accordance with the specifications and objectives of the Smith-Hughes Act of 1917 and subsequent Acts (Buddle, 1981).

Secondary Agriculture Teacher – Persons employed by public school systems to conduct educational programs in agriculture for secondary students under the specifications and objectives of the Smith-Hughes Act of 1917 and subsequent Acts (Buddle, 1981).

give and take – Also referred to as TIT FOR TAT. A “give and take” relationship where each individual has the opportunity to reciprocate the previous action or decision made by the other individual (Axelrod, 1984).

#### Limitations of the Study

Descriptive survey research is a type of nonexperimental research that uses questionnaires to “summarize the characteristics of different groups [and] to measure their attitudes and opinions toward some issue” (Ary, Jacobs, Razavieh, & Sorensen, 2006, p. 31). Characteristics have been identified and described in the following chapter. Furthermore, no experimental or manipulative procedures were employed, thus excluding the possibility of this study being experimental in nature. Therefore, this study sought to describe the characteristics and opinions of secondary agriculture teachers and 4-H youth development personnel in Missouri. Therefore, no generalization beyond Missouri can be made.

The data in this study reflects the perceptions of the secondary agriculture teachers and Extension personnel surveyed. Perceptions are merely a reflection of what one thinks or believes to be the situation, the data collected is necessarily subjective; however, a consensus of all of these opinions may become objective (Lemons, 1958). Furthermore, it is important to acknowledge that as situations change, the opinions toward them may also change.

### Basic Assumptions

Numerous studies (Anderson, 1979; Buddle, 1981; Grage & Place, 2004; Grage et al., 2002; Horne, 1940; Omar, 1963; Ricketts & Place, 2005; W. L. Smith, 1966) have identified that secondary agriculture teachers and 4-H youth development personnel in several states, in various regions of the country, have cooperated to varying extents. Therefore, the assumption must be made that Missouri secondary agriculture teachers and 4-H youth development personnel are capable of interdisciplinary cooperation.

According to Axelrod, (1997) “in complex environments, individuals are not fully able to analyze the situation and calculate their optimal strategy. Instead they can be expected to adapt their strategy over time based on what has been effective and what has not”(p. 14). Therefore, the assumption must be made that the environment of Missouri secondary agriculture teachers and 4-H youth development personnel is complex.

Omar (1963) noted that an increase in communication between organizations will result in a greater level of effectiveness. Therefore, the basic assumptions of this study are:

1. Missouri secondary agriculture teachers and 4-H youth development personnel are capable of interdisciplinary cooperation.
2. The environment of Missouri secondary agriculture teachers and 4-H youth development personnel is complex.

The Prisoner's Dilemma framework requires further assumptions be made, which Axelrod identified in his 1984 work (pp. 17-18):

1. The payoffs of the players need not be comparable at all.
2. The payoffs certainly do not have to be symmetric.
3. The payoffs of a player do not have to be measured on an absolute scale. They need only be measured relative to each other.
4. Cooperation need not be considered desirable from the point of view of the rest of the world.
5. There is need to assume that the players are rational. Their strategies may simply reflect standard operating procedures, rules of thumb, instincts, habits, or imitation.
6. The actions that players take are not necessarily even conscious choices. A person who sometimes returns a favor, and sometimes does not, may not think about what strategy is being used.

## Significance of the Problem

“Successful cooperation in agricultural activities depends largely on the attitude and reaction of the personnel involved. Attention to this phase of the problem, therefore, is amply justified” (Ball, 1938, p. 11). As Weiss (1987) noted, “cooperation is easier to advocate than practice” (p. 94). The significance of cooperation between secondary agriculture teachers and 4-H youth development personnel, is not a new phenomenon and has been noted in many studies (Anderson, 1979; Bruce & Ricketts, 2007; Buddle, 1981; Bundy, 1929; Cardenas & McComas, 1963; Davis, 1929; Diatta & Luft, 1986; Grage & Place, 2004; Grage et al., 2002; Horne, 1940; Lemons, 1958; Omar, 1963; Ricketts & Place, 2005; Rutherford, 1929; Smith, 1966; Stimson, 1929; Wheeler, 1929). Over a span greater than 70 years, no less than 17 studies have been conducted in at least 13 states regarding cooperation between secondary agriculture teachers and 4-H youth development Extension personnel. These studies have demonstrated that relationships between secondary agriculture educators and 4-H youth development personnel vary among the states. Furthermore, in his historical writings regarding relationships in agriculture, Ball (1938) suggested:

One type of relation may prevail at one time or in one place while another prevails at the same time in another place, or in the same place at another time. Similarly, at any time or place, one individual or groups may hold a certain attitude and another individual or group may feel quite differently.  
(p. 2)

Therefore, variations exist between states and the perceptions of cooperation between secondary agriculture teachers and 4-H youth development Extension personnel.

While numerous attempts at forcing cooperation have been made by State and Federal governments (Appendix B), mostly by way of legislation, formal agreements, and

memoranda, these attempts have proven to be less than effective. As Hillison stated, “both organizations have suffered budget cuts, but still have a very large clientele to serve” (1996, p. 13).

Should this study clarify the perceptions of activities and factors which contribute to a cooperative relationship between secondary agriculture teachers and 4-H youth development personnel in Missouri, the conclusions may eventually contribute to a mutually beneficial relationship between the organizations. Furthermore, it is only through joint efforts of both secondary agriculture teachers and 4-H youth development personnel that a contribution to the people of Missouri can be achieved to any great extent (Lemons, 1958).

Knowledge of the present situation between the educational systems, and more importantly, the contributing factors responsible for the situation, should be of value not only to the secondary agriculture teachers and 4-H youth development personnel currently employed, but it may be of even greater value to future secondary agriculture teachers and 4-H youth development Extension personnel, because improvements are often “made from knowing the experiences of the past and having the ability to plan wisely for the future” (Lemons, 1958, p. 3). Moreover, knowledge of the present situation may influence the postsecondary training of secondary agriculture teachers and 4-H youth development Extension personnel.

## CHAPTER II: REVIEW OF LITERATURE

### Theories

#### *Cooperation, Competition, and Independence*

A review of the literature has demonstrated that the study of conflict has been influenced greatly by the writings of Darwin, Marx, and Freud prior to the 20<sup>th</sup> Century (Deutsch & Coleman, 2000). The social psychological profession studied conflict beginning the 1920s ; however, Deutsch was the first to theorize the intertwining of cooperative and competitive interests in relation to conflict with his dissertation work in 1949 (Deutsch & Coleman, 2000; West, Tjosvold, & Smith, 2003).

Deutsch suggested that the outcome of the efforts made toward reaching a goal could be categorized into three categories; cooperation, competition, and independence (Deutsch, 2003; Young, 2003). Deutsch (p. 14) further suggested that “conflicts were typically mixtures of cooperative and competitive processes and that the course of conflict would be determined by the nature of the mixture.”

Deutsch (2003) provided that game theory offers social scientists a quantitative method of determining the mixture of cooperation and competition in regard to conflicts.

Therefore, the literature reviewed in this chapter has sought to define and explain the aspects of cooperation, competition, and conflict related to Deutsch’s *Theory of Cooperation and Competition*. Furthermore, literature has been reviewed regarding von Neumann and Morgenstern’s *Game Theory*, which provided a quantitative explanation of cooperation. Moreover, the literature identified several contributing or related factors of

cooperation, such as competition and conflict; therefore, explanation of such factors was sought.

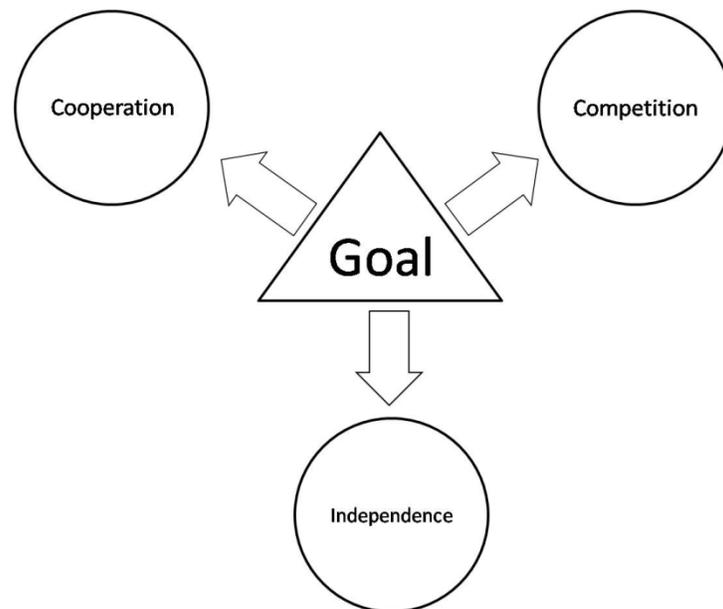
### *Deutsch's Theory of Cooperation and Competition*

Deutsch (1949a, 1949b, 1973, 2000) is credited with initially developing the theory of Cooperation and Competition beginning in the 1940's and has continued to elaborate on his original work. Deutsch explained that his theory has two premises, one relates to the type of interdependence among goals of the people involved in a given situation, the other pertains to the type of action taken by the people involved (Deutsch, 2000). Deutsch suggested that when there is interdependence, entities will pursue goals in their own self interest (Tjosvold et al., 2003). However, their interaction depends on their belief in how their goals are related and their interaction determines the outcome (Tjosvold et al.).

Deutsch (2000) proposed two types of goal interdependence: positive and negative. He explained that positive goal interdependence will result in mutual benefit or loss, whereas negative interdependence will result in one person or organization reaping benefit, while the other suffers loss. Deutsch offered a sink or swim analogy to illustrate the differences between positive and negative interdependence. As he described, positive interdependence occurs when entities involved will either swim together (mutually benefiting) or sink together (mutually suffering). Conversely, negative interdependence occurs when one entity swims (independently reaping benefit) while the other entity sinks (independently suffering loss). Furthermore, Deutsch (2000) provided that the occurrence of "purely" positive or negative situations is rare because people most often have a

mixture of positive and negative interdependent goals. Moreover, Deutsch recognized that while there are two types of interdependence, occasions do exist where no interdependence will occur. Figure 2 illustrates that when entities are independent, no conflict occurs between the entities; the entities have no affect on one another, directly or indirectly. Therefore, without continual interaction, interdependence does not exist.

Deutsch (2000) additionally characterized two types of actions by individuals: “effective actions” and “bungling actions.” Deutsch suggested that effective actions will improve the chances of the entity attempting to reach a goal, while bungling actions hinder the chances of an entity in attaining their goal.



*Figure 2.* When entities are independent, no conflict occurs between the entities; the entities have no affect on one another, directly or indirectly (Deutsch, 2000).

## *Cooperation*

Schermerhorn's (1975) study on inter-organizational cooperation defined cooperation as "the presence of deliberate relations between otherwise autonomous organizations for the joint accomplishment of individual operating goals" (p. 847). Similarly, Qin, Johnson, and Johnson (1995) defined cooperation as "the presence of joint goals, mutual rewards, shared resources, and complementary roles among members of a group" (p. 131).

Deutsch, Epstein, Canavan, and Gumpert (1967) suggested that cooperation is possible even when a group is not initially or persistently cooperative. Das and Teng's 1998 study of economic cooperation between firms defined cooperation as "the willingness of a partner firm to pursue mutually compatible interests in the alliance rather than act opportunistically" (p. 492). Das and Teng further added that dishonesty and deviousness are behaviors which are typical of opportunistic behavior; while honesty, integrity, and compliance with agreements are suggested to be behaviors characteristic of cooperation. Perry (1975) suggested that cooperation is commendable, especially when working together for the benefit of the group.

Ring and Van de Ven (1994) noted that cooperative relationships begin small and grow in increments due to a relatively small amount of trust. As the relationship is maintained over time, increasing levels of trust are developed as the relationship is perceived to be equitable for both parties. Each investment into the relationship perpetuates and expands the level of trust. As the level of trust increases, the relationship more likely to shift from formal agreements such as contracts, to informal understandings and commitments.

In addition to Ring and Van de Ven (1994), numerous authorities and researchers (Deutsch, 1958; Jones & George, 1998; Ring & Van de Ven, 1992; Ring & Van de Ven, 1994; Smith, Carroll, & Ashford, 1995; Zaheer, McEvily, & Perrone, 1998) have indicated that trust is a characteristic of cooperation. According to Jones and George (1998), “Scholars have widely acknowledged that trust can lead to cooperative behavior among individuals, groups, and organizations” (p. 531). Reina and Reina (2006) suggested that among other reasons, restructuring, shrinking resources, and asking people to do more with less, are reasons indicating a need for trust. Similarly, Hillison (1996) indicated that it is increasingly important for agriculture teachers and Extension personnel to do more with less. Therefore, trust is a concern of both organizations.

In his 1958 work, *Trust and Suspicion*, Deutsch indicated that trust occurs when an expected event and an individual’s expectation leads to behavior which is perceived to have greater negative motivational consequences if the expectation was not confirmed, than positive motivational consequences if it was confirmed. Deutsch further explained that trust can be individual or mutual. Mutual trust occurs when two parties have complementary social trust with regard to each party’s behavior, especially when the parties are positively oriented to each other’s welfare. Trust is further established when both parties communicate what each party is responsible for as part of the cooperation and determine what procedures would be necessary to rectify the situation should one party default in the agreement. In the situation of cooperation between agriculture teachers and Extension personnel in Missouri, an agreement (Appendix C) has been developed to aid in determining what each organization’s role is in relation to youth development.

Ring and Van de Ven (1992) identified trust as a source of confidence in cooperation. They further suggested that “personal embeddedness at a minimum is a necessary condition for trust” (p. 488). In a later study by Ring and Van de Ven (1994), they identified two views on trust: risk-based and goodwill-based trust. Ring and Van de Ven qualified risk-based trust, as trust based on “formal contractual means such as guarantees, insurance mechanisms, laws, and organizational hierarchy” (p. 93). Ring and Van de Ven qualified goodwill-based trust as being fair, guided by social norms, assuming that others mean to do well, and that socially acceptable is standard.

Smith, Carroll, and Ashford (1995) noted that trust has significant implications on cooperative relationships and suggest that further research on trust is necessary. Additionally, Zaheer, McEvily, and Perrone (1998) suggested that ambiguity exists within the literature and that the specific level of influence of trust in inter-organizational relationships was not evident. Zaheer and his associates clarify that “trust refers to expectations about positive motives” (p. 494).

History has demonstrated the need for cooperation between secondary agriculture teachers and Extension personnel. In addition to studies and presentations previously noted, several more recent studies (Grage & Place, 2004; Ricketts & Place, 2005) and research presentations (Bruce & Ricketts, 2007; Grage et al., 2002) regarding cooperation between secondary agriculture teachers and 4-H youth development Extension personnel, have demonstrated that cooperation between the organizations is still of concern.

### *Competition*

Perry (1975) suggested that competition and cooperation are similar in the sense that they are categorized as types of group interaction. Competition is a normal occurrence within group of people such as those organizing or partaking of educational experiences. Qin, Johnson, and Johnson (1995) defined competition as “the presence of a goal or reward that only one or a few group member(s) could achieve by outperforming the others” (p. 131). It is important to note that occasionally, competition exists between organizers or leaders, but not the group involved (Perry, 1975).

### Interorganizational Cooperation

Various aspects of cooperation have been studied for many years, (Clark, 1965; Das & Teng, 1998; Deutsch et al., 1967; Jones & George, 1998; Julian & Perry, 1967; Nielsen, 1988), including aspects of inter-organizational cooperation evident in the literature (Evan, 1965; Galaskiewicz, 1985; Ring & Van de Ven, 1992; Schermerhorn, 1975; K. G. Smith et al., 1995). A similar trend has been reflected in articles, documents, and studies that have specifically addressed cooperation between agricultural educators and Extension personnel of various circumstances (see Table 1).

Table 1

*Research Conducted on Cooperation between Secondary Agriculture Teachers and  
County Extension Personnel*

Researcher(s)	Year Published	State of Research
Rutherford, D.M.	1929	California
Anderson, W.A.	1935	New York
Horne, T.J.	1940	Ohio
Everett, J.E.	1949	North Carolina
Lemons, J.R.	1958	Tennessee
Boyle, P.G.	1958	Wisconsin
Cardenas, M.L.	1962	New Mexico
Omar, A.M.M.	1963	Michigan
Bryant, B. Jr.	1965	Oklahoma
Smith, W.L.	1966	Oklahoma
Buddle, D.A.	1981	Louisiana
Schroeder & Moss	1984	North Carolina
Diatta & Luft	1986	North Dakota
Grange, Ricketts, & Place	2002	Florida
Grange, Place, & Ricketts	2004	Florida
Ricketts & Place	2005	Florida
Bruce & Ricketts	2007	Pennsylvania

*Note.* List of studies may not be comprehensive.

Ball (1938) noted in his work regarding the relationships of government agricultural organizations that in the years spanning from 1912 to 1933, more than 50 papers were present in the literature, besides the official documents of the state and federal government. Ball further noted that the authors of these documents were prominent officials of organizations such as the Secretary of the Department of Agriculture, as well as presidents, deans, and directors of experiment stations of land grant institutions. The presence of the numerous papers (Table 1) discussing the necessity of cooperative relationships in the period during the writing and implementation of the Smith-Hughes and Smith-Lever Acts suggests that many key personnel found merit in cooperative relationships between the agriculture-focused, government agencies.

Shinn and Cheek (1981) suggested that similarities may exist between vocational agriculture and cooperative extension because of the similar missions and their relation to agriculture. Additionally, Shinn and Cheek pointed out that federal legislation has mandated the organizations to cooperate in the improvement of agriculture, while maintaining separate identities. Furthermore, Shinn and Cheek suggested that “the intent of congress was similar for both vocational agriculture and cooperative extension – to disseminate technical information in agriculture, to improve the agricultural industry, and to assist with solutions of social problems within the agricultural communities of rural America” (p. 4).

Written agreements and memoranda (Appendix C, Appendix D, Appendix E, Appendix F, Appendix G, Appendix H, Appendix I) were established by many states and by the Federal government as guidelines for cooperation between secondary agricultural teachers and Extension agents. Agreements such as *The Joint Agreement between*

*Vocational Agriculture and Extension Service* (Appendix G), drafted in Oklahoma in 1927, outlined several mandates of cooperation. The joint agreement in Oklahoma specified that the two programs, specifically the agriculture teacher and county agent, would work together in order to “unite in the harmonious instruction of both groups” (Smith, p. 98). The agreement provided membership requirements for 4-H clubs and the “Vocational Club F.F.A.” [*sic*] and further outlined several cooperative efforts to be made by each organization (p. 98). The agreement stated that the “Extension Service offers... to render service with subject matter specialists to vocational teachers” (p. 99). “Vocational teachers will... ask [for assistance] when necessary..., from the Extension Division especially in the answering of the technical questions involving the need of specialists” (p. 99). Whereas Smith (1966) noted only one agreement, several other agreements and memoranda with similar purpose have been written in numerous states such as California (Appendix E), Ohio, Massachusetts, Georgia, Tennessee (Appendix H), and Missouri (Appendix C).

According to Bender (1977), vocational agriculture and extension must have a positive working relationship in order to meet the needs of youth and adults involved in agriculture. Bender further suggested that because the clientele of both organizations are similar and will be involved in similar planned functions cooperation will be in the best interest of the organizations by eliminating unnecessary duplication. Moreover, it was suggested that “mutual respect and understanding of both programs” is necessary and should be planned (Bender, p. 4).

The necessity of cooperation between secondary agriculture teachers and Extension faculty is rarely questioned (Lemons, 1958); however, many officials have

demonstrated concern regarding the possibility of duplication between the organizations (Hillison, 1996). History has reflected confusion and overlapping of efforts since the passing of the Smith-Lever Act in 1914 and the Smith-Hughes Act in 1917 (Lemons, 1958). Representatives from both educational systems met on three separate occasions within 10 years beginning in 1918, to determine what relationships should exist between the educational systems (Lemons, 1958). Each meeting resulted in a memorandum of understanding between the educational systems. *The Memorandum of Understanding Relative to Smith-Hughes and Smith-Lever Relationships in Agriculture* was an agreement between the Federal Board for Vocational Education and the U.S. Department of Agriculture, stated that the “extension service and the vocational service will deal with both adults and youth” (“Memorandum of understanding relative to the Smith-Hughes and Smith-Lever relationships in agriculture,” 1928, p. n.a.). However, the memorandum specified that cooperation should be in an effort to avoid duplication of work when the work is funded by the Federal government.

Several states such as California (Appendix E), Kentucky (Appendix F), Missouri (Appendix C), Oklahoma (Appendix G), Tennessee (Appendix H), and Washington (Appendix I), followed suit and established agreements between the respective organizations in their states. Frequently, these agreements outlined what the individual states determined to be the appropriate responsibilities of the Extension personnel and agriculture teachers. Furthermore, many of the state-developed agreements determined youth eligibility for membership in 4-H and FFA and restrictions limiting or allowing membership in both educational systems.

The responsibility of agricultural education falls upon both the Cooperative Extension Service and agricultural education programs within the public schools because of the similarities of each organization's role "in providing knowledge, skills, and competencies that relate to agriculture" (Schroeder & Moss, 1984, p. 4). Additional suggestions have been made that similarities also exist in the workload of both educational systems, which may result in overburdened agriculture teachers and Extension agents (Anderson, 1979). Furthermore, agriculture teacher education and Extension preparation programs "are coordinated and a cooperative relationship exists, the personnel involved need to have mutual respect and understanding of both programs" (Bender, 1977, p. 4).

Realizing the potential for cooperation between organizations, not only in secondary and community education, but in research as well, a committee of representatives from several professional organizations met to discuss the future goals of the agricultural education profession and coordinate cooperative efforts. In 2005, representatives from agricultural communication, secondary and post-secondary agricultural education, extension education, and agricultural leadership professions met to establish a national research agenda to focus the efforts of each of the specialized areas of agricultural education by establishing "Research Priority Areas" (RPAs) for each of the specializations (Osborne, p. 2). The committee established that efforts should be made to:

- Identify appropriate learning systems to be used in nonformal education settings (p. 7).
- Enhance the Program delivery models for agricultural education (p. 8).
- Develop strategies and mechanism to strengthen communications skills and perspectives of all agricultural professionals as they prepare for and grow in their fields (p. 11).

Osborne suggested the priority in cooperation between the disciplines in the foreword of the *National Research Agenda*, “coordination of research efforts within the discipline... will be enhanced by this work”(p. 2).

The Federal government has formed several governing bodies and enacted legislation to ensure the academic rigidity of the public education system. One such example is the National Council for Accreditation of Teacher Education, a professional accrediting body for teacher preparation programs, which mandates several educational standards. One such standard listed in Field Experiences, Standard 3 ("About NCATE," n.d.), stated that an acceptable teacher candidate must “share and integrate resources” in order to “develop their knowledge, skill, and dispositions” (p. n.a.). Furthermore, the National Council for Accreditation of Teacher Education mandates that teacher candidates must engage in collaboration with a diverse group of professionals. Additionally, the Federal government mandates, by way of the No Child Left Behind Act of 2001, schools to coordinate with other “agencies providing services to youth, children, and families” (p. n.a.).

### Theoretical Framework

While there is no specific theoretical framework that directly pertains to cooperation between secondary agriculture teachers and county Extension personnel, there are theoretical frameworks that exist related to cooperation (Axelrod, 1984; Barash, 2003; Deutsch, 1958; Deutsch et al., 1967; Jones & George, 1998; Poundstone, 1992; Ring & Van de Ven, 1992; West et al., 2003) which may be utilized to further determine

the extent of cooperation between the groups. For this study a form of game theory, the *Prisoner's Dilemma*, was utilized.

According to Deutsch and Coleman (2000), game theory is credited to von Neumann and Morgenstern (1944) when they published *Theory of Games and Economic Behavior*. Poundstone (1992) suggested that “game theory is a study of conflict between thoughtful and potentially deceitful opponents” (p. 6). Furthermore, the term “game” was used by von Neumann to describe a conflict situation where each player must make a choice knowing that the other player will make a choice as well. The outcome of the conflict will be determined by the choices made by each of the players. Each player “is torn between a tendency to cooperate, so as to promote the common interests, and a tendency to compete, so as to enhance his own interests” (Rapoport, Chammah, & Orwant, 1965, pp. 9-10). Deutsch and Coleman (2000) suggested that “conflicts [are] typically mixtures of cooperative and competitive processes and that the course of conflict would be determined by the nature of the mixture” (p. 14). Furthermore, the potential for conflict may exist where confrontation occurs between opposing players as well as the player’s potentially opposing motives (Rapoport et al.).

Game theory provided the foundation for the Prisoner’s Dilemma which was developed by Flood and Dresher in 1950 as a mathematical construct (Poundstone, 1992). Flood and Dresher were employed by the RAND Corporation which was contracted by the United States Air Force to “perform strategic studies on intercontinental nuclear warfare” (Poundstone, p. 8). Although the Prisoner’s Dilemma was originally developed for military purposes, Axelrod (1997) suggested that “the Prisoner’s Dilemma is an

elegant embodiment of the problem of achieving mutual cooperation, and therefore provides the basis for analysis” (p. 15).

The theory of *Cooperation Involving Nonkinfolk* as described by Evans (2003), as related to Flood and Dresher’s classical game theory *The Prisoners’ Dilemma* was used for this study. While many authors and mathematicians have offered an explanation of game theory and *The Prisoner’s Dilemma* (Axelrod, 1984; Barash, 2003; Deutsch & Coleman, 2000; Evans, 2003; Poundstone, 1992; Rapoport et al., 1965; West et al., 2003), this study utilized the explanations of the Prisoner’s Dilemma according to Axelrod (1984), Barash (2003), and Evans (2003).

According to Barash (2003), the Prisoners Dilemma theory begins with the idea that there are two prisoners in police custody; the prisoners are accused of a crime. The ideal outcome for the prosecutor is to have both prisoners plead guilty. To the contrary, the prisoners’ goal is attain the least sentence possible, or to be set free. The prisoners are separated for questioning and are not allowed any communication. The prosecutor offers each prisoner a deal: provide the authorities the evidence to convict your fellow prisoner (essentially “squealing”) and you will be set free. If neither prisoner squeals, the prosecutor will not have enough evidence to convict the prisoners of the greater crime; however, both prisoners will be convicted of a lesser crime and receive a light sentence. If only one prisoner squeals, the one who has squealed is set free, while the other prisoner receives a heavy sentence. If both prisoners squeal, both will receive a heavy sentence. Each prisoner has the same opportunity to either plead, not guilty, or to help the prosecutor.

A matrix has frequently been used to demonstrate the possible outcomes of the Prisoner's Dilemma (Axelrod, 1984; Barash, 2003; Deutsch & Coleman, 2000; West et al., 2003; Young, 2003). While many matrices were present in the literature, ambiguity existed; therefore, Figure 3 illustrates the concepts of Axelrod and Evans (2003) Prisoners' Dilemma Payoff as presented in the *Evolution of Reciprocal Altruism* by Trivers (1971). An explanation of the matrix was presented by, Axelrod, who suggested several assumptions and rules for the game. One player is a column player; the other is a row player, both in reference to the position from which they choose. Both players make their choices simultaneously, and unaware of the choice the other player is making. Together, the choices will result in one of the four possibilities. If both players cooperate, with each other, they will receive the highest outcome. Should the players mutually defect, choosing not to cooperate with each other, they will equally receive a poor outcome. However, should one player cooperate and the other player defect, the player who defects will take all of the reward, leaving the player who cooperated with nothing.

		<i>Column Player</i>	
		<b>Cooperate</b>	<b>Defect</b>
<i>Row Player</i>	<b>Cooperate</b>	R = +3, R = +3 Reward for mutual cooperation	S = -2, T = +5 Sucker's payoff, and temptation to defect
	<b>Defect</b>	T = +5, S = -2 Temptation to defect and sucker's payoff	P = 0, P = 0 Punishment for mutual defection

Figure 3. Four possible outcomes may result from choices made according to *The Prisoner's Dilemma* (Axelrod, 1984; Evans, 2003).

In 1980, Axelrod conducted a study of iterated Prisoners' Dilemma strategies, that were later outlined in his 1984 book, *The Evolution of Cooperation* (Poundstone, 1992). Axelrod's efforts to promote cooperation were based on his idea that "as long as the interaction is iterated, cooperation is very difficult" (Axelrod, 1984, p. 125). Axelrod (1984) believed that continual interaction between the same individuals was imperative. Axelrod suggested that the continuing interaction was what allowed "for cooperation based on reciprocity to be stable" (p. 125). Furthermore, Axelrod (1984) provided that the greater number of interactions which the same two individuals had, the more likely the individuals would be able to establish reciprocity. Moreover, through joint contributions, both partners have committed themselves to the venture and therefore share proportionately the gains and losses (Kogut, 1989).

Axelrod studied strategic interactions of individuals using the Prisoner's Dilemma (Poundstone, 1992). Poundstone's book, *Prisoner's Dilemma*, offered many explanations of Axelrod's various theoretical strategies applicable to Prisoner's Dilemma; however, a majority of the explanations were military or warfare specific. This study has utilized the theoretical strategies specific to social cooperation. Axelrod (1984) listed that three simple strategies of playing the Prisoner's Dilemma were observed in his classroom experiments when individuals were unaware of the other individual's decisions; always defect, always cooperate, and cooperate or defect at random (Poundstone).

Poundstone (1992) provided explanation of each of Axelrod's theoretical strategies. Always defecting was the safest strategy and required constantly taking advantage of the other individual by defecting. Always cooperating offered the greatest advantage to all individuals assuming that all individuals were willing to cooperate all of

the time. If an individual was to defect at any time, the cooperating individual would suffer a loss while the defecting individual experienced a greater gain. According to Poundstone, cooperating or defecting at random was not a systematic approach to Prisoner's Dilemma, yet, it was one of Axelrod's theoretical possibilities. Poundstone acknowledged that the previously stated theoretical strategies were not likely because continual interaction would most likely cause an individual to make changes to their strategy or establish reciprocity.

Axelrod's theorized that his strategies could be noncooperative and cooperative in nature, depending on the regulations imposed on the individuals (Rapoport et al., 1965). Rapoport and his associates suggested the noncooperative strategies did not allow for individuals to communicate by passing notes, making deals, or signing treaties, thus disallowing all communication other than the actions of the other individual. Although Axelrod's previously discussed rules specifically oppose communication between the players, Rapoport's cooperative strategies allowed for agreements to be made. However, the agreement made must be enforceable in order for the individual's decision to be influenced. Rapoport and his associates further offer that "enforcement means the application of sanctions for breaking the agreement" (p. 25).

An additional theoretical strategy was developed as part of a game theory strategy tournament held by Axelrod in 1980 (Poundstone, 1992). *TIT FOR TAT*, also referred to as give and take, was developed by Rapoport and is a strategy suggested to work well with human subjects (Axelrod, 1984). Axelrod suggested that "mutual cooperation can be stable if the future is sufficiently important relative to the present" (p. 126). Axelrod further suggested that individuals threaten to retaliate against the other should the

individual default on the agreement. Assuming that both individuals uphold their end of the agreement, a reciprocating payoff system results where each individual takes a turn at gaining by defection, then losing by cooperation. As Poundstone stated, “cooperate on the first round, then do whatever the other player did on the previous round” (p. 240). As Poundstone further elaborated, give and take begins with providing the other individual the opportunity to cooperate, then, each individual is given the opportunity to reciprocate that decision by acting according to the previous decision made by the other individual. Axelrod (1984) offered that give and take can also be set up for exploitation, however, the result will not be as prosperous as mutual cooperation. Axelrod suggested that in order to set up give and take for exploitation, individuals must agree to be partners and allow alternation of exploitation.

Poundstone (1992) explained that an alternating exploitation of give and take operates on a slightly altered version of the golden rule: “Do unto others as you would have them do unto you – or else!” (p. 240). Poundstone pointed out that while give and take is a simple strategy; it offers quick repercussions for the individual who chooses to deviate from the agreement, thus providing a form of enforcement. One such example is when an individual has not followed the agreement of alternation of exploitation by defecting twice in a row. The other individual immediately defected as a form of punishment on the previous individual’s consecutive defection. Poundstone further suggested that give and take was equally forgiving of individuals who deviated from the agreement because the partners were able to learn from their mistakes and begin cooperating again in the next round of choices.

## Literature Related to Agriculturally-Based Education

A substantial number of previous studies related to cooperation between agriculture teachers and Extension personnel have been conducted; however, a large majority of this work is not recent and has been conducted in distant localities. Despite the large number of studies reviewed dating back to 1929 regarding cooperation between the organizations, very little if any progress has been made to bridge the gap that exists between these organizations. A vast majority of the previous studies conducted have focused on the similarities of these organizations and the historical agreements that have attempted to force cooperation between these organizations. Furthermore, several of authorities have contributed their thoughts regarding the necessity of interorganizational cooperation between secondary agriculture teachers and Extension faculty.

In 1920, a mere 6 years after the establishment of the Cooperative Extension Service by the Smith-Lever Act, and three years after the establishment of vocational education by the Smith-Hughes Act, Rufus Stimson acknowledged that “harmony throughout the federal-aided systems of agricultural education of all grades, in the long run, should be well assured” (p. 357). Additionally, “possible lack of harmony in the several states at the outset of the general movement for vocational agricultural education, however, has been frankly recognized” (p. 357). Stimson further acknowledged that both organizations are charged with working with young people, and referred to these areas of mandate as twilight zones. Stimson offered that efforts should be made to ensure cooperation among those agencies receiving public funding and to avoid both overlapping and overlooking.

In an article regarding cooperation in Massachusetts, Stimson (1929) suggested that a county advisory board allows the Smith-Hughes and Smith-Lever services to operate in harmony. Stimson further stated that, “the major single item of accomplishment in my work as supervisor during the past year has been the guidance of an aggressive committee of laymen and the live organization it represents into the belief that such co-ordination and co-operation should be established by law ...” (p. 5).

Davis (1929), outlined several examples of cooperation between “teachers of vocational agriculture” and “county agents” in Texas. One particular example was that of the Agricultural Club of the Lower Rio Grande Valley of Texas, consisting of vocational agriculture teachers, county agents, and experiment station workers. The club was formed for the purpose of improving the working relationships of the three groups, and for the purpose of creating an agriculture program for the Lower Rio Grande Valley. In Davis’ article, one county agent was quoted as saying, “the people of this vicinity are now fully aware that the united forces have more power in thinking, in doing, and in getting results. They know this not because they have heard it, but because they have seen it ...” (Davis, p. 5).

Bundy (1929), in an article on cooperation in Ohio, outlined several cooperative activities between Smith-Hughes teachers and county Extension agents. Bundy provided examples of agriculture teachers with several years of service transferring to the Extension service. Bundy further explained how county agents and Smith-Hughes teachers met on a monthly basis to discuss plans, projects, and difficulties. A common professional courtesy offered by members of both organizations is to consult one another prior to starting a new project in the county. One county Extension agent who had also

served as a vocational agriculture teacher commented that “the 4-H club is the perfect ‘feeder’ for the vocational agriculture department” (Bundy, p. 4). Further, every Smith-Hughes teacher in the county served as an advisor of a 4-H club until one of the vocational agriculture students had developed the necessary leadership skills to take over the position.

In an article on joint education of Extension workers and vocational agriculture teachers in Georgia, Wheeler (1929) indicated that a careful survey of the agriculture in a county should be conducted to establish a county agricultural development program. The program should be guided by the cooperative efforts of the county Extension agent and the vocational agriculture teacher and should include both organizations as representatives on the county agricultural board. Wheeler further stated that, “this cooperative effort on these common problems is essential, still there exists a distinct autonomy and identity of the two fields of work” (p. 5).

Although other historical and present day examples exist and are too numerous to note, the researcher must acknowledge that the examples noted were merely unique incidences of cooperation among national systems of the Cooperative Extension Service and agricultural education. Furthermore, while similarities exist between the organizations, cooperation to this point has not been documented in widespread areas.

#### Related Research

Buddle (1981) suggested that “cooperative relationships between Extension [agents] and agricultural educators have always been encouraged by state and national leaders of both professional groups” (pp. 3-4). Furthermore, Rutherford (1929) conducted

a study in California to determine if conflicts exist between vocational agriculture teachers and Extension service personnel or if the organizations were overlapping in the services they provided. Rutherford examined the Smith-Lever Act of 1914 and the Smith-Hughes Act of 1917 and noted several ways in which the two acts overlap. Rutherford concluded that both organizations largely serve the same people and may use similar means of instruction in order to disseminate agricultural information to the people. Rutherford's study included one section that questioned Extension service personnel and vocational agriculture teachers about their knowledge of the provisions in the Smith-Hughes and Smith-Lever Acts as well as agreements regarding cooperative relationships in relation to the acts (Appendix D). Interestingly, Rutherford's findings indicated that 65% of respondents were not aware of any agreement. One may question if Extension service personnel and agriculture teachers are aware of any agreements regarding cooperation between agriculture teachers and Extension personnel.

Numerous specific examples of cooperation exist in the literature. Stimson (1920), Rutherford (1929), Horne (1940), Omar (1963), and Anderson (1979) provided examples of cooperation between Extension service personnel and agriculture teachers in no less than 22 states. Most examples varied in regard to the specific activity; however, all examples provided an indication that cooperation between the respective organizations is possible, exist in nearly all regions of the county, and have existed for many years.

Schroeder and Moss' (1984) study in North Carolina examined 15 factors that may contribute to cooperation between vocational agriculture teachers and county 4-H agents. All factors were rated higher by vocational agriculture teachers; however, none were found to be significant. Additionally, Schroeder and Moss examined 19 activities

that may contribute to cooperation between vocational agriculture teachers and county 4-H agents. Of the 19 factors examined, 75% of the respondents indicated that all but one factor to be appropriate. The lack of consistent evidence identifying specific activities or factors that contribute to beneficial cooperation indicates that further investigation is necessary.

In a study on aspects of cooperation in adult education in Oklahoma, by Smith (1966) in the neighboring state of Oklahoma, he hypothesized:

- Older respondents perceive the need for cooperation more positively than younger respondents do.
- Respondents with higher college degrees view cooperation more positively.
- Respondents with more total years of experience see the need for cooperative activities more than those with less experience.
- Agents and teachers with more tenure in the present location will view cooperative activities or factors more favorably than those with less (p. 14).

The hypotheses of Smith's (1966) study indicated that demographic correlation was an important factor to cooperative relationships. Although Smith conducted his study in state with close geographic proximity to Missouri, and focused on a similar population, the findings of Smith's study may not necessarily represent the current relationship of Extension personnel and secondary agriculture teachers in Missouri.

## CHAPTER III: METHODOLOGY

Numerous similar studies (Anderson, 1979; Bruce & Ricketts, 2007; Buddle, 1981; Bundy, 1929; Cardenas & McComas, 1963; Davis, 1929; Diatta & Luft, 1986; Grage & Place, 2004; Grage et al., 2002; Horne, 1940; Lemons, 1958; Omar, 1963; Ricketts & Place, 2005; Rutherford, 1929; Smith, 1966; Stimson, 1929; Wheeler, 1929) have been conducted and have provided guidance for this study. Specifically, several aspects of the studies conducted by Lemons (1958) in Tennessee and Smith (1966) in Oklahoma, have guided this study due to the relatively close geographic proximity of their studies to Missouri. However, the researcher must acknowledge that the structure of the Extension service in Missouri possess a unique attribute, which requires slight deviation from the previous studies regarding the populations of interest. Therefore, this chapter addresses the research design, populations and samples, the instrumentation utilized to collect data, the processes implemented to determine validity and reliability of the instrument, the process of data collection, and lastly, the data analysis process used for this study.

### Research Design

The research design of this nonexperimental quantitative study was descriptive in nature. The overarching construct this study sought to measure was cooperation, which is considered to be intangible (Ary et al., 2006). Intangibles are not directly observable; therefore, indirect measures were obtained through questionnaires to determine the

perceptions of cooperation of secondary agriculture teachers and 4-H youth development personnel.

### Population and Sample

The target populations for this study are secondary agricultural education teachers and county 4-H youth development personnel within the state of Missouri. The frame used to identify secondary agriculture teachers was the *2007-2008 Missouri Agricultural Education Directory*. The Directory was received from the University of Missouri, Department of Agricultural Education, and then scrutinized to eliminate duplications or omissions that would be potential sources of frame error.

The frame used to identify county 4-H youth development personnel was the University of Missouri Extension, *Directory of Offices and Employees (2008)*. Due to changes of personnel and office locations, the University of Missouri Extension *Directory of Offices and Employees* was updated on a monthly basis by Extension staff to reflect any change of faculty, staff, or office location. Therefore, the Directory was obtained from the University of Missouri Extension website to determine current 4-H youth development personnel and their contact information in an effort to minimize the potential sources of frame error.

Previous similar studies (Boyle, 1958; Bruce & Ricketts, 2007; Bryant, 1965; Buddle, 1981; Cardenas & McComas, 1963; Diatta & Luft, 1986; Grage & Place, 2004; Grage et al., 2002; Horne, 1940; Jefferies, 1949; Lemons, 1958; Omar, 1963; Ricketts & Place, 2005; Rutherford, 1929; Schroeder & Moss, 1984; W. L. Smith, 1966) identified county Extension agents and county Extension chairpersons as the population of interest.

The population of this study was not identified in the same manner due to the unique organizational structure of Missouri Extension. While the Missouri Extension service reflected a similar organization to other states prior to 1972, the reorganization of the University of Missouri and Lincoln University Extension service under one operational umbrella in 1972 changed the Extension service in Missouri to the nation's first unified Extension program (Bennett, 2005). Therefore, contrary to the studies that have identified county Extension agents as the population of interest, the frame used in this study reflected all Extension personnel identified in the University of Missouri Extension *Directory of Offices and Employees* as 4-H youth specialists, 4-H youth educators, 4-H youth associates, or 4-H youth assistants. Furthermore, all Extension personnel identified as State-level 4-H youth specialists or directors were omitted from the frame because their appointment to Extension in most cases, do not allow them to interact with secondary agriculture teachers in a capacity similar to that of the county Extension personnel. Lastly, the frame was scrutinized to eliminate duplications or omissions that would be potential sources of frame error.

The 2007-2008 *Missouri Agricultural Education Directory* listed 414 Secondary agriculture teachers in Missouri. According to Krejcie and Morgan (1970) a population size of 420, would require 201 participants as a reflective sample that yields a  $\pm 5\%$  margin of error. The names of the secondary agriculture teachers from the frame were entered into a Microsoft Excel spread sheet in alphabetical order. Each member of the population was numbered in order, beginning with the number one corresponding with the first name of the alphabetized list. A simple random sample of 210 individual numbers was obtained from [www.randomizer.org](http://www.randomizer.org) and was matched to the corresponding

number on the Microsoft Excel spreadsheet to determine which subjects had been chosen to participate. Although Krejcie and Morgan (1970) determined a sample size of 201 was necessary, the researcher transposed the number, 210 instead of 201, after referencing Krejcie and Morgan, therefore the error was created by researcher oversight.

Furthermore, the sample of too many subjects does not adversely affect the outcome of the study (Ary et al., 2006), whereas a sample that was too small might have impacted the outcome.

While scrutinizing the sample population in an effort to reduce sample error, five subjects were identified as having a potentially flawed e-mail address or were not listed as being currently employed by their respective school districts. Therefore, to further avoid potential sampling error and further reduce selection error, those five individuals were removed from the sample and five replacements were randomly chosen from the remaining individuals on the original frame. The five individuals were chosen by obtaining five additional random numbers from [www.randomizer.org](http://www.randomizer.org) and matched to the corresponding number on the Microsoft Excel spreadsheet to determine the five individuals that replaced the previously removed individuals.

According to the University of Missouri Extension *Directory of Offices and Employees*, a total of 108 4-H youth specialists, 4-H youth educators, 4-H youth associates, or 4-H youth assistants were employed by University of Missouri Extension at the time that the Directory was accessed in March 2008. State-level 4-H youth specialists were excluded from the sample because their professional responsibilities to the entire state do not allow them to participate in the same capacity as regional and county Extension personnel. Due to the relatively small number of subjects, a census was taken

to more accurately determine the characteristics of the population and eliminate selection and sampling error.

### Instrumentation

The data collection instrument (Appendix J, Appendix K, Appendix L, Appendix M) used in this study was researcher developed after consulting questionnaires of similar studies (Diatta & Luft, 1986; Lemons, 1958; Omar, 1963; Schroeder & Moss, 1984; Smith, 1966). The questionnaire consisted of three sections.

The first section of the questionnaire sought to measure each subjects' cooperative behavior using context specific, case-scenarios. Two researcher developed case-scenarios were chosen to determine the type of cooperative behavior (cooperate, give and take, or defect) subjects would demonstrate if they were in each case-scenario situation. Specifically, the case-scenarios were selected to determine how available resources may directly affect levels of cooperation.

One case-scenario described a junior livestock auction at a county fair and asked subjects to respond to the fair board requesting the subjects' input on sale order. The second case-scenario described a 20 acre farm that was donated to the subjects' counterpart's program (high school agricultural education department or county Extension office) and asked each subject to determine the extent to which they would be willing to help their counterpart. For each case-scenario, four Likert-type, six-point scale responses ranging from 1 = Not Likely to 6 = Very Likely, were provided to gauge each subject's willingness to cooperate in relation to the Prisoner's Dilemma matrix.

The second section of the instrument contained three subsections, B, C, and D, which were developed by consulting the data collection instruments of Omar (1963), Smith (1966), and Schroeder and Moss (1984). Subsections B and C were composed of a double matrix structure containing 12 statements representing a sampling of youth development activities. The nature of the double matrix structure allowed subjects to respond to each item twice; the perceived current frequency and desired frequency of the activity. Both scales allowed the subjects to respond to one of the following scale anchors: 1 = Never, 2 = Rarely, 3 = Occasionally, 4 = Frequently, 5 = Always.

The third subsection, D, consisted of 13 double-matrices, five-point Likert-type scale items, that sought to determine the present effect that activities or factors had on cooperation between secondary agriculture teachers and 4-H youth development personnel, and extent that each subject felt that activities or factors should have on cooperation between secondary agriculture teachers and 4-H youth development personnel. The five-point Likert-type scale that sought to determine the affect that activity or factor had on cooperation consisted of 1 = Not important, 3 = Neutral, 5 = Very Important. The fourth section of the data collection instrument sought to identify individuals' demographic characteristics (e.g., age, location of residence, level of academic degree attained, length of experience, gender, and organizational affiliation).

The design and format of the data collection instrument was guided by Dillman (2007). Dillman suggested that self-administered questionnaires should be “constructed in ways that make them easy to understand and answer” (p. 79). Dillman also noted that “respondent-friendly questionnaire design can improve response rates” (p. 81). Therefore, to address the potential issue of clarity for each population (secondary agriculture

teachers and 4-H youth development personnel), two versions of the questionnaire were developed. The questionnaires were near identical in format and construction; however, each case-scenario and question was reworded to apply to the subject, receiving the questionnaire to avoid confusion. Specifically, rather than making generic statements or providing generic response options such as “in your relationship with your counterpart,” questionnaires sent to secondary agriculture teachers referred to their counterparts specifically as county 4-H youth development faculty and staff. References in the questionnaire sent to 4-H youth development referred to their counterpart as secondary agriculture teachers.

Dillman further suggested that brightly colored paper should be used to construct questionnaires; however, the color of paper should contrast with the color of the print. Questionnaires for this study were printed on colored paper (pastel-green, pastel-blue, goldenrod, and pastel yellow) with black print to increase the likelihood that questionnaires would be easy to read. Dillman further suggested that an appropriate font size for questionnaires was a non-stylized font, greater than a nine-point in size; therefore, a 10-point Times New Roman font was used throughout the paper questionnaires to further increase the readability.

Dillman suggested that a booklet-type questionnaire was the most effective format for constructing paper questionnaires. The paper questionnaire for this study was constructed using 8 ½ in. by 14 in. paper, folded in half to form an 8 ½ in. by 7 in. booklet, stapled with two staples in the spine. Moreover, Dillman noted that cover letters and lengthy instructions should not be included in the questionnaire because they increase the time spent on reading materials in the questionnaire before the subject has the

opportunity to answer the first question. In light of these suggestions, a cover letter (Appendix N, Appendix O) was printed separately and brief instructions were printed inside the front cover in an effort to aid subjects in finding the first question on the first page when they opened the booklet-type paper questionnaire.

Dillman (2007) noted that there is a significant advantage to mixed-mode data collection. Converse, Wolfe, Huang, & Oswald (2008) conducted a study focused on mixed-mode data collection using Web-based and mail-based data collection methods. Converse and his associates noted that the response rates of data collection by solely by means of electronic data collection methods showed equal or lower response rates than those using more a traditional method, such as mail questionnaires. Furthermore, there is a substantial amount of evidence indicating that mail questionnaires have a greater response rate (Converse et al., 2008). Converse and his associates noted that a mail questionnaire followed by an e-mail/Web questionnaire resulted in a higher response rate than an e-mail/Web questionnaire followed by a mail questionnaire.

Dillman (2007) noted that the design of the data collection method is easier if the investigator determines that a mixed-mode of data collection will be used prior to the initiation of data collation. In the case of this study, data collection was predetermined to be conducted using mixed methods of mail and electronic questionnaires. This study implemented a mixed-mode design as referenced to Dillman (2007) *Mail and Internet Surveys: The Tailored Design Method*. by providing respondents with a mail questionnaire, followed by an e-mail/Web questionnaire as suggested by Converse et al. (2008).

Providing subjects with the option of choosing which mode of responding has shown to have little effect on the response rate (Converse et al., 2008). Therefore, all correspondence sent to subjects, with the exception of the cover letter in the first mail questionnaire packet, included both options of responding: by mail questionnaire or a Web-based questionnaire.

### *Validity and Reliability*

An instrument “can be reliable without being valid; but it cannot be valid unless it is first reliable” (Ary et al., 2006, p. 256); reliability must be established by an appropriate method. The researcher-developed questionnaire was constructed using information from similar studies. At issue was the validity and reliability of the questionnaire. Each version of the questionnaire (secondary agricultural educator/4-H youth development personnel) consisted of three sections containing the types of questions previously noted.

### *Validity*

“Validity is the most important consideration in developing and evaluating measuring instruments” (Ary et al., 2006, p. 243). Two types of validity were determined for the data collection instrument used in this study: face validity and content validity. Face validity was determined a panel of eight qualified experts (Appendix P) by asking each expert to determine if the paper booklet-type questionnaire “appeared valid for its intended purpose” (Ary et al., 2006, p. 439). Four members of the expert panel were faculty members of the Department of Agricultural Education at the University of Missouri; all of whom are considered experts in the areas of agricultural education,

instrument development, and research methodology. Four additional members were University of Missouri Extension faculty members at the University of Missouri, three of which serve administrative roles within the Missouri State 4-H Office, and the fourth member was a County Program Director from a county Extension office with considerable experience working with 4-H youth development personnel.

Content validity of the data collection instrument was determined by the previously noted panel of experts. Each of the experts assessed the “appropriateness and representativeness of the items” on the questionnaire (Ary et al., 2006, p. 256). Construct underrepresentation and construct-irrelevant variance was addressed by providing each of the experts with a paper copy of the booklet-type questionnaires (secondary agricultural educator/4-H youth development personnel) and the research questions. The experts were asked to determine if the questionnaire adequately addressed the “important dimensions of the construct” and did not contain questions which would be “extraneous to the construct” (Ary et al., 2006, pp. 243-244).

Once content and face validity were established for each version of the questionnaire (secondary agricultural teacher/4-H youth development personnel), contents of the paper questionnaire were duplicated into an electronic version of each questionnaire. Dillman (2007) noted that “mixed-mode surveys provide an opportunity to compensate for the weaknesses of each method” (p. 218). It is important to note that Dillman expressed concern with mixed-mode data collection methods due to the potential for differences in responses. However, Dillman’s concern focused on mixed-mode data collection consisting of interview and self-administered data collection methods.

Dillman identified that inconsistencies may be reduced or eliminated by utilizing unimode construction when conducting data collection with mixed-mode methods.

Dillman (2007) defined unimode construction as “writing and presenting of questions to respondents in a way that assures receipt by [subjects] of a common mental stimulus, regardless of survey mode” (p. 232). Therefore, Dillman’s unimode construction principles were followed when creating the electronic version of the questionnaires (secondary agricultural teacher/4-H youth development personnel) to reduce the possibility of inconsistencies in responses due to mixed-mode data collection.

An electronic version of the questionnaire developed using Web-hosted software provided by Hosted Survey™. After reviewing several online survey services, the researcher determined that Hosted Survey’s™ services were appropriate for this study because they offered convenient, sophisticated, manipulatable software and were cost effective. The electronic version of the questionnaires (secondary agricultural teacher/4-H youth development personnel) were created and distributed to the panel of experts using Hosted Survey™, a paid service for developing and administering online questionnaires. The panel of experts was again asked to reassess face validity of the instrument in its electronic form.

### *Reliability*

Reliability was determined by conducting a pilot test for each data collection instrument (secondary agriculture teacher/4-H youth development personnel). Reliability for the secondary agriculture teacher instrument was determined by conducting a pilot test using individuals with similar characteristics of the secondary agriculture teachers in

the sample population; in this case the secondary agriculture teachers not selected to comprise the sample ( $n = 204$ ). The electronic version of the secondary agriculture teacher questionnaire (Appendix Q) was distributed by e-mail using the Hosted Survey™ software.

Personalized e-mail messages (Appendix R) were sent to agriculture teachers in the pilot sample ( $n = 75$ ) by referencing the e-mail addresses listed in *2007-2008 Missouri Agricultural Education Directory*. E-mail messages indicated missouri\_agedpilot@missouricooperation.org as the origin of the message; however, the researcher's University e-mail address was indicated as the "reply to" address. Forty-two (64%) responses were received within 48 hours of the original e-mail invitation message. Response data were downloaded from the Hosted Survey™ website in a .txt form document, and then imported into a Microsoft Excel spreadsheet. Variable labels were added to the top row of the Microsoft Excel spreadsheet and then the spreadsheet imported into SPSS data analysis software. Reliability results for each section of the questionnaire are noted in Table 2.

Table 2

*Reliability Estimates for Secondary Agriculture Teacher Questionnaire (n = 42) and 4-H Youth Development Personnel Questionnaire (n = 34)*

<i>Cronbach's <math>\alpha</math> Coefficient</i>				
Subsection	<u>Secondary Agriculture Teacher</u>		<u>4-H Youth Development Personnel</u>	
	"What Is"	"What Should Be"	"What Is"	"What Should Be"
B & C	0.93	0.90	0.96	0.95
D	0.91	0.83	0.81	0.66

Reliability was determined for the 4-H youth development personnel was determined by conducting a pilot test using individuals with similar characteristics of the sample; in this case county 4-H youth development agents in the neighboring state of Kansas. The electronic version of the 4-H youth development personnel questionnaire (Appendix S) was distributed by e-mail using the Hosted Survey™ software.

Personalized e-mail messages (Appendix T) were sent to each of the county 4-H youth development agents in the pilot test sample ( $n = 75$ ) by referencing the e-mail addresses provided by a Kansas Extension Service administrator. Each e-mail message indicated [kansasextensionpilot@missouricooperation.org](mailto:kansasextensionpilot@missouricooperation.org) as the origin of the message; however, the researcher's University e-mail address as the "reply to" address. Thirty-two (43%) responses were received within 48 hours of the original e-mail message inviting the Kansas Extension agents in the pilot sample to participate. Response data were

downloaded from the Hosted Survey™ website in a .txt form document, and then imported into a Microsoft Excel spreadsheet. Variable labels were added to the top row of the Microsoft Excel spreadsheet and then the spreadsheet imported into SPSS data analysis software. Reliability results for each section of the questionnaire are noted in Table 2.

Reliability of each instrument was determined using the same statistical methods for both instruments (secondary agriculture teachers/4-H youth development personnel). Procedures for both instruments will be described in this section. The instruments (secondary agriculture teachers/4-H youth development personnel) consisted three sections. The first section containing two case-scenarios may be described as non-summable items; therefore, a test-retest method of determining reliability was utilized for the first section (see Table 3). One week after the data were collected from the initial pilot test (MO pilot sample of secondary agriculture teachers and KS pilot of 4-H youth development personnel), a second e-mail message was sent using the Hosted Survey™ software, which invited the respondents from the initial pilot test to provide responses to the initial two case-scenario questions again. The explanation given indicated that their second response was necessary to ensure accuracy of the results. Twenty-nine (69%) responses were received from the agriculture teachers and 32 (78%) responses were received from the 4-H youth development personnel who were invited to participate in the second administration of the case-scenario section of the questionnaire.

Table 3

*Test–Retest Measures of Reliability for Secondary Agriculture Teacher Questionnaire**(n = 29) and 4-H Youth Development Personnel Questionnaire (n = 25)*

Case-Scenario	<i>r</i> Question 1	<i>r</i> Question 2	<i>r</i> Question 3	<i>r</i> Question 4
<i>Scenario 1: County Fair</i>				
Secondary Agriculture Teachers	0.83	0.73	0.77	0.72
4-H Youth Development Personnel	0.96	0.83	0.82	0.88
<i>Scenario 2: Land Lab</i>				
Secondary Agriculture Teachers	0.95	0.88	0.95	0.82
4-H Youth Development Personnel	0.88	0.83	0.93	0.93

Response data were downloaded from the Hosted Survey™ website in a .txt form document, and then imported into the Microsoft Excel spreadsheet containing the data from the initial instrument administration. Variable labels were added to the top row of the Microsoft Excel spreadsheet and then the spreadsheet imported into SPSS data analysis software. SPSS software was used to determine the Pearson *r* correlation coefficient by comparing the responses from the initial administration to the responses from the second administration. The results are indicated in Table 3.

Miller, Torres, and Lindner (2004) noted that “a measure of reliability can also be obtained using a single administration of an instrument” (p. 14) by determining internal consistency. Miller, Torres, and Lindner further noted that Cronbach’s  $\alpha$  coefficient can be used when items have multiple response categories, such as the Likert-type response categories present in the second section of the questionnaire used in this study, and “will

provide an appropriate estimate of reliability” (p. 15). Data from the subsections B and D in the second section of the questionnaire were manually entered into a Microsoft Excel spreadsheet, variable labels were added to the top row of the spreadsheet and then the spreadsheet imported into SPSS data analysis software to determine the Cronbach’s  $\alpha$  coefficient. The results for each section of the questionnaire are noted in Table 3. Subsection C was determined to be non-summative information; therefore, reliability was not determined for section C.

### Institutional Approval

After the data collection instruments were developed, but prior to implementation of the data collection process, the researcher submitted a proposed plan outlining the data collection process and all related materials to the University of Missouri Institutional Review Board. The data collection process began after receiving approval from the Institutional Review Board and followed the requirements and specifications set forth in the approval notice.

### Data Collection

Dillman (2000, 2007) indicated a schedule for sending questionnaires and correspondence to subjects in his *Tailored Design Method*. Dillman suggested that a brief pre-notice letter is sent to subjects a few days prior to sending the first questionnaire mailing. Further, the mail questionnaire is followed by sending a thank you postcard as a reminder a few days later. An additional mail questionnaire is sent to nonrespondents 2 to 4 weeks after the first mail questionnaire was mailed followed by a final contact, a week

after mailing the second questionnaire. Table 4 represents a summary of data collection efforts in this study.

Table 4

*Distribution Schedule of Materials to Secondary Agriculture Teachers and 4-H Youth Development Personnel*

Data Collection Activity	Medium	Date Sent
<b>Secondary Agriculture Teachers</b>		
Prenotice Message	e-mail	3/14/2008
1 <sup>st</sup> Questionnaire Packet	US Postal Service	3/14/2008
Thank You and Reminder Message	e-mail	3/19/2008
2 <sup>nd</sup> Questionnaire	e-mail/Web-software	3/25/2008
Thank You and Reminder Message	e-mail	4/4/2008
Final Reminder Message	e-mail	4/15/2008
Nonrespondent Questionnaire Packet	US Postal Service	3/31/2008
Nonrespondent Reminder Message	e-mail	4/10/2008
Nonrespondent Final Reminder Message	e-mail	4/15/2008
<b>4-H Youth Development Personnel</b>		
Prenotice Message	e-mail	3/12/2008
1 <sup>st</sup> Questionnaire Packet	US Postal Service	3/12/2008
Thank You and Reminder Message	e-mail	3/19/2008
2 <sup>nd</sup> Questionnaire	e-mail/Web-software	3/25/2008
Thank You and Reminder Message	e-mail	3/30/2008
Nonrespondent Questionnaire Packet	US Postal Service	3/31/2008
Nonrespondent Reminder Message	e-mail	4/10/2008
Nonrespondent Final Reminder Message	e-mail	4/15/2008

This study followed the schedule suggested by Dillman (2000); however, the communication medium suggested by Converse et al. (2008) deviated from the methods described by Dillman, primarily in the medium used to correspond with and provide questionnaires to respondents and nonrespondents. Additionally, Table 4 notes the specific dates of each of the points of contact for this study.

#### *Data Collection Process for Secondary Agriculture Teachers*

The implementation of the data collection process began with an e-mail pre-notice (Appendix U) sent to the sample ( $n = 210$ ) of secondary agriculture teachers the same day as the first mail questionnaire packets were sent via the U.S. Postal Service (see Table 4). The purpose of the e-mail was to inform the agriculture teachers that they would receive a questionnaire in the mail and inform the agriculture teachers that an electronic questionnaire was available if they preferred. E-mail pre-notices were sent using the Hosted Survey™ software to each of the samples' agriculture teachers' e-mail addresses indicated in *2007-2008 Missouri Agricultural Education Directory*. Prior to sending e-mail pre-notices, the URL address [www.missouri\\_cooperation.org](http://www.missouri_cooperation.org) was purchased from GoDaddy.com™ in an effort to identify e-mail as originating from a Missouri-based organization without implying a University bias for e-mail sent to recipients outside of the University of Missouri e-mail system. The e-mail address was a concern to the researcher due to the possibility that some agriculture teachers may have a university bias because of where they attended college. Each e-mail message indicated [missouri\\_ageducation@missouricooperation.org](mailto:missouri_ageducation@missouricooperation.org) as the origin of the message; however,

the researcher's University e-mail address as the "reply to" address. As an additional note, within 24 hours of sending the original e-mail pre-notice, 14 agriculture teachers replied and requested to complete the electronic version of the questionnaire; a majority of which replied within one hour of the message being sent.

It is important to note that three e-mail messages were returned indicating that pre-notices could not be delivered to the e-mail addresses that the pre-notice was sent to. Furthermore, in five instances automated e-mail messages were received from four school districts' spam-filters indicating that message must be replied to in order for the spam-filter to determine if the message was sent from a computer-based spam server. In all five cases, the messages were replied to and another message was received that the original e-mail message containing the pre-notice was received and all further e-mail messages would be delivered to the intended recipients without any further action.

The first mail questionnaire packet included one cover letter (Appendix N) which explained the purpose of the study and invited the agriculture teachers to participate, one paper questionnaire (Appendix J) with a \$1 incentive attached to the cover of the booklet-type paper questionnaire, and one preaddressed envelope with a first-class 41¢ Disney collector's stamp pre-applied to the envelope. U.S. postage stamps (one - 87¢ stamp and one - 10¢ stamp) were applied to a 7 ½ in. by 10 in. envelope used to mail the first mail questionnaire packet as Dillman (2000) suggested. The return envelope (standard #10) was inserted into the center of the questionnaire, against the stapled end of the questionnaire, which was printed on pastel-blue 8 ½ in. by 14 in. paper. The cover letter was folded in half and placed over the open end of the questionnaire so that all contents of the questionnaire packet would be removed as one piece, reducing the chances of any

part of the materials enclosed in the questionnaire packet being left inside of the envelope. Each personalized cover letter was printed on University of Missouri Extension letterhead, signed by the researcher, further endorsed by faculty member of the University of Missouri, Department of Agricultural Education, as well as the State 4-H Youth Development Specialist. Although the cover letter was printed on University of Missouri Extension letterhead, the return address printed on the front of the questionnaire packet only listed the return address and did not include any organizational affiliation which could reduce the chance of the packet not being opened due to university bias. An uncirculated \$1 bill incentive was attached with double-sided poster tape, centered just below the title of the questionnaire on the front cover. Two mail questionnaire packets were returned stamped with “not deliverable as addressed” on the front of the envelope.

As electronic questionnaires were completed and as paper questionnaires were received from respondents, the names of the individuals who had responded were removed from the correspondence list of agriculture teachers in the sample population to avoid sending additional e-mail or mail correspondence. However, if a respondent completed the Web-based questionnaire, an automatic personalized e-mail message was sent thanking the respondent for his/her participation prior to the recipient being removed from the list of agriculture teachers in the sample. One agriculture teacher returned the paper questionnaire in the return envelope and indicated that they did not want to participate in the study. The name of that agriculture teacher was removed from the correspondence list of agriculture teachers in the sample.

An e-mail reminder was sent to all agriculture teachers in the sample who had not yet responded, six days after the first mail-questionnaire packets were mailed. The e-mail

reminder indicated appreciation for those who had responded and provided a personalized link to the Web-based electronic questionnaire. E-mail reminders were sent to the Extension personnel six days after the mail questionnaire packet was sent, rather than seven, which was the case for the Extension personnel, due to the day of the week that the packets were mailed. In the case of the Extension personnel, packets were mailed one day prior to the weekend, which in most cases would have delayed delivery of the packets by one day.

An additional complete e-mail message containing a link to the Web-based electronic questionnaire was sent to nonrespondents six days after the previous reminder message was sent. The e-mail message indicated that their response had not yet been received and reminded them that their input was important. The response rate for secondary agriculture teachers was 64.7% ( $n = 136$ ).

#### *Controlling for Non-response for Secondary Agriculture Teachers*

Non-response error was a relevant concern; therefore, procedures for handling nonrespondents were followed as outlined in Miller and Smith (1983). A list of nonrespondents was compiled using Microsoft Excel which consisted of all agriculture teachers in the sample population who had not responded seven days after the second complete e-mail was sent. As Miller and Smith (1983) recommended, a simple random sample of 25% of nonrespondents was taken from the list of secondary agriculture teachers. Then an additional mail questionnaire packet was assembled and sent to the nonrespondent sample ( $n = 20$ ) of secondary agriculture teachers. The content, format, and construction of the paper questionnaire was unaltered; however, the paper which it

was printed on was changed to pastel-yellow, 8 ½ in. by 14 in. paper. The cover letter (Appendix V) was printed on University of Missouri Extension letterhead, signed by the researcher, and endorsed by a faculty member of the University of Missouri, Department of Agricultural Education, as well as the State 4-H Youth Development Specialist. The contents of the second mail questionnaire packet were assembled in the same manner as the first; however, no incentive was included in the second packet. Seven days after the second mail questionnaire packets were mailed, an additional e-mail reminder (Appendix W) was sent to each of the agriculture teachers who had not yet responded in an effort to maximize response rate.

Respondent and nonrespondent data were compared using an independent samples t-test to compare the variables of interest, (perceived participation in activities, desired participation in activities, perceived importance of activity/factor items, and desired importance of activity/factor items) between respondents and nonrespondents. Results (see Table 5) suggest that there are no significant differences ( $p > .05$ ) between the respondent and nonrespondent data. Hence, the nonrespondent data were pooled with the respondent data. The final response rate after controlling for response error was 69% ( $n = 143$ ).

Table 5

*Comparison of Respondent (n = 133) to Nonrespondent (n = 7) Secondary Agriculture Teachers*

Construct	<i>M</i>	<i>SD</i>	<i>t-value</i>	<i>df</i>	<i>p-value</i>
Activities - <i>What Is</i>			-0.34	136	0.73
Respondents	2.22	0.92			
Nonrespondents	2.35	0.95			
Activities – <i>What Should Be</i>			-0.13	134	0.89
Respondents	3.46	0.59			
Nonrespondents	3.49	0.40			
Activity/Factor – <i>What Is</i>			0.78	138	0.94
Respondents	2.76	0.75			
Nonrespondents	2.74	0.71			
Activity/Factor – <i>What Should Be</i>			-0.34	137	0.74
Respondents	3.35	0.50			
Nonrespondents	3.42	0.45			

*Note.* ( $p > 0.05$ )

#### *Data Collection Process for 4-H Youth Development Personnel*

The implementation of the data collection process began with an e-mail pre-notice (Appendix X) sent to the population (N = 91) of 4-H youth development personnel the same day as the first mail questionnaire packets were sent via the U.S. Postal Service.

The purpose of the e-mail was to inform the Extension personnel that they would receive a questionnaire in the mail and inform the Extension personnel that an electronic questionnaire was available if they preferred. Unlike the sample secondary agriculture teachers, the researcher did not anticipate any affect of University bias from the Extension personnel because all Extension personnel in the population were either employed by the University of Missouri or affiliated with the University through the unified Extension service. Therefore, e-mail pre-notices were sent using the Hosted Survey™ software to each Extension personnel's University e-mail address indicating the researcher's official university e-mail address as the origin of the message. Nearly all of the e-mail pre-notices sent were rejected and returned to the researcher's e-mail account as "rejected" by the University of Missouri spam-filter.

In an attempt to rectify the situation created by the "rejected" e-mail pre-notices, the researcher contacted the University of Missouri Information Technology department, Mizzou IT, and was informed that because the e-mail messages were sent from a source outside of the University of Missouri e-mail system but indicated a University of Missouri e-mail address as the source of the message, the University spam-filter identified the messages as spam and therefore rejected the messages. In an attempt to further rectify the situation all messages were resent one day later, again using the Hosted Survey™ software. The address of origin on the re-sent e-mail messages was indicated as `missouri_extension@missouricooperation.org`; however, the researcher's University e-mail address was indicated as the "reply to" address on all messages. No e-mail messages were returned as "rejected" after the return e-mail address was changed.

The first mail questionnaire packet included one cover letter (Appendix N) which explained the purpose of the study and invited the Extension personnel to participate, one paper questionnaire (Appendix O) with an uncirculated \$1 bill incentive attached to the cover of the booklet-type paper questionnaire, and one preaddressed envelope with a first-class 41¢ Disney collector's stamp pre-applied to the envelope. U.S. postage stamps (one - 87¢ stamp and one - 10¢ stamp) were applied to a 7 ½ in. by 10 in. envelope used to mail the first mail questionnaire packet as Dillman (2000) suggested. The return envelope (standard #10) was inserted into the center of the questionnaire, against the stapled end of the questionnaire, which was printed on goldenrod 8 ½ in. by 14 in. paper. The cover letter was folded in half and placed over the open end of the questionnaire so that all contents of the questionnaire packet would be removed as one piece, reducing the chances of any part of the materials enclosed in the questionnaire packet being left inside of the envelope. Each personalized cover letter was printed on University of Missouri Extension letterhead, signed by the researcher, further endorsed by faculty member of the University of Missouri, Department of Agricultural Education, as well as the State 4-H Youth Development Specialist. The \$1 incentive was attached with double-sided poster tape, centered just below the title of the questionnaire on the front cover.

As Web-based electronic questionnaires were completed and as paper questionnaires were received from the respondents, the names of the individuals who had responded were removed from the correspondence list of Extension personnel in the population to avoid sending additional e-mail or mail correspondence. However, if a respondent completed the Web-based questionnaire, an automatic personalized e-mail message was sent thanking the respondent for his/her participation prior to the recipient

being removed from the list of Extension personnel in the population. Additionally, two of the Extension personnel indicated that they did not have any interaction with agriculture teachers; one indicated this by returning the cover of the questionnaire with a note, the other indicated by e-mail. The names of both of the Extension Personnel were removed from the correspondence list of Extension personnel in the population.

An e-mail reminder (Appendix Y) was sent to all Extension personnel in the population who had not yet responded, seven days after the first mail-questionnaire packets were mailed. The e-mail reminder indicated appreciation for those who had responded, and provided a personalized link to the Web-based electronic questionnaire for those who had not yet responded. An additional e-mail message containing a link to the Web-based questionnaire was sent to nonrespondents six days after the previous reminder message was sent. The e-mail message indicated that their responses had not yet been received and reminded them that their input was important and encouraged.

It is important to note that one incidence of questionnaire duplication was present where one Extension member completed both the electronic and the paper questionnaires. Because the electronic questionnaire was received 5 days prior to the paper questionnaire, the electronic questionnaire was likely to have been completed first. Therefore, an arbitrary decision was made to only utilize the data from the electronic questionnaire in this one incidence. The paper questionnaire was retained along with the other returned paper questionnaires should the need have arisen for further investigation or comparison; however, to reiterate only the data from the electronic questionnaire were analyzed in this one case. The response rate for 4-H youth development personnel was 72.5% ( $n = 66$ ).

### *Controlling for Non-response for 4-H Youth Development Extension Personnel*

Non-response error was a relevant concern; therefore, procedures for handling nonrespondents were followed as outlined in Miller and Smith (1983). A list of nonrespondents was compiled using Microsoft Excel which consisted of Extension personnel ( $n = 20$ ) in the population who had not responded seven days after the second complete e-mail was sent. Due to the relatively high response rate of the initial data collection attempt, Extension personnel who had not yet responded were determined to be nonrespondents and therefore were sent an additional mail questionnaire packet. The content, format, and construction of the paper questionnaire was unaltered; however, the paper that the questionnaire was printed on was changed to pastel-green 8 ½ in. by 14 in. paper. The cover letter (Appendix Z) was again printed on University of Missouri Extension letterhead, signed by the researcher, and endorsed by a faculty member of the University of Missouri, Department of Agricultural Education, as well as the State 4-H Youth Development Specialist. The contents of the second mail questionnaire packet were assembled in the same manner as the first; however, no token incentive was included in the second packet. Seven days after the second mail questionnaire packets were mailed, an additional e-mail reminder (Appendix AA) was sent to each of the Extension personnel who had not yet responded in an effort to maximize response rate.

Respondent and nonrespondent data were compared using an independent samples t-test to compare the variables of interest (perceived participation in activities, desired participation in activities, perceived importance of activity/factor items, and desired importance of activity/factor items) between respondents and nonrespondents. Results (see Table 6) suggest that there are no significant differences ( $p > .05$ ) between

the respondent and nonrespondent data. Hence, the nonrespondent data were pooled with the respondent data. The final response rate after controlling for response error was 82.4% ( $n = 75$ ).

Table 6

*Comparison of Respondent ( $n = 68$ ) to Nonrespondent ( $n = 5$ ) 4-H Youth Development Personnel*

Construct	<i>M</i>	<i>SD</i>	<i>t-value</i>	<i>df</i>	<i>p-value</i>
Activities – <i>What Is</i>			-0.56	68	0.58
Respondents	2.42	0.98			
Nonrespondents	2.71	1.46			
Activities – <i>What Should Be</i>			0.16	69	0.16
Respondents	3.58	0.67			
Nonrespondents	4.02	0.68			
Activity/Factor – <i>What Is</i>			-0.52	71	0.60
Respondents	3.00	0.76			
Nonrespondents	3.18	0.59			
Activity/Factor – <i>What Should Be</i>			1.26	68	0.21
Respondents	3.40	0.45			
Nonrespondents	3.12	0.30			

*Note.* ( $p > 0.05$ )

## Data Analysis

### *Summary*

Respondent data from each paper questionnaire (secondary agriculture teacher/4-H youth development personnel) were manually entered into a Microsoft Excel spreadsheet. Respondent data from each electronic questionnaire (secondary agriculture teacher/4-H youth development personnel) were downloaded from the Hosted Survey™ website in a .txt form document, and then imported into to a Microsoft Excel spreadsheet. Spreadsheets containing each partial data set were combine to form two complete data sets (secondary agriculture teacher/4-H youth development personnel). Variable labels were added to the top row of each the Microsoft Excel spreadsheets and then the spreadsheets were imported into SPSS data analysis software.

Data were analyzed using SPSS version 15 for Windows platform computers. In determining the appropriate analysis of the data, the primary guidance was scales of measurement as outlined by Ary et al. (2006). Levels of data may be nominal, ordinal, interval, and ratio. According to Ary et al., nominal data are the most primitive level of measurement. Nominal data can only be assigned numbers arbitrarily and cannot be ranked. However, nominal data can be categorized by values due to its categorical nature. Ordinal data can be ordered or ranked with respect to the amount of an attribute they possess. When numbers are assigned to ordinal data, the data can only be ranked because there is no way to indicate the distance or degree of difference between them. Therefore, the distance between ranks or intervals cannot be assumed to be equal. Conversely, interval data is characterized by equal intervals between units of measure. The highest

level of measurement scale is the ratio scale, which has a true zero point and equal intervals (Ary et al., 2006).

*Research Objective One: Demographics*

Research objective one sought to describe the demographic characteristics of secondary agriculture teachers and 4-H youth development personnel in Missouri. Each subject was asked his/her gender, age, location of residence, level of academic degree attained, and length of experience in his/her respective profession. Gender, age, location of residence, level of academic degree attained, and length of experience were nominal scale items; therefore, frequency and percent were reported. Data were analyzed for secondary agriculture teachers and 4-H youth development personnel groups individually.

*Research Objective Two: Membership in 4-H and FFA as Youth*

Research objective two sought to determine how many secondary agriculture teachers and 4-H youth development personnel were members of 4-H or FFA as a youth. Secondary agriculture teachers and 4-H youth development personnel were asked if he/she was a member of 4-H, FFA, both 4-H and FFA, or neither, as a youth. Membership in a youth organization was a nominal scale item; therefore, frequency and percent were reported. Data were analyzed for secondary agriculture teachers and 4-H youth development personnel groups individually.

*Research Objective Three: Factors Related to Cooperative Relationships*

Research objective three sought to determine what factors secondary agriculture teachers and 4-H youth development personnel perceive as being influential toward cooperative relationships. Secondary agriculture teachers and 4-H youth development personnel were asked how important each factor was and what effect each factor had on his/her professional relationship. For this study, levels of perceived importance were ordinal scale items; therefore, mean, standard deviation, and mode were reported. Data were analyzed for secondary agriculture teachers and 4-H youth development personnel groups individually.

*Research Objective Four: Participation in Cooperative Activities*

Research objective four sought to determine what cooperative activities secondary agriculture teachers and 4-H youth development personnel participate in. Secondary agriculture teachers and 4-H youth development personnel were asked how often they participated in each activity and how often he/she should participate in each activity. The level of activities carried out and the level that activities should be carried out were ordinal scale items; therefore, mean, standard deviation, and mode were reported. Activities were analyzed and ranked, from high to low, based on the mean scores for secondary agriculture teachers and 4-H youth development personnel groups individually.

*Research Objective Five: Discrepancies between Levels of Participation*

Research objective five sought to determine the difference between the perceived actual and the desired level of participation in activities of secondary agriculture teachers

and 4-H youth development personnel. Data addressed in research objective four were analyzed using the Borich (1980) needs assessment model. Garton and Chung (1997) stated that the Borich (1980) model “utilized survey methodology in which respondents provided data that could be weighted and ranked in order of priority” (p. 52).

A discrepancy score was determined by taking the desired level of participation in cooperative activities (what should be) minus the perceived level of participation in cooperative activities (what is) for each respondent in their respective group (secondary agriculture teachers and 4-H youth development personnel) for each activity. A weighted discrepancy score was then calculated by multiplying each discrepancy score by the associated mean desired level of participation in cooperative activities rating of the activity. Lastly, a mean weighted discrepancy score was calculated by taking the sum of the weighted discrepancy scores for each activity and dividing it by the number of respondents in each group.

Activities were then ranked, from high to low, using the mean weighted discrepancy scores. Activities with a high discrepancy score indicated areas needing improvement. Data were analyzed for secondary agriculture teachers and 4-H youth development personnel groups individually.

#### *Research Objective Six: Levels of Cooperative Behavior*

Research objective six sought to determine what levels of cooperation (cooperate, give and take, defect) secondary agriculture teachers and 4-H youth development Extension personnel exhibited. Secondary agriculture teachers and 4-H youth development Extension personnel were asked to consider two case-scenarios. For each

case-scenario, four Likert-type, six-point scale responses ranging from 1 = Not Likely to 6 = Very Likely, were provided to gauge each subject's willingness to cooperate in relation to the Prisoner's Dilemma matrix. Levels of cooperation were nominal scale data; therefore, frequency and percent were reported. Data were analyzed for secondary agriculture teachers and 4-H youth development personnel groups individually.

*Research Objective Seven: Importance and Affect of Activity/Factor Items*

Research objective seven sought to determine what the perceived level of importance of activities or factors that affect cooperative behavior between secondary agriculture teachers and 4-H youth development personnel. Secondary agriculture teachers and 4-H youth development personnel were asked "what is" and "what should be" in regard to importance of activities or factors that affect cooperation. Levels of importance were ordinal scale items; therefore, mean, standard deviation, and mode were reported. Activities and factors were analyzed and ranked, from high to low, based on the mean scores for secondary agriculture teachers and 4-H youth development personnel groups individually.

*Research Objective Eight: Discrepancies of Activity/Factor Items*

Research objective eight sought to determine what the difference was between the actual and the desired level of importance of activities or factors that affect cooperation of secondary agriculture teachers and 4-H youth development personnel. Data addressed in research objective seven were analyzed using the Borich (1980) needs assessment model.

A discrepancy score was determined by taking the desired importance of activities and factors (what should be) minus the perceived importance of activities and factors (what is) for each respondent in their respective group (secondary agriculture teachers and 4-H youth development personnel) on each activity and factor. A weighted discrepancy score was then calculated by multiplying each discrepancy score by the associated mean of the desired level of importance rating of the activity or factor. Lastly, a mean weighted discrepancy score was calculated by taking the sum of the weighted discrepancy scores for each activity and factor and dividing it by the number of respondents in each group.

Activities and factors were then ranked, from high to low, using the mean weighted discrepancy scores. Activities and factors with a high discrepancy score indicated areas needing improvement. Data were analyzed for secondary agriculture teachers and 4-H youth development personnel groups individually.

*Research Objective Nine: Knowledge of Cooperative Agreement*

Research objective nine sought to determine if secondary agricultural teachers and 4-H youth development personnel were aware of a cooperative agreement in Missouri. Responses were either “yes” or “no,” which is nominal scale data; therefore, frequency and percent were reported. Data were analyzed for secondary agriculture teachers and 4-H youth development personnel groups individually.

## CHAPTER IV: FINDINGS

### Research Objective One: Demographics

Research objective one sought to describe the demographic characteristics of secondary agriculture teachers and 4-H youth development personnel in Missouri. Each subject was asked his/her gender, age, location of residence, level of academic degree attained, and length of experience in his/her respective profession. Gender, age, location of residence, level of academic degree attained, and length of experience attained are categorical in or ordinal nature; therefore, frequency and percent were reported. Data were analyzed for secondary agriculture teachers and 4-H youth development personnel groups individually.

Table 7 summarizes the data for gender of both secondary agriculture teachers and 4-H youth development personnel. For this study, of the 140 secondary agriculture teachers who indicated their gender, 103 (73.60%) were male and 37 (26.40%) were female. Eleven (15.10%) of the 4-H youth development personnel who indicated their gender were male; 62 (84.90%) were female. Data for gender were missing for four secondary agriculture teachers and two 4-H youth development personnel.

Table 7

*Gender of Secondary Agriculture Teachers (n = 140) and 4-H Youth Development*

*Personnel (n = 73)*

Gender	<u>Agriculture Teacher</u>		<u>Extension Personnel</u>	
	<i>f</i>	%	<i>f</i>	%
Female	37	26.40	62	84.90
Male	103	73.60	11	15.10

Data were measured in seven intervals ranging from “less than 25 years” to “more than 50 years.” The data for age of both secondary agriculture teachers and 4-H youth development personnel are summarized in Table 8. The most frequent age category for secondary agriculture teachers was 25 to 30 years ( $n = 41$ ) and the most frequent age category for 4-H youth development personnel was 46 to 50 years ( $n = 41$ ). The data indicated that approximately 60% ( $n = 81$ ) were 35 years of age or younger as opposed to approximately 70% ( $n = 57$ ) of 4-H youth development personnel that were 41 years of age or older. Data for age were missing for five secondary agriculture teachers and two 4-H youth development personnel.

Table 8

*Age of Secondary Agriculture Teachers (n = 139) and 4-H Youth Development Personnel (n = 73)*

Age	<u>Agriculture Teacher</u>		<u>Extension Personnel</u>	
	<i>f</i>	%	<i>f</i>	%
Under 25 years	14	10.10	3	4.10
25 to 30 years	41	29.50	6	8.20
31 to 35 years	26	18.70	5	6.80
36 to 40 years	10	7.20	5	6.80
41 to 45 years	12	8.60	13	17.80
46 to 50 years	21	15.10	41	56.20
More than 50 years	15	10.80	3	4.10

*Note.* Agriculture Teacher  $_{\text{Mode}} = 25$  to 30 years; Extension Personnel  $_{\text{Mode}} = 46$  to 50 years

Table 9 summarizes the data for county of residence for both secondary agriculture teachers and 4-H youth development personnel. For this study, 139 secondary agriculture teachers indicated their location of residence in relation to the county in which they work. Ninety-five (68.30%) resided in the same county, whereas 44 (31.70%) did not. Sixty-two (84.90%) of the 4-H youth development personnel resided in the same county in which they work; 11 (15.10%) did not. Data for location of residence were missing for five secondary agriculture teachers and two 4-H youth development personnel.

Table 9

*Location of Residence of Secondary Agriculture Teachers (n = 139) and 4-H Youth*

*Development Personnel (n = 73)*

Residence Location	<u>Agriculture Teacher</u>		<u>Extension Personnel</u>	
	<i>f</i>	%	<i>f</i>	%
Same County As Employed In	95	68.30	62	84.90
Different County Than Employed In	44	31.70	11	15.10

The data for highest degree attained for secondary agriculture teachers and 4-H youth development personnel are summarized in Table 10. The most frequent degree indicated by secondary agriculture teachers was at the master level ( $n = 71$ ); however, nearly as many secondary agriculture teachers indicated that their highest degree was at the bachelor level ( $n = 69$ ). One secondary agriculture teacher indicated that he/she held a doctorate degree.

Table 10

*Highest Degree Attained by Secondary Agriculture Teachers (n = 140) and 4-H Youth*

*Development Personnel (n = 74)*

Educational Degree	<u>Agriculture Teacher</u>		<u>Extension Personnel</u>	
	<i>f</i>	%	<i>f</i>	%
High School Diploma	0	0.00	15	20.30
Associates Degree	0	0.00	11	14.90
Bachelors Degree	69	48.90	10	13.50
Masters Degree	71	49.30	37	50.00
Doctorate	1	0.70	1	1.40

Fifty-percent ( $n = 37$ ) of the 4-H youth development personnel indicated that their highest degree was at the master level. However, the next most frequent degree indicated by 4-H youth development personnel was a high school diploma ( $n = 15$ ), followed by associates degree ( $n = 11$ ), bachelors degree ( $n = 10$ ), and doctorate ( $n = 1$ ). In addition, 100% of secondary agriculture teachers held a bachelors degree or higher; whereas nearly half (48.60%) of 4-H youth development personnel held a bachelor degree or lower. Data for highest degree attained were missing for four secondary agriculture teachers and one 4-H youth development personnel.

Data obtained for length of experience for secondary agriculture teachers and 4-H youth development personnel were collected at the ordinal-level (see Table 11). The data indicates that 86 (61.40%) secondary agriculture teachers had taught for less than 10 years. Whereas, 54 (45.60%) had taught for more than 10 years, 25 (17.90%) of which had taught for more than 20 years. Thirty-one (42.40%) 4-H youth development personnel had less than 10 years experience in Extension work; 42 (57.50%) had more than 10 years experience. In addition, approximately 60% of secondary agriculture teachers had ten or less years of experience teaching; whereas 4-H youth development personnel were approximately divided into equal levels of experience ranging from less than 5 years to more than 20 years experience. Data for length of experience were missing for secondary agriculture teachers ( $n = 4$ ) and 4-H youth development personnel ( $n = 2$ ).

Table 11

*Secondary Agriculture Teachers' (n = 140) and 4-H Youth Development Personnel (n = 73) Length of Experience in Their Respective Profession*

Experience	<u>Agriculture Teachers</u>		<u>Extension Personnel</u>	
	<i>f</i>	%	<i>f</i>	%
Less than 5 years	44	31.40	12	16.40
5 to 10 years	42	30.00	19	26.00
11 to 15 years	14	10.00	15	20.50
16 to 20 years	15	10.70	10	13.70
More than 20 years	25	17.90	17	23.30

*Note.* Agriculture Teachers <sub>Mode</sub> = Less than 5 years; Extension Personnel <sub>Mode</sub> = 5 to 10 years

#### Research Objective Two: Membership in 4-H and FFA as Youth

Research objective two sought to determine the number of secondary agriculture teachers and 4-H youth development personnel were a member of 4-H or FFA as a youth; these data are summarized in Table 12. The data indicate that 85 (60.70%) secondary agriculture teachers were members of 4-H and FFA; 44 (31.40%) were FFA members only, four (2.90%) were 4-H members only, and seven (5.00%) were not members of either organization. Six 4-H youth development personnel were members of both 4-H and FFA; seven (1.40%) were members of FFA only, 44 (52.10%) were 4-H members only, and 28 (38.40%) were not members of either organization. Data for membership in 4-H or FFA as a youth were missing for four secondary agriculture teachers and two 4-H youth development personnel.

Table 12

*Membership in 4-H and FFA as a Youth by Secondary Agriculture Teachers (n = 140) and 4-H Youth Development Personnel (n = 73)*

Youth Organization	<u>Agriculture Teacher</u>		<u>Extension Personnel</u>	
	<i>f</i>	%	<i>f</i>	%
Both	85	60.70	6	8.20
4-H Only	4	2.90	38	50.70
FFA Only	44	31.40	1	1.40
Neither	7	5.00	28	38.40

#### Research Objective Three: Factors Related to Cooperative Relationships

Research objective three sought to determine factors secondary agriculture teachers and 4-H youth development personnel perceived as being important toward cooperative relationships and what type of affect the factors had on cooperative relationships. Table 13 summarizes seven factors that were ranked based upon their mean level of importance (1 to 5; 5 being most important) as perceived by secondary agriculture teachers. Data in Table 13 indicate that secondary agriculture teachers perceived “mutual respect of efforts” ( $M = 4.33$ ;  $SD = 0.84$ ) and “personality of the Extension faculty or staff member” ( $M = 4.03$ ;  $SD = 1.01$ ) as having more than “some” importance in regard to their professional relationship with 4-H youth development personnel. In addition, two factors had mean values of less than 3. These two factors were “similarity of age” ( $M = 2.11$ ;  $SD = 1.09$ ) and “belief that 4-H and FFA are always in competition with one another” ( $M = 1.89$ ;  $SD = 1.01$ ).

Table 13

*Secondary Agriculture Teachers' Perceived Importance of Factors of Cooperation**(n = 140)*

Rank	Factor	<i>M</i>	<i>SD</i>	Mode
1.	Mutual respect of efforts	4.33	0.84	5
2.	Personality of the Extension faculty or staff member	4.03	1.01	5
3.	Success of the Extension faculty or staff member	3.52	1.08	3
4.	Frequency of interaction	3.31	0.91	3
5.	Views passed down from county or state administrators	3.08	1.01	3
6.	Similarity of age	2.11	1.09	1
7.	Belief that 4-H and FFA are always in competition with one another	1.89	1.01	1

*Note.* Scale: 1 = Not at All Important; 3 = Some; 5 = Very Much Important

Table 14 summarizes secondary agriculture teachers' perceived influence that each factor had on their professional relationship with 4-H youth development personnel, ranging from 1 = very negative to 5 = very positive. "Mutual respect of efforts" ( $M = 4.10$ ;  $SD = 1.01$ ) had the highest mean value and "belief that 4-H and FFA are always in competition with one another" ( $M = 2.51$ ;  $SD = 1.04$ ) had the lowest mean value.

Table 14

*Secondary Agriculture Teachers' Perceived Affect of Factors on Cooperative**Relationships (n = 140)*

Rank	Factor	<i>M</i>	<i>SD</i>	Mode
1.	Mutual respect of efforts	4.10	1.01	5
2.	Personality of the Extension faculty or staff member	3.72	1.14	5
3.	Success of the Extension faculty or staff member	3.64	0.91	4
4.	Frequency of interaction	3.57	0.92	3
5.	Views passed down from county or state administrators	3.23	0.80	3
6.	Similarity of age	3.14	0.64	3
7.	Belief that 4-H and FFA are always in competition with one another	2.51	1.04	3

*Note.* Scale: 1 = Very Negative; 2 = Slightly Negative; 3 = Neutral; 4 = Slightly Positive; 5 = Very Positive

Table 15 summarizes seven factors that were ranked based upon their mean level of importance as perceived by 4-H youth development personnel. Data in Table 15 shows that “mutual respect of efforts” ( $M = 4.49$ ;  $SD = 0.75$ ) had the highest mean. In addition, two factors had mean values less than 2.0. The two factors were “belief that 4-H and FFA are always in competition with one another” ( $M = 1.81$ ;  $SD = 1.08$ ) and “similarity of age” ( $M = 1.61$ ;  $SD = 1.07$ ). All but two factors, “belief that 4-H and FFA are always in competition with one another” ( $M = 1.81$ ;  $SD = 1.08$ ) and “similarity of age” ( $M = 1.61$ ;  $SD = 1.07$ ) were determined to have at least some importance.

Table 15

*4-H Youth Development Personnel's Perceived Importance of Factors of Cooperation**(n = 74)*

Rank Factor	<i>M</i>	<i>SD</i>	Mode
1. Mutual respect of efforts	4.49	0.75	5
2. Personality of the agriculture teacher	3.59	1.08	3
3. Success of the agriculture teacher	3.49	1.16	4
4. Frequency of interaction	3.43	0.88	3
5. Views passed down from county or state administrators	2.89	1.32	3
6. Belief that 4-H and FFA are always in competition with one another	1.81	1.08	1
7. Similarity of age	1.61	1.07	1

*Note.* Scale: 1 = Not at All Important; 3 = Some; 5 = Very Much Important

Table 16 summarizes 4-H youth development personnel's perceived influence that each factor had on their professional relationship with secondary agriculture teachers, ranging from 1 = very negative to 5 = very positive. "Mutual respect of efforts" ( $M = 4.24$ ;  $SD = 0.89$ ) had the highest mean level of importance and "belief that 4-H and FFA are always in competition with one another" ( $M = 2.62$ ;  $SD = 0.97$ ) had the lowest mean level of importance.

Table 16

*4-H Youth Development Personnel's Perceived Affect of Factors on Cooperative*

*Relationships (n = 74)*

Rank	Factor	<i>M</i>	<i>SD</i>	Mode
1.	Mutual respect of efforts	4.24	0.89	5
2.	Personality of the agriculture teacher	3.86	1.00	3
3.	Success of the agriculture teacher	3.75	0.88	3
4.	Frequency of interaction	3.71	0.84	4
5.	Views passed down from county or state administrators	3.27	0.88	3
6.	Similarity of age	3.07	0.74	3
7.	Belief that 4-H and FFA are always in competition with one another	2.62	0.97	3

*Note.* Scale: 1 = Very Negative; 2 = Slightly Negative; 3 = Neutral; 4 = Slightly Positive; 5 = Very Positive

Research Objective Four: Participation in Cooperative Activities

Research objective four sought to determine what cooperative activities do secondary agriculture teachers and 4-H youth development personnel participated in. Table 17 summarizes how secondary agriculture teachers' perceived their participation in activities, ranked in order from highest to lowest. Five activities were found to have a mean value of 2.35 or greater. These five activities consisted of "coordinate efforts toward similar goals related to youth" ( $M = 2.74$ ;  $SD = 1.25$ ), "exchange or forward e-mail messages which might be beneficial to the other's program" ( $M = 2.62$ ;  $SD = 1.27$ ),

“consult each other's special abilities and knowledge in problem situations” ( $M = 2.60$ ;  $SD = 1.25$ ), “discuss community needs pertaining to agriculture” ( $M = 2.44$ ;  $SD = 1.10$ ), and “share responsibility for publicity concerning educational programs in agriculture in the county” ( $M = 2.35$ ;  $SD = 1.24$ ).

Table 17

*Secondary Agriculture Teachers' Perceived Level of Participation in Activities (n = 140)*

Rank	Activity	<i>M</i>	<i>SD</i>	Mode
1.	Coordinate efforts toward similar goals related to youth	2.74	1.25	3
2.	Exchange or forward e-mail messages which might be beneficial to the other's program	2.62	1.27	3
3.	Consult each other's special abilities and knowledge in problem situations	2.60	1.25	1
4.	Discuss community needs pertaining to agriculture	2.44	1.10	2
5.	Share responsibility for publicity concerning educational programs in agriculture in the county	2.35	1.24	3
6.	Conduct joint demonstrations, workshops, or county field days	2.18	1.09	2
7.	Identify common educational objectives of Extension and high school agriculture programs	2.16	1.06	2
8.	Discuss space and facilities available for conducting education programs in agriculture	2.11	1.12	1
9.	Coordinate efforts for training similar competitive teams	2.07	1.20	1
10.	Discuss advancements in instructional materials available for teaching educational programs in agriculture	2.01	1.10	1
11.	Serve as consultants to each other's advisory committee	1.96	1.19	1
12.	Discuss fundraising activities	1.53	0.85	1

*Note.* Scale: 1 = Never; 2 = Rarely; 3 = Occasionally; 4 = Frequently; 5 = Always

In addition, seven activities possessed a mean value of less than 2.20. The seven items were “conduct joint demonstrations, workshops, or county field days” ( $M = 2.18$ ;  $SD = 1.09$ ), “identify common educational objectives of Extension and high school agriculture programs” ( $M = 2.16$ ;  $SD = 1.06$ ), “discuss space and facilities available for conducting education programs in agriculture” ( $M = 2.11$ ;  $SD = 1.12$ ), “coordinate efforts for training similar competitive teams” ( $M = 2.07$ ;  $SD = 1.20$ ), “discuss advancements in instructional materials available for teaching educational programs in agriculture” ( $M = 2.01$ ;  $SD = 1.10$ ), “serve as consultants to each other's advisory committee” ( $M = 1.96$ ;  $SD = 1.19$ ), and “discuss fundraising activities” ( $M = 1.53$ ;  $SD = 0.85$ ).

Table 18 summarizes the perceived level that secondary agriculture teachers’ should participate in activities, ranked in order from highest to lowest based upon mean values. Seven activities were found to have mean values of 3.50 or greater. The five activities were “coordinate efforts toward similar goals related to youth” ( $M = 3.86$ ;  $SD = 0.77$ ), “consult each other's special abilities and knowledge in problem situations” ( $M = 3.71$ ;  $SD = 0.80$ ), “exchange or forward e-mail messages which might be beneficial to the other's program” ( $M = 3.67$ ;  $SD = 0.83$ ), “share responsibility for publicity concerning educational programs in agriculture in the county” ( $M = 3.60$ ;  $SD = 0.73$ ), “discuss community needs pertaining to agriculture” ( $M = 3.60$ ;  $SD = 0.67$ ), “coordinate efforts for training similar competitive teams” ( $M = 3.51$ ;  $SD = 0.92$ ), and “discuss advancements in instructional materials available for teaching educational programs in agriculture” ( $M = 3.50$ ;  $SD = 0.88$ ).

Table 18

*Secondary Agriculture Teachers' Desired Level of Participation in Activities (n = 140)*

Rank	Activity	<i>M</i>	<i>SD</i>	Mode
1.	Coordinate efforts toward similar goals related to youth	3.86	0.77	4
2.	Consult each other's special abilities and knowledge in problem situations	3.71	0.80	4
3.	Exchange or forward e-mail messages which might be beneficial to the other's program	3.67	0.83	4
4.	Share responsibility for publicity concerning educational programs in agriculture in the county	3.64	0.73	4
5.	Discuss community needs pertaining to agriculture	3.60	0.67	4
6.	Coordinate efforts for training similar competitive teams	3.51	0.92	4
7.	Discuss advancements in instructional materials available for teaching educational programs in agriculture	3.50	0.88	4
8.	Serve as consultants to each other's advisory committee	3.45	0.98	4
9.	Conduct joint demonstrations, workshops, or county field days	3.44	0.80	3
10.	Identify common educational objectives of Extension and high school agriculture programs	3.41	0.80	3
11.	Discuss space and facilities available for conducting education programs in agriculture	3.31	0.91	3
12.	Discuss fundraising activities	2.53	1.08	3

*Note.* Scale: 1 = Never; 2 = Rarely; 3 = Occasionally; 4 = Frequently; 5 = Always

In addition, five activities possessed a mean value less than 3.50. The five activities were “serve as consultants to each other's advisory committee”

( $M = 3.45$ ;  $SD = 0.98$ ), “conduct joint demonstrations, workshops, or county field days”

( $M = 3.44$ ;  $SD = 0.80$ ), “identify common educational objectives of Extension and high school agriculture programs” ( $M = 3.41$ ;  $SD = 0.80$ ), “discuss space and facilities available for conducting education programs in agriculture” ( $M = 3.31$ ;  $SD = 0.91$ ), and “discuss fundraising activities” ( $M = 2.53$ ;  $SD = 1.08$ ).

Table 19 summarizes 4-H youth development personnel’s perceived level of participation in activities, ranked in order from highest to lowest. Six activities were found to have mean values of 2.42 or greater. The six activities were “exchange or forward e-mail messages which might be beneficial to the other's program” ( $M = 2.99$ ;  $SD = 1.36$ ), “consult each other's special abilities and knowledge in problem situations” ( $M = 2.99$ ;  $SD = 1.28$ ), “coordinate efforts toward similar goals related to youth” ( $M = 2.93$ ;  $SD = 1.27$ ), “share responsibility for publicity concerning educational programs in agriculture in the county” ( $M = 2.53$ ;  $SD = 1.30$ ), “discuss space and facilities available for conducting education programs in agriculture” ( $M = 2.43$ ;  $SD = 1.21$ ), and “identify common educational objectives of Extension and high school agriculture programs” ( $M = 2.42$ ;  $SD = 1.16$ ). In addition, six activities possessed mean values less than 2.42. The six activities were “discuss community needs pertaining to agriculture” ( $M = 2.39$ ;  $SD = 1.08$ ), “conduct joint demonstrations, workshops, or county field days” ( $M = 2.25$ ;  $SD = 1.26$ ), “serve as consultants to each other's advisory committee” ( $M = 2.24$ ;  $SD = 1.28$ ), “coordinate efforts for training similar competitive teams” ( $M = 2.21$ ;  $SD = 1.40$ ), “discuss fundraising activities” ( $M = 1.99$ ;  $SD = 1.14$ ), and “discuss advancements in instructional materials available for teaching educational programs in agriculture” ( $M = 1.89$ ;  $SD = 1.06$ ).

Table 19

*4-H Youth Development Personnel's Perceived Level of Participation in Activities.*

Rank	Activity	<i>M</i>	<i>SD</i>	Mode
1.	Exchange or forward e-mail messages which might be beneficial to the other's program	2.99	1.36	3
2.	Consult each other's special abilities and knowledge in problem situations	2.99	1.28	3
3.	Coordinate efforts toward similar goals related to youth	2.93	1.27	4
4.	Share responsibility for publicity concerning educational programs in agriculture in the county	2.53	1.30	1
5.	Discuss space and facilities available for conducting education programs in agriculture	2.43	1.21	2
6.	Identify common educational objectives of Extension and high school agriculture programs	2.42	1.16	2
7.	Discuss community needs pertaining to agriculture	2.39	1.08	3
8.	Conduct joint demonstrations, workshops, or county field days	2.25	1.26	1
9.	Serve as consultants to each other's advisory committee	2.24	1.28	1
10.	Coordinate efforts for training similar competitive teams	2.21	1.40	1
11.	Discuss fundraising activities	1.99	1.14	1
12.	Discuss advancements in instructional materials available for teaching educational programs in agriculture	1.89	1.06	1

*Note.* Scale: Never = 1; Rarely = 2; Occasionally = 3; Frequently = 4; Always = 5

Table 20 summarizes the perceived level that 4-H youth development personnel should participate in activities, ranked in order from highest to lowest based on mean values. Six activities were found to have mean values of 3.61 or greater. The six activities were “coordinate efforts toward similar goals related to youth” ( $M = 4.04$ ;  $SD = 0.72$ ), “consult each other's special abilities and knowledge in problem situations” ( $M = 3.95$ ;  $SD = 0.77$ ), “exchange or forward e-mail messages which might be beneficial to the other's program” ( $M = 3.92$ ;  $SD = 0.86$ ), “share responsibility for publicity concerning educational programs in agriculture in the county” ( $M = 3.73$ ;  $SD = 0.95$ ), “identify common educational objectives of Extension and high school agriculture programs” ( $M = 3.64$ ;  $SD = 0.81$ ), and “coordinate efforts for training similar competitive teams” ( $M = 3.61$ ;  $SD = 0.99$ ).

Table 20

*4-H Youth Development Personnel's Desired Level of Participation in Activities (n = 74)*

Rank	Activity	<i>M</i>	<i>SD</i>	Mode
1.	Coordinate efforts toward similar goals related to youth	4.04	.72	4
2.	Consult each other's special abilities and knowledge in problem situations	3.95	.77	4
3.	Exchange or forward e-mail messages which might be beneficial to the other's program	3.92	.86	4
4.	Share responsibility for publicity concerning educational programs in agriculture in the county	3.73	.95	4
5.	Identify common educational objectives of Extension and high school agriculture programs	3.64	.81	4
6.	Coordinate efforts for training similar competitive teams	3.61	.99	4
7.	Discuss space and facilities available for conducting education programs in agriculture	3.59	.91	4
8.	Conduct joint demonstrations, workshops, or county field days	3.59	.83	3
9.	Serve as consultants to each other's advisory committee	3.51	1.00	4
10.	Discuss community needs pertaining to agriculture	3.51	.77	4
11.	Discuss advancements in instructional materials available for teaching educational programs in agriculture	3.22	1.04	4
12.	Discuss fundraising activities	3.05	1.01	3

*Note.* Scale: 1 = Never; 2 = Rarely; 3 = Occasionally; 4 = Frequently; 5 = Always

In addition, six activities possessed a mean less than 3.61. These six activities were “discuss space and facilities available for conducting education programs in agriculture” ( $M = 3.59$ ;  $SD = 0.91$ ), “conduct joint demonstrations, workshops, or county

field days” ( $M = 3.59$ ;  $SD = 0.83$ ), “serve as consultants to each other's advisory committee” ( $M = 3.51$ ;  $SD = 1.00$ ), “discuss community needs pertaining to agriculture” ( $M = 3.51$ ;  $SD = 0.77$ ), “discuss advancements in instructional materials available for teaching educational programs in agriculture” ( $M = 3.22$ ;  $SD = 1.04$ ), and “discuss fundraising activities” ( $M = 3.05$ ;  $SD = 1.01$ ).

#### Research Objective Five: Discrepancies between Levels of Participation

The purpose of research objective five was to prioritize the cooperative activities in need of improvement, as perceived by secondary agriculture teachers and 4-H youth development personnel. The Borich (1980) needs assessment model was utilized to determine the discrepancies, as were the detailed procedures outlined by Robinson (2006). The Borich (1980) needs assessment model allows two ratings to be taken into account simultaneously in an effort to determine where discrepancies exist.

A discrepancy score was determined by taking the desired level of participation in cooperative activities (what should be) minus the perceived level of participation in cooperative activities (what is) for each respondent in their respective group (secondary agriculture teachers and 4-H youth development personnel) on each activity. A weighted discrepancy score was then calculated by multiplying each discrepancy score by the associated mean desired level of participation in cooperative activities rating of the activity. Lastly, a mean weighted discrepancy score was calculated by taking the sum of the weighted discrepancy scores for each activity and dividing it by the number of respondents in each group.

To prioritize the activities in need of improvement, four needs categories were defined for each group where, Category I items are considered most in need. Category ranges were determined for each group, secondary agriculture teachers and 4-H youth development personnel, by observed breaks in the activity items MWDS. MWDS were determined on a group basis because a discrepancy is based upon a single group's need for improvement. Therefore, it would be inappropriate to categorically rank the need for improvement of one group based upon the discrepancies of another.

Secondary agriculture teachers' Category I (see Table 21) consisted of all activity items with MWDS greater than five and was considered a high discrepancy. Secondary agriculture teachers' Category II consisted of all activity items MWDS greater than four and was considered a moderate discrepancy. Secondary agriculture teachers' Category III consisted of all activity items MWDS greater than three and was considered a low discrepancy. Secondary agriculture teachers' Category IV consisted of one MWDS less than three and was considered a negligible discrepancy.

Table 21

*MWDS for Secondary Agriculture Teachers' Perceptions of Activities (n = 140)*

Category	Activity	MWDS
I	Discuss advancements in instructional materials available for teaching educational programs in agriculture	5.18
	Serve as consultants to each other's advisory committee	5.13
	Coordinate efforts for training similar competitive teams	5.01
II	Share responsibility for publicity concerning educational programs in agriculture in the county	4.66
	Conduct joint demonstrations, workshops, or county field days	4.30
	Identify common educational objectives of Extension and high school agriculture programs	4.29
	Coordinate efforts toward similar goals related to youth	4.27
	Consult each other's special abilities and knowledge in problem situations	4.14
	Discuss community needs pertaining to agriculture	4.12
	Discuss space and facilities available for conducting education programs in agriculture	3.95
III	Exchange or forward e-mail messages which might be beneficial to the other's program	3.83
	Discuss fundraising activities	2.51

4-H youth development personnel Category I (see Table 22) consisted of all activity items MWDS greater than 4.50 and was considered a high discrepancy. 4-H youth development personnel Category II consisted of all activity items MWDS greater than 4.00 and was considered a moderate discrepancy. 4-H youth development personnel

Category III consisted of all activity items MWDS greater than 3.50 and was considered a low discrepancy. 4-H youth development personnel Category IV consisted of one activity item with a MWDS less than 3.50 and was considered a negligible discrepancy.

Secondary agriculture teachers' Category I consisted of three activity items as a result of having high discrepancy scores according to the perceptions of secondary agriculture teachers. The three activity items were "discuss advancements in instructional materials available for teaching educational programs in agriculture" (MWDS = 5.18), "serve as consultants to each other's advisory committee" (MWDS = 5.13), and "coordinate efforts for training similar competitive teams" (MWDS = 5.01).

Secondary agriculture teachers' Category II consisted of six activity items that received moderate discrepancy scores. The six activity items were "share responsibility for publicity concerning educational programs in agriculture in the county" (MWDS = 4.66), "conduct joint demonstrations, workshops, or county field days" (MWDS = 4.30), "identify common educational objectives of Extension and high school agriculture programs" (MWDS = 4.29), "coordinate efforts toward similar goals related to youth" (MWDS = 4.27), "consult each other's special abilities and knowledge in problem situations" (MWDS = 4.14), and "discuss community needs pertaining to agriculture" (MWDS = 4.12).

Secondary agriculture teachers' Category III consisted of two activity items that received low discrepancy scores. The two activity items were "discuss space and facilities available for conducting educational programs in agriculture" (MWDS = 3.95) and "exchange or forward e-mail messages which might be beneficial to the other's program" (MWDS = 3.83). One activity fell into secondary agriculture teachers'

Category IV (negligible). The one activity item was “discuss fundraising activities” (MWDS = 2.51).

4-H youth development personnel Category I (see Table 22) consisted of two activity items as a result of having high discrepancy scores according to the perceptions of secondary agriculture teachers. The two activity items were “coordinate efforts for training similar competitive teams” (MWDS = 5.03) and “conduct joint demonstrations, workshops, or county field days” (MWDS = 4.82).

Table 22

*MWDS for 4-H Youth Development Personnel's Perceptions of Activities (n = 74)*

Category	Activity	MWDS
I	Coordinate efforts for training similar competitive teams	5.03
	Conduct joint demonstrations, workshops, or county field days	4.82
II	Coordinate efforts toward similar goals related to youth	4.49
	Identify common educational objectives of Extension and high school agriculture programs	4.45
	Share responsibility for publicity concerning educational programs in agriculture in the county	4.45
	Serve as consultants to each other's advisory committee	4.42
	Discuss advancements in instructional materials available for teaching educational programs in agriculture	4.22
	Discuss space and facilities available for conducting education programs in agriculture	4.13
III	Discuss community needs pertaining to agriculture	3.84
	Consult each other's special abilities and knowledge in problem situations	3.78
	Exchange or forward e-mail messages which might be beneficial to the other's program	3.58
	Discuss fundraising activities	3.21

4-H youth development personnel Category II consisted of six activity items that received moderate discrepancy scores. The six activity items were “coordinate efforts toward similar goals related to youth” (MWDS = 4.49), “identify common educational objectives of Extension and high school agriculture programs” (MWDS = 4.45), “share

responsibility for publicity concerning educational programs in agriculture in the county” (MWDS = 4.45), “serve as consultants to each other’s advisory committee” (MWDS = 4.42), “discuss advancements in instructional materials available for teaching educational programs in agriculture” (MWDS = 4.22), and discuss space and facilities available for conducting educational programs in agriculture” (MWDS = 4.13).

4-H youth development personnel Category III consisted of four activity items that received low discrepancy scores. The four activity items were “discuss community needs pertaining to agriculture” (MWDS = 3.84), “consult each other’s special abilities and knowledge in problem situations” (MWDS = 3.78), “exchange or forward e-mail messages which might be beneficial to the other’s program” (MWDS = 3.58), and “discuss fundraising activities” (MWDS = 3.21).

#### Research Objective Six: Levels of Cooperative Behavior

Research objective six sought to determine the level of cooperative behavior (cooperate, give and take, defect) secondary agriculture teachers and 4-H youth development Extension personnel exhibited. Secondary agriculture teachers and 4-H youth development Extension personnel were asked to consider two case-scenarios. For each case-scenario, four Likert-type, six-point scale responses ranging from 1 = Not Likely to 6 = Very Likely, were provided to gauge each subject’s willingness to cooperate in relation to the Prisoner’s Dilemma matrix.

In a similar study conducted in Oklahoma, Bryant (1965) suggested that competition at county fairs was often an influential factor in determining the level of cooperation between vocational agriculture teachers and Extension agents. Therefore, the

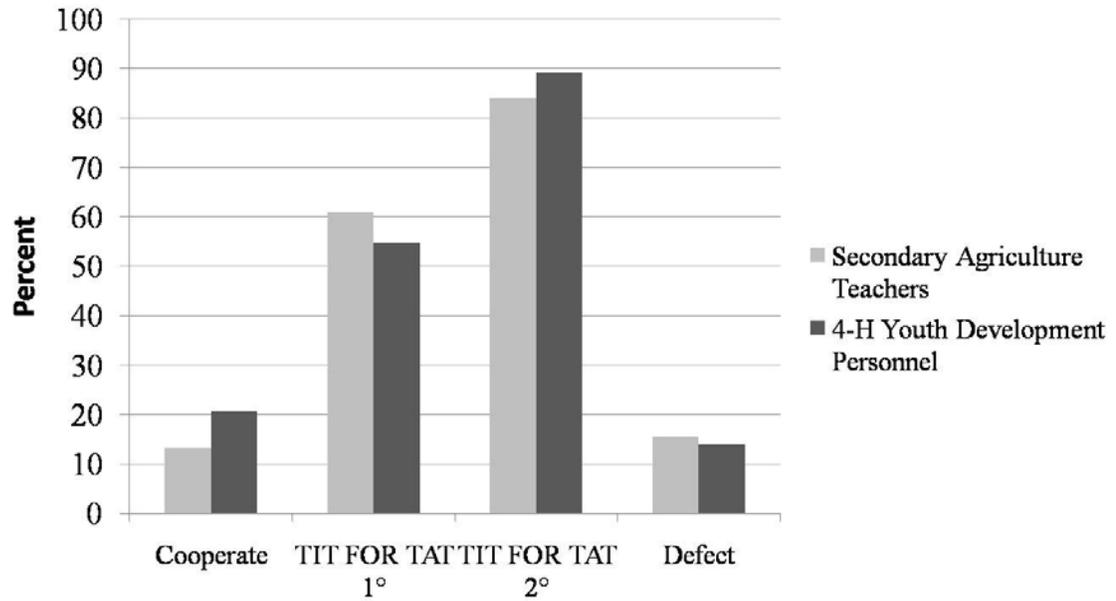
first case-scenario depicted a hypothetical situation at a fictitious county fair. The following context specific case-scenarios were presented to secondary agriculture teachers and 4-H youth development personnel in their respective questionnaire.

*Scenario 1, Context: County Fair*

*The sale order of the Junior Livestock Auction at the county fair is under review by the fair board. The fair board has decided to review the sale order policy because the sale prices are higher at the beginning of the auction when most of the buyers are present and have the most money to spend. You know that the prices at the beginning of the sale are much higher, but it has been a long-time tradition that FFA members are first in the sale order, followed by the 4-H members. The fair board has asked for your input.*

*The sale order of the Junior Livestock Auction at the county fair is under review by the fair board. The fair board has decided to review the sale order policy because the sale prices are higher at the beginning of the auction when most of the buyers are present and have the most money to spend. You know that the prices at the beginning of the sale are much higher, but it has been a long-time tradition that 4-H members are first in the sale order, followed by the FFA members. The fair board has asked for your input.*

Data from each Likert-type, six-point question (1 = Not Likely; 6 = Very Likely) were collapsed into dichotomous groupings (1, 2, 3 = Not Likely and 4, 5, 6 = Likely). Figure 4 depicts the relative similarity of the summed “Likely” percentages of secondary agriculture teachers and 4-H youth development personnel. Figure 4 shows that secondary agriculture teachers and 4-H youth development personnel are far more likely to choose a give and take level of cooperation, indicating a *give and take* relationship, than they are to cooperate or defect. Furthermore, Figure 4 illustrates that differences exist in levels of cooperative behavior relative to the option of giving first (TIT FOR TAT 1°) in a give and take relationship versus giving second (TIT FOR TAT 2°).



*Figure 4.* Levels of “likely” cooperative behavior of secondary agriculture teachers and 4-H youth development personnel in a competitive situation.

Table 23 and Table 24 summarize the frequency and percentages of secondary agriculture teachers (see Table 23) and 4-H youth development personnel (see Table 24) for each level of cooperative behavior (cooperate, give and take, and defect) based on the Prisoner’s Dilemma.

Table 23

*Agriculture Teacher's Cooperative Behavior, Case Study Scenario 1 – County Fair**(n = 143)*

Behavior:	Likelihood											
	Not Likely								Very Likely			
	1		2		3		4		5		6	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
Cooperate	70	49.0	27	18.9	27	18.9	12	8.3	5	3.5	2	1.4
Tit for Tat 1°	32	22.4	9	6.3	15	10.5	17	11.9	29	20.3	41	28.7
Tit for Tat 2°	11	7.7	5	3.5	7	4.9	10	7.0	31	21.7	79	55.2
Defect	56	39.2	40	28.0	25	17.5	11	7.7	7	4.9	4	2.8

*Note.* Tit for Tat 1° = give first; Tit for Tat 2° = give second

Table 24

*4-H Youth Development Personnel's Cooperative Behavior, Case Study Scenario 1 –**County Fair (n = 73)*

Behavior:	Likelihood											
	Not Likely								Very Likely			
	1		2		3		4		5		6	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
Cooperate	35	47.9	13	17.8	10	13.7	6	8.2	4	5.5	5	6.8
Tit for Tat 1°	18	24.7	2	8.2	9	12.3	6	8.2	10	13.7	24	32.9
Tit for Tat 2°	3	4.1	0	0.0	5	6.8	4	5.5	16	21.9	45	61.6
Defect	42	58.3	14	19.4	6	8.3	7	9.7	1	1.4	2	2.8

*Note.* Tit for Tat 1° = give first; Tit for Tat 2° = give second

Previous studies (Buddle, 1981; Schroeder & Moss, 1984; Smith, 1966) suggested that cooperation may be affected when resources such as facilities are a factor. Therefore, the second case-scenario depicted a hypothetical situation regarding donated facilities.

The following case-scenarios were presented to secondary agriculture teachers and 4-H youth development personnel in their respective questionnaire.

The following context specific case-scenarios were presented to secondary agriculture teachers' and 4-H youth development personnel's roles to determine the level of cooperation they would exhibit when serving as youth educators.

*Scenario 2, Context: Donated Land Laboratory*

*The county Extension agent has received a donation of a nearby 20 acre farm. Prior to being donated to the County Extension Office, the farm was vacant for a year. The barn is in good condition, but it needs a coat of paint, the fences around the pasture need mending, and some of the boards on the corrals need to be replaced. The Extension agent and her 4-H members do not have the tools or equipment to repair the farm so she has approached you. Your school does have all of the necessary tools and equipment, and you have enough FFA members with the experience necessary to safely use them.*

*The high school agriculture teacher has received a donation of a nearby 20 acre farm. Prior to being donated to the high school agricultural education program, the farm was vacant for a year. The barn is in good condition, but it needs a coat of paint, the fences around the pasture need mending, and some of the boards on the corrals need to be replaced. The agriculture teacher and her FFA members do not have the tools or equipment to repair the farm so she has approached you. Between the Extension office and your volunteers, you have all of the necessary tools and equipment, as well as enough 4-H members and volunteers with the experience necessary to safely use them.*

Data from each Likert-type, six-point question (1 = Not Likely; 6 = Very Likely) were collapsed into dichotomous groupings (1, 2, 3 = Not Likely and 4, 5, 6 = Likely). Figure 5 depicts the relative similarity of the summed "likely" percentages of secondary agriculture teachers and 4-H youth development personnel. Figure 5 shows that secondary agriculture teachers and 4-H youth development personnel are more likely to choose the "cooperation" level of

cooperative behavior when competition is removed from the situation. Figure 5 shows that secondary agriculture teachers and 4-H youth development personnel are more likely to choose a give and take level of cooperative behavior in a give and take relationship when they are giving second (TIT FOR TAT 2°). Nevertheless, all three levels of cooperation in regard to the Prisoner’s Dilemma (cooperate, give and take, defect) were present.

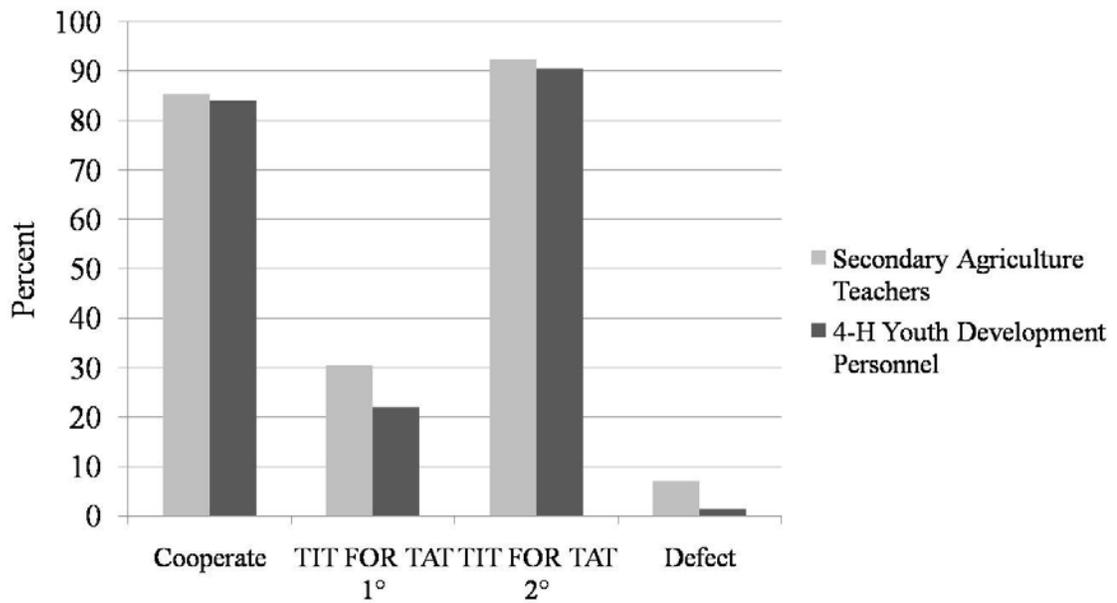


Figure 5. Levels of “likely” cooperative behavior of secondary agriculture teachers and 4-H youth development personnel in a facility sharing situation.

Table 25 and Table 26 summarize the frequency and percentages of secondary agriculture teachers (see Table 25) and 4-H youth development personnel (see Table 26) for each level of cooperative behavior (cooperate, give and take, and defect) based on the Prisoner’s Dilemma.

Table 25

*Agriculture Teachers' Cooperative Behavior Case Study Scenario 2 – Land Lab (n = 143)*

Behavior:	Likelihood											
	Not Likely								Very Likely			
	1		2		3		4		5		6	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
Cooperate	2	1.4	5	3.5	14	9.9	19	13.4	50	35.2	52	36.6
Tit for Tat 1°	40	28.2	55	38.7	17	12.0	17	12.0	16	11.3	10	7.0
Tit for Tat 2°	3	2.1	3	2.1	5	3.5	16	11.3	49	34.5	66	46.5
Defect	78	54.9	45	31.7	9	6.3	5	3.5	4	2.8	1	0.7

*Note.* Tit for Tat 1° = give first; Tit for Tat 2° = give second

Table 26

*4-H Youth Development Personnel's Cooperative Behavior, Case Study Scenario 2 – Land Lab (n = 74)*

Behavior:	Likelihood											
	Not Likely								Very Likely			
	1		2		3		4		5		6	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
Cooperate	4	5.4	4	5.4	4	5.4	18	24.3	19	25.7	25	33.8
Tit for Tat 1°	20	27.4	19	26.0	18	24.7	12	16.4	4	5.5	0	0.0
Tit for Tat 2°	2	2.7	0	0.0	5	6.8	13	17.8	21	28.8	32	43.8
Defect	54	73.0	11	14.9	8	10.8	1	1.4	0	0.0	0	0.0

*Note.* Tit for Tat 1° = give first; Tit for Tat 2° = give second

## Research Objective Seven: Importance and Affect of Activity/Factor Items

Research objective seven sought to determine what the perceived level of importance of activities/factors that affect cooperative behavior between secondary agriculture teachers and 4-H youth development personnel. Thirteen activity/factor items were analyzed and ranked, from high to low, based on the mean importance scores for secondary agriculture teachers and 4-H youth development personnel groups individually.

Data in Table 27 summarizes secondary agriculture teachers' perceived importance of activities/factors that affect cooperative behavior. Two activity/factor items were found to possess a mean importance value of three or greater. The two activity/factor items were "willingness to serve a portion or all of the county" ( $M = 3.24$ ;  $SD = 1.19$ ), "compatibility of personality" ( $M = 3.17$ ;  $SD = 1.09$ ), and "plan events so that they are not in competition with one another" ( $M = 3.01$ ;  $SD = 1.31$ ). In addition, 10 activity/factor items possessed mean importance scores of less than three. The 10 activity/factor items were "consulting each other's knowledge or special abilities in problem situations" ( $M = 2.94$ ;  $SD = 1.21$ ), "initiative in contacting one another" ( $M = 2.94$ ;  $SD = 1.20$ ), "similarity in program goals" ( $M = 2.88$ ;  $SD = 1.07$ ), "degree of personal friendship" ( $M = 2.83$ ;  $SD = 1.15$ ), "having Extension personnel be a guest presenter in a class or at an FFA meeting" ( $M = 2.74$ ;  $SD = 1.15$ ), "differences in program structure (4-H & FFA)" ( $M = 2.59$ ;  $SD = 1.04$ ), "coordination of efforts for training similar competitive teams (i.e. livestock judging)" ( $M = 2.56$ ;  $SD = 1.20$ ), "tenure at present location" ( $M = 2.36$ ;  $SD = 1.12$ ), "variation in total years experience" ( $M = 2.34$ ;  $SD = 0.99$ ), and "similarity or difference in our age" ( $M = 2.18$ ;  $SD = 1.12$ ).

Table 27

*Secondary Agriculture Teachers' Perception of "What Is" Regarding the Importance of Activities/Factors that Affect Cooperation (n = 143)*

Rank	Activity/Factor	<i>M</i>	<i>SD</i>
1.	Willingness to serve a portion or all of the county	3.24	1.19
2.	Compatibility of personality	3.17	1.09
3.	Plan events so that they are not in competition with one another	3.01	1.31
4.	Consulting each other's knowledge or special abilities in problem situations	2.94	1.21
5.	Initiative in contacting one another	2.94	1.20
6.	Similarity in program goals	2.88	1.07
7.	Degree of personal friendship	2.83	1.15
8.	Having Extension personnel be a guest presenter in a class or at an FFA meeting	2.74	1.15
9.	Differences of program structure (4-H & FFA)	2.59	1.04
10.	Coordination of efforts for training similar competitive teams (i.e. livestock judging)	2.56	1.20
11.	Tenure at present location	2.36	1.12
12.	Variation in total years experience	2.34	0.99
13.	Similarity or difference in our age	2.18	1.12

*Note.* Scale: 1 = Not Important; 3 = Neutral; 5 = Very Important

Secondary agriculture teachers' desired importance of activity/factor items that affect cooperative behavior were summarized in Table 28. One activity/factor item had a mean importance value greater than four, which was "consulting each other's knowledge

or special abilities in problem situations” ( $M = 4.02$ ;  $SD = 0.70$ ). Eight activity/factor items possessed mean importance values of less than four, but greater than three. The eight activity/factor items were “willingness to serve a portion or all of the county” ( $M = 3.98$ ;  $SD = 0.87$ ), “plan events so that they are not in competition with one another” ( $M = 3.92$ ;  $SD = 1.01$ ), “initiative in contacting one another” ( $M = 3.84$ ;  $SD = 0.88$ ), “coordination of efforts for training similar competitive teams (i.e. livestock judging)” ( $M = 3.72$ ;  $SD = 0.93$ ), “having Extension personnel be a guest presenter in a class or at an FFA meeting” ( $M = 3.69$ ;  $SD = 0.82$ ), “similarity in program goals” ( $M = 3.69$ ;  $SD = 0.86$ ), “compatibility of personality” ( $M = 3.66$ ;  $SD = 0.97$ ), and “degree of personal friendship” ( $M = 3.14$ ;  $SD = 1.12$ ). Four activity/factor items possessed mean importance values of less than three. The four activity/factor items were “differences in program structure (4-H & FFA)” ( $M = 2.86$ ;  $SD = 1.09$ ), “tenure at present location” ( $M = 2.46$ ;  $SD = 1.15$ ), “variation in total years experience” ( $M = 2.41$ ;  $SD = 1.05$ ), and “similarity or difference in our age” ( $M = 2.17$ ;  $SD = 1.11$ ).

Table 28

*Secondary Agriculture Teachers' Perception of "What Should Be" Regarding the Importance of Activities/Factors that Affect Cooperation (n = 143)*

Rank	Activity/Factor	<i>M</i>	<i>SD</i>
1.	Consulting each other's knowledge or special abilities in problem situations	4.02	0.70
2.	Willingness to serve a portion or all of the county	3.98	0.87
3.	Plan events so that they are not in competition with one another	3.92	1.01
4.	Initiative in contacting one another	3.84	0.88
5.	Coordination of efforts for training similar competitive teams (i.e. livestock judging)	3.72	0.93
6.	Having Extension personnel be a guest presenter in a class or at an FFA meeting	3.69	0.82
7.	Similarity in program goals	3.69	0.86
8.	Compatibility of personality	3.66	0.97
9.	Degree of personal friendship	3.14	1.12
10.	Differences of program structure (4-H & FFA)	2.86	1.09
11.	Tenure at present location	2.46	1.15
12.	Variation in total years experience	2.41	1.05
13.	Similarity or difference in our age	2.17	1.11

*Note.* Scale: 1 = Not Important; 3 = Neutral; 5 = Very Important

Table 29 summarizes 4-H youth development personnel's perceived importance of activities/factors that affect cooperative behavior. Seven activity/factor items were found to possess a mean importance value of three or greater. The seven activity/factor items were "plan events so that they are not in competition with one another"

( $M = 3.61$ ;  $SD = 1.32$ ), “willingness to serve a portion or all of the county” ( $M = 3.58$ ;  $SD = 1.22$ ), “consulting each other’s knowledge or special abilities in problem situations” ( $M = 3.51$ ;  $SD = 1.15$ ), “similarity in program goals” ( $M = 3.43$ ;  $SD = 1.11$ ), “compatibility of personality” ( $M = 3.39$ ;  $SD = 1.13$ ), “initiative in contacting one another” ( $M = 3.36$ ;  $SD = 1.15$ ), and “having the agriculture teacher be a guest presenter in an Extension presentation or at a 4-H meeting” ( $M = 3.09$ ;  $SD = 1.25$ ). In addition, six activity/factor items possessed mean importance values less than three. The six activity/factor items were “coordination of efforts for training similar competitive teams (i.e. livestock judging)” ( $M = 2.95$ ;  $SD = 1.44$ ), “differences in program structure (4-H & FFA)” ( $M = 2.81$ ;  $SD = 1.14$ ), “degree of personal friendship” ( $M = 2.72$ ;  $SD = 1.24$ ), “variation in total years experience” ( $M = 2.39$ ;  $SD = 1.16$ ), “tenure at present location” ( $M = 2.26$ ;  $SD = 1.18$ ), and “similarity or difference in our age” ( $M = 1.93$ ;  $SD = 1.05$ ).

Table 29

*4-H Youth Development Personnel's Perception of "What Is" Regarding the Importance of Activities/Factors that Affect Cooperation (n = 73)*

Rank	Activity/Factor	<i>M</i>	<i>SD</i>
1.	Plan events so that they are not in competition with one another	3.61	1.32
2.	Willingness to serve a portion or all of the county	3.58	1.22
3.	Consulting each other's knowledge or special abilities in problem situations	3.51	1.15
4.	Similarity in program goals	3.43	1.11
5.	Compatibility of personality	3.39	1.13
6.	Initiative in contacting one another	3.36	1.15
7.	Having the agriculture teacher be a guest presenter in an Extension presentation or at a 4-H meeting	3.09	1.25
8.	Coordination of efforts for training similar competitive teams (i.e. livestock judging)	2.95	1.44
9.	Differences of Program structure (4-H & FFA)	2.81	1.14
10.	Degree of personal friendship	2.72	1.24
11.	Variation in total years experience	2.39	1.16
12.	Tenure at present location	2.26	1.18
13.	Similarity or difference in our age	1.93	1.05

*Note.* Scale: 1 = Not Important; 3 = Neutral; 5 = Very Important

4-H youth development personnel's desired importance of activities/factors that affect cooperative behavior were summarized in Table 30. Three activity/factor items were found to possess a mean importance value of four or greater. The three activity/factor items were "plan events so that they are not in competition with one

another” ( $M = 4.34$ ;  $SD = 0.84$ ), “consulting each other’s knowledge or special abilities in problem situations” ( $M = 4.12$ ;  $SD = 0.74$ ), and “willingness to serve a portion or all of the county” ( $M = 4.06$ ;  $SD = 0.85$ ). Five activity/factor items possessed mean importance values less than four, but greater than three. The five activity/factor items were “initiative in contacting one another” ( $M = 3.99$ ;  $SD = 0.84$ ), “similarity in program goals” ( $M = 3.93$ ;  $SD = 0.73$ ), “having the agriculture teacher be a guest presenter in an Extension presentation or at a 4-H meeting” ( $M = 3.82$ ;  $SD = 0.90$ ), “coordination of efforts for training similar competitive teams (i.e. livestock judging)” ( $M = 3.79$ ;  $SD = 1.03$ ), and “compatibility of personality” ( $M = 3.17$ ;  $SD = 1.02$ ). In addition, five activity/factor items possessed mean importance values less than three. The five activity/factor items were “degree of personal friendship” ( $M = 2.89$ ;  $SD = 1.09$ ), “differences in program structure (4-H & FFA)” ( $M = 2.88$ ;  $SD = 1.03$ ), “variation in total years experience” ( $M = 2.41$ ;  $SD = 1.05$ ), “tenure at present location” ( $M = 2.25$ ;  $SD = 1.14$ ), and “similarity or difference in our age” ( $M = 1.88$ ;  $SD = 0.97$ ).

Table 30

*4-H Youth Development Personnel's Perception of "What Should Be" Regarding the Importance of Activities/Factors that Affect Cooperation (n = 74)*

Rank	Activity/Factor	<i>M</i>	<i>SD</i>
1.	Plan events so that they are not in competition with one another	4.34	0.84
2.	Consulting each other's knowledge or special abilities in problem situations	4.12	0.74
3.	Willingness to serve a portion or all of the county	4.06	0.85
4.	Initiative in contacting one another	3.99	0.84
5.	Similarity in program goals	3.93	0.73
6.	Having the agriculture teacher be a guest presenter in an Extension presentation or at a 4-H meeting	3.82	0.9
7.	Coordination of efforts for training similar competitive teams (i.e. livestock judging)	3.79	1.03
8.	Compatibility of personality	3.54	1.02
9.	Degree of personal friendship	2.89	1.09
10.	Differences of program structure (4-H & FFA)	2.88	1.03
11.	Variation in total years experience	2.41	1.05
12.	Tenure at present location	2.25	1.14
13.	Similarity or difference in our age	1.88	0.97

*Note.* Scale: 1 = Not Important; 3 = Neutral; 5 = Very Important

#### Research Objective Eight: Discrepancies of Activity/Factor Items

Research objective eight sought to determine the difference between perceived and desired levels of importance of activities/factors that affect cooperation of secondary agriculture teachers and 4-H youth development personnel. The Borich (1980) needs

assessment model was utilized to determine the discrepancies, as were the detailed procedures outlined by Robinson (2006). The Borich (1980) needs assessment model allows two ratings to be taken into account simultaneously in an effort to determine where discrepancies exist.

A discrepancy score was determined by taking the desired importance of activities and factors (what should be) minus the perceived importance of activities and factors (what is) for each respondent in their respective group (secondary agriculture teachers and 4-H youth development personnel) on each activity and factor. A weighted discrepancy score was then calculated by multiplying each discrepancy score by the associated mean of the desired level of importance rating of the activity or factor. Lastly, a mean weighted discrepancy score was calculated by taking the sum of the weighted discrepancy scores for each activity and factor and dividing it by the number of respondents in each group. To prioritize the activities and factors in need of improvement, five categories were defined for each group where, Category I items are considered most in need.

Secondary agriculture teachers' Category I (see Table 31) consisted of all activity/factor items with MWDS greater than four and was considered a high discrepancy. Secondary agriculture teachers' Category II consisted of all activity/factor items with MWDS greater than two and was considered a moderate discrepancy. Secondary agriculture teachers' Category III consisted of all activity/factor items with MWDS greater than 0.10 and was considered a low discrepancy. No MWDS of zero existed; therefore, Category IV did not apply to secondary agriculture teachers.

Secondary agriculture teachers' Category IV consisted of one negative MWDS and was considered a negative discrepancy.

Table 31

*Secondary Agriculture Teachers' Difference of Perceived "What Is" and "What Should Be" Regarding the Importance of Activities/Factors MWDS (n = 140)*

Category	Activity or Factor	MWDS
I	Coordination of efforts for training similar competitive teams (i.e. livestock judging)	4.38
	Consulting each other's knowledge or special abilities in problem situations	4.31
II	Plan events so that they are not in competition with one another	3.63
	Having Extension personnel be a guest presenter in a class or at an FFA meeting	3.53
	Initiative in contacting one another	3.46
	Willingness to serve a portion or all of the county	3.02
	Similarity in program goals	2.98
III	Compatibility of personality	1.72
	Degree of personal friendship	0.98
	Differences of program structure (4-H & FFA)	0.73
	Tenure at present location	0.21
	Variation in total years experience	0.15
V	Similarity or difference in our age	-0.02

4-H youth development personnel Category I consisted of all activity/factor items with MWDS greater than three and was considered a high discrepancy. 4-H youth development personnel Category II consisted of all activity/factor items with MWDS

greater than one and was considered a moderate discrepancy. 4-H youth development personnel Category III consisted of all activity/factor items with MWDS greater than 0.10 and was considered a low discrepancy. 4-H youth development personnel Category IV consisted of one activity/factor item with MWDS of 0.00; therefore, no discrepancy existed. 4-H youth development personnel Category V consisted of one activity/factor item with negative MWDS and was considered a negative discrepancy.

Table 31 summarized secondary agriculture teachers' Category I, which consisted of two activity/factor items as a result of having high discrepancy scores according to the perceptions of secondary agriculture teachers. The two activity/factor items were "coordination of efforts for training similar competitive teams (i.e. livestock judging)" (MWDS = 4.38) and "consulting each other's knowledge or special abilities in problem situations" (MWDS = 4.31).

Secondary agriculture teachers' Category II consisted of five activity/factor items that possessed moderate discrepancy scores. The five activity/factor items were "plan events so that they are not in competition with one another" (MWDS = 3.63), "having Extension personnel be a guest presenter in a class or at an FFA meeting" (MWDS = 3.53), "initiative in contacting one another" (MWDS = 3.46), "willingness to serve a portion or all of the county" (MWDS = 3.02), and "similarity in program goals" (MWDS = 2.98).

Secondary agriculture teachers' Category III consisted of five activity/factor items that possessed low discrepancy scores. The five activity/factor items were "compatibility of personality" (MWDS = 1.72), "degree of personal friendship" (MWDS = 0.98),

“differences of program structure” (MWDS = 0.73), tenure at present location” (MWDS = 0.21), and “variation in total years experience” (MWDS = 0.15).

One activity/factor item fell into secondary agriculture teachers’ Category V (negative). The one activity/factor item was “similarity or difference in our age” (MWDS = -0.02). The negative MWSD indicated that the perceived level of importance was low and the desired level of importance was lower.

4-H youth development personnel Category I (see Table 32) consisted of two activity/factor items as a result of having high discrepancy scores. The two activity/factor items were “coordination of efforts for training similar competitive teams (i.e. livestock judging)” (MWDS = 3.27) and “plan events so that they are not in competition with one another” (MWDS = 3.21).

Table 32

*4-H Youth Development Personnel's Difference of Perceived "What Is" and "What Should Be" Regarding the Importance of Activities/Factors MWDS (n = 73)*

Category	Activity or Factor	MWDS
I	Coordination of efforts for training similar competitive teams (i.e. livestock judging)	3.27
	Plan events so that they are not in competition with one another	3.21
II	Having the agriculture teacher be a guest presenter in an Extension presentation or at a 4-H meeting	2.83
	Consulting each other's knowledge or special abilities and knowledge in problem situations	2.54
	Initiative in contacting one another	2.46
	Willingness to serve a portion or all of the county	2.26
	Similarity in program goals	1.99
III	Compatibility of personality	0.84
	Degree of personal friendship	0.51
	Differences of program structure (4-H & FFA)	0.20
	Variation in total years experience	0.10
IV	Tenure at present location	0.00
V	Similarity or difference in our age	-0.05

4-H youth development personnel Category II consisted of five activity/factor items that possessed moderate discrepancy scores. The five activity/factor items were "having the agriculture teacher be a guest presenter in an Extension presentation or at a 4-H meeting" (MWDS = 2.83), "consulting each other's knowledge or special abilities in problem situations" (MWDS = 2.54), "initiative in contacting one another"

(MWDS = 2.46), “willingness to serve a portion or all of the county” (MWDS = 2.26), and “similarity in program goals” (MWDS = 1.99).

4-H youth development personnel Category III consisted of four activity/factor items that possessed low discrepancy scores. The four activity/factor items were “compatibility of personality” (MWDS = 0.84), “degree of personal friendship” (MWDS = 0.51), “differences of program structure (4-H and FFA)” (MWDS = 0.20), and “variation in total years experience” (MWDS = 0.10).

In addition, one activity/factor item “similarity or difference in our age” (MWSD = -0.05) fell into 4-H youth development personnel Category V (negative). The negative MWDS indicated that the perceived level of importance was low and the desired level of importance was lower.

#### Research Objective Nine: Knowledge of Cooperative Agreement

Research objective nine sought to determine if secondary agricultural teachers and 4-H youth development personnel were aware of a cooperative agreement in Missouri. Responses were either “yes” or “no;” therefore, frequency and percent were reported. Data were analyzed for secondary agriculture teachers and 4-H youth development personnel groups individually. Table 33 indicates that 124 secondary agriculture teachers (88.6%) and 51 4-H youth development personnel (70.8%) were not aware of any cooperative agreement in Missouri. Data for knowledge of cooperative agreements were missing for four secondary agriculture teachers and three 4-H youth development personnel.

Table 33

*Knowledge of Cooperative Agreement among Secondary Agriculture Teachers (n = 140) and 4-H Youth Development Personnel (n = 72)*

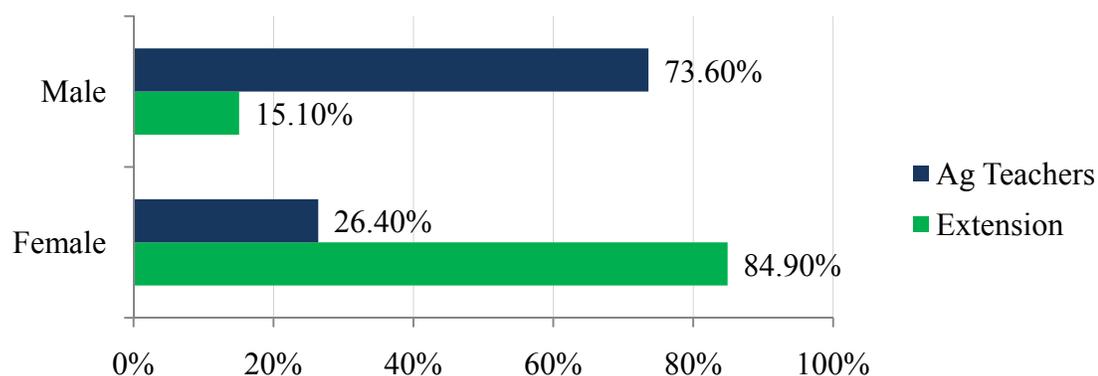
Knowledge	Agriculture Teacher		Extension Personnel	
	<i>f</i>	%	<i>f</i>	%
No	124	88.6	51	70.8
Yes	16	11.4	21	29.2

CHAPTER V: SUMMARY, CONCLUSIONS, IMPLICATIONS, AND  
RECOMMENDATIONS

Summary of Findings

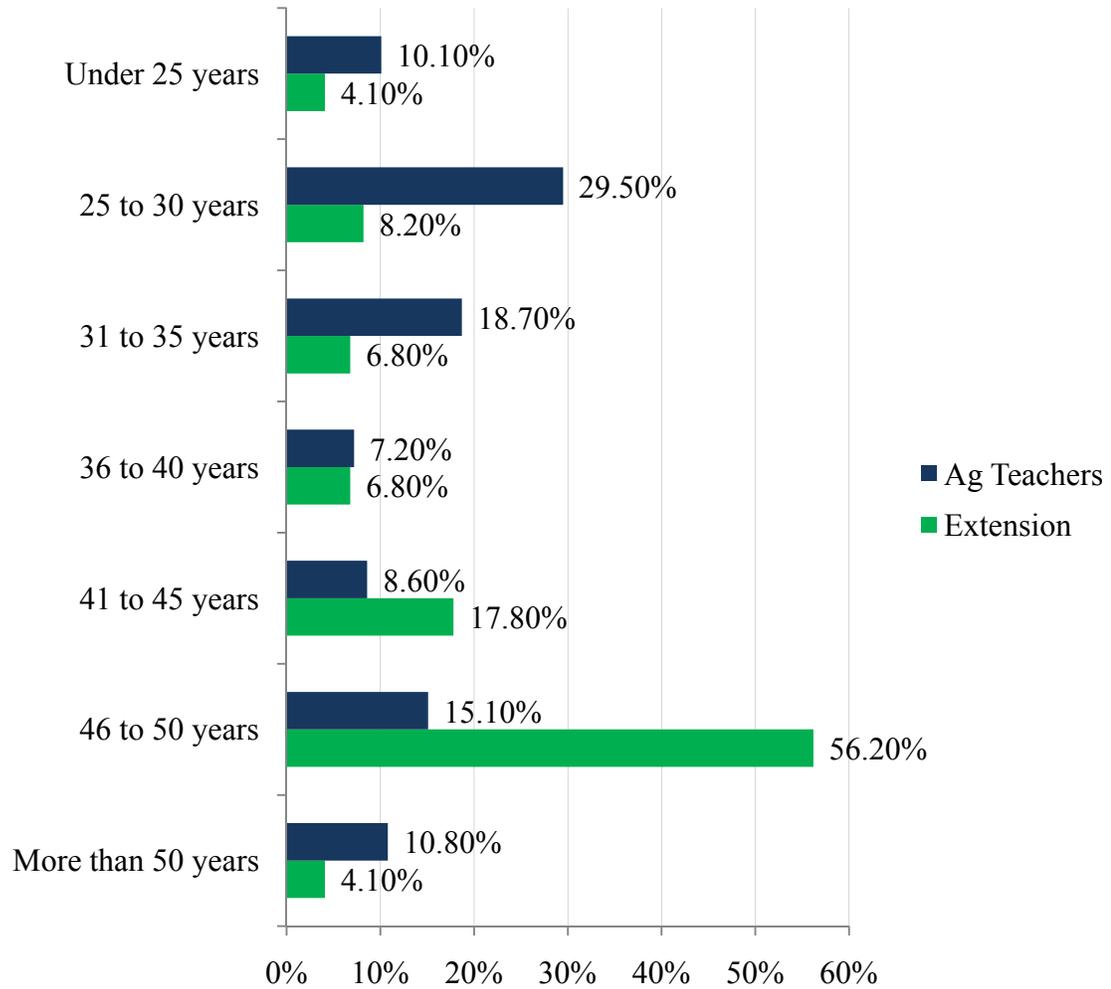
*Research Objective One: Demographics*

Figure 6 illustrates that secondary agriculture teachers participating in this study consisted of 103 (73.60%) males and 37 (26.40%) females. Eleven (15.10%) of the 4-H youth development personnel were male and 62 (84.90%) were female.



*Figure 6.* Gender of secondary agriculture teachers ( $n = 140$ ) and 4-H youth development personnel ( $n = 73$ ).

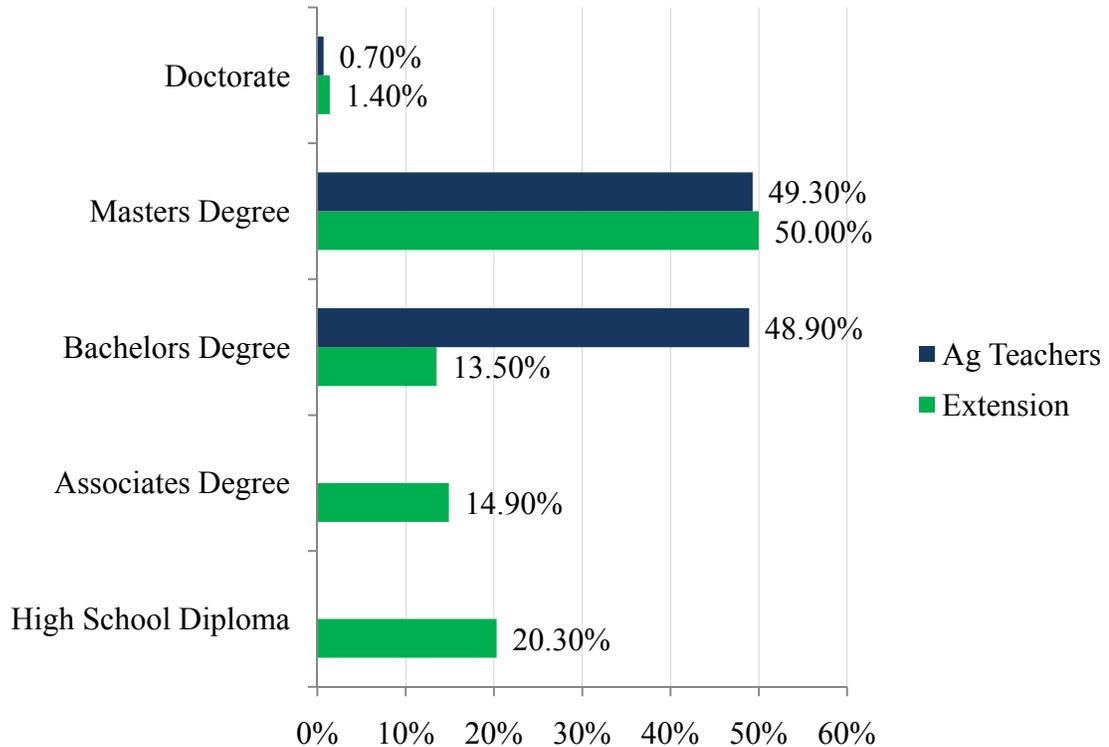
Figure 7 shows the most frequent age category for secondary agriculture teachers was 25 to 30 years ( $n = 41$ ) and the most frequent age category for 4-H youth development personnel was 46 to 50 years ( $n = 41$ ). Ninety-five (68.30%) secondary agriculture teachers resided in the same county in which they worked, whereas 44 (31.70%) did not. Sixty-two (84.90%) of the 4-H youth development personnel resided in the same county in which they work, whereas 11 (15.10%) did not.



*Figure 7.* Age of secondary agriculture teachers (n = 139) and 4-H youth development personnel (n = 73) indicated by category.

Figure 8 depicts that one (0.70%) secondary agriculture teacher held a doctorate degree as the highest level of academic degree attained, whereas 71 (49.30%) secondary agriculture teachers held a masters degree, and 69 (48.90%) held a bachelors degree. One (1.40%) 4-H youth development person held a doctorate degree as the highest level of academic degree attained, whereas 37 (50.00%) of 4-H youth development personnel

held a masters degree, 10 (13.50%) held a bachelors degree, 11 (14.90%) held an associate degree, and 15 (20.30%) held a high school diploma.



*Figure 8.* Highest degree attained by secondary agriculture teachers (n = 140) and 4-H youth development personnel (n = 74).

Figure 9 illustrates that 86 (61.40%) secondary agriculture teachers had taught for fewer than 10 years and 54 (45.60%) had taught for more than 10 years, 25 of whom had taught for more than 20 years. Thirty-one (42.40%) 4-H youth development personnel had less than 10 years experience in Extension work and 42 (57.50%) had more than 10 years experience. Approximately 60% of secondary agriculture teachers had ten or less years of experience teaching; whereas 4-H youth development personnel were

approximately divided into equal levels of experience ranging from less than 5 years to more than 20 years experience.

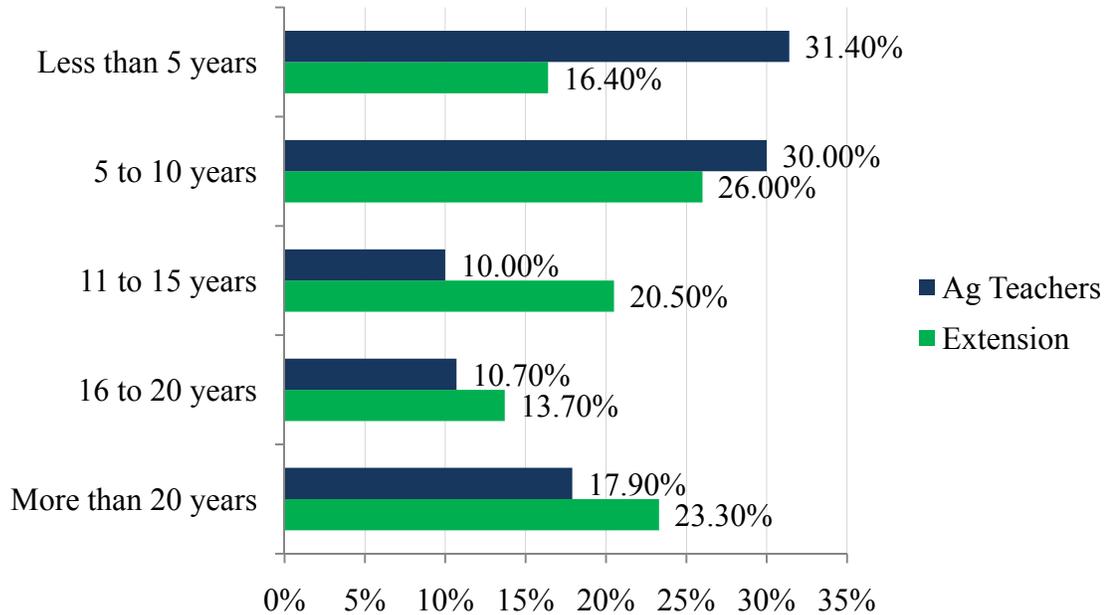


Figure 9. Length of experience of secondary agriculture teachers (n = 140) and 4-H youth development personnel (n = 73) in their respective profession.

*Research Objective Two: Membership in 4-H and FFA as Youth*

Figure 10 illustrates the percentage of secondary agriculture teachers involved in 4-H and/or FFA as a youth was considerably different than the percentage of 4-H youth development personnel involved in 4-H and/or FFA. Nearly 64.00% of secondary agriculture teachers indicated that they were members of 4-H as a youth; whereas, approximately 10.00% of 4-H youth development personnel indicated that they were members of FFA. Figure 10 shows 5.00% of secondary agriculture teachers were not members of FFA. Figure 10 shows 5.00% of secondary agriculture teachers were not members of 4-H or FFA as youth; whereas, 38.40% of 4-H youth development personnel were not members of 4-H or FFA as youth.

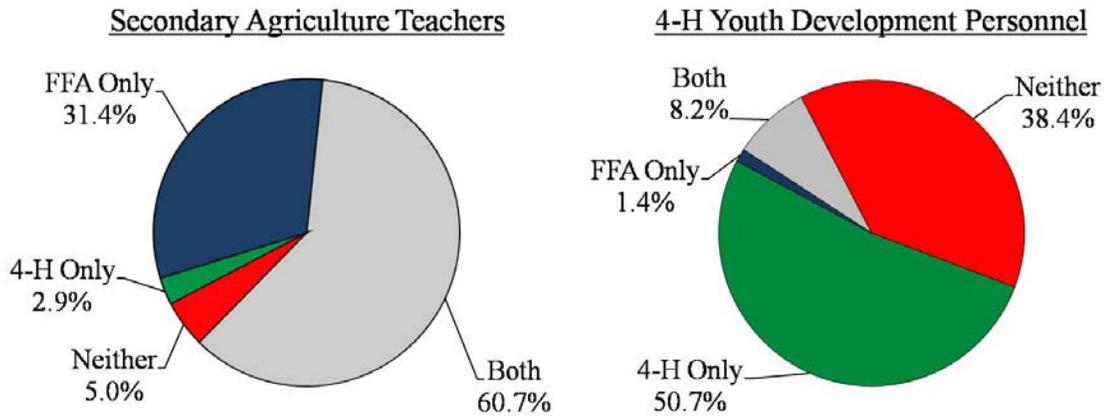
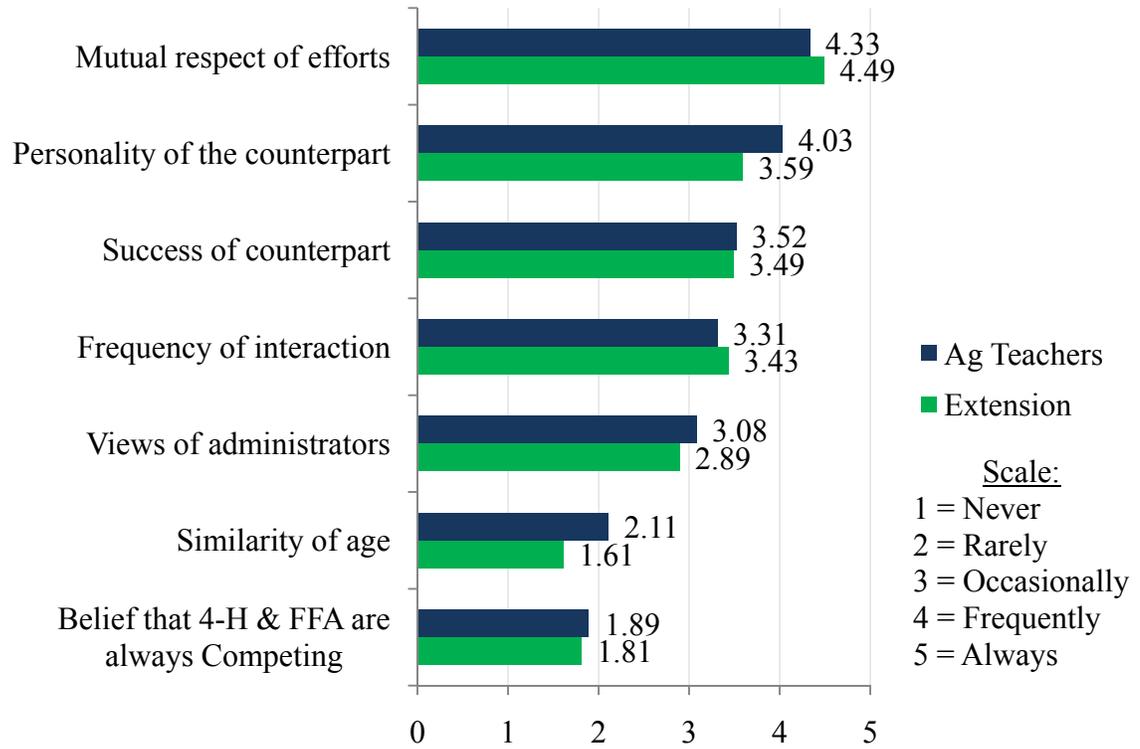


Figure 10. Membership in 4-H or FFA as a youth by secondary agriculture teachers (n = 140) and 4-H youth development personnel (n = 73).

*Research Objective Three: Factors Related to Cooperative Relationships*

Figure 11 illustrates that secondary agriculture teachers’ perceived “mutual respect of efforts” and “personality of the Extension faculty or staff member” as the most important factors regarding their professional relationships with 4-H youth development personnel. Figure 12 illustrates that secondary agriculture teachers perceived “mutual respect of efforts” and “personality of the Extension faculty or staff member” as having the greatest positive affect on their professional relationships with 4-H youth development personnel. Secondary agriculture teachers perceived “belief that 4-H and FFA are always in competition with one another” and “similarity of age” as being the least important factors in regard to their professional relationships with 4-H youth development personnel. Secondary agriculture teachers perceived “belief that 4-H and FFA are always in competition with one another” and “similarity of age” as having the greatest negative effect on their professional relationships with 4-H youth development personnel.



*Figure 11.* How secondary agriculture teachers (n = 140) and 4-H youth development personnel (n = 73) perceive the affect of factors of cooperation.

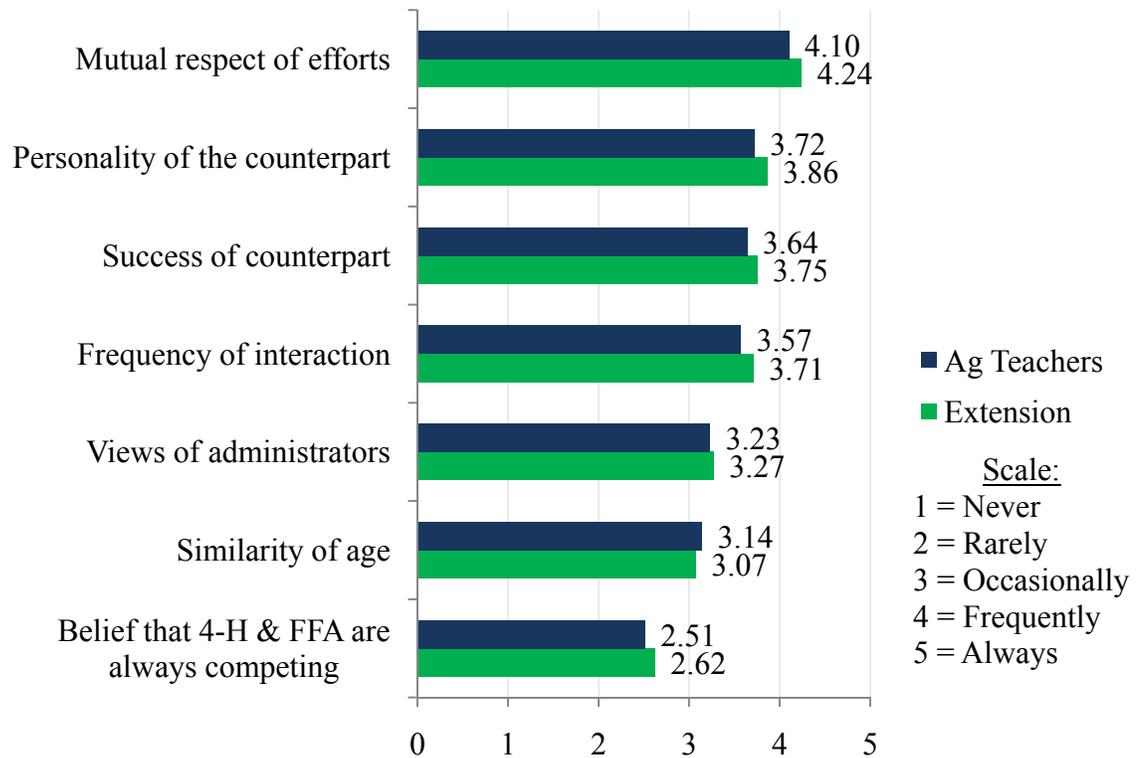


Figure 12. How secondary agriculture teachers (n = 140) and 4-H youth development personnel (n = 73) perceive the importance of factors of cooperation.

4-H youth development personnel perceived “mutual respect of efforts” and the “personality of the agriculture teacher” as the most important factors in regard to their professional relationship with secondary agriculture teachers. “Mutual respect of efforts” and the “personality of the agriculture teacher” were perceived as having the greatest positive effect on their professional relationships with secondary agriculture teachers. 4-H youth development personnel perceived “belief that 4-H and FFA are always in competition with one another” and “similarity of age” as being the least important factors in regard to their professional relationships with secondary agriculture teachers. Unlike secondary agriculture teachers, 4-H youth development personnel perceived “belief that

4-H and FFA are always in competition with one another” and “similarity of age” as having a neutral or no effect on their professional relationships with secondary agriculture teachers.

Figure 11 and Figure 12 illustrate that secondary agriculture teachers perceived frequency of interaction to have “some” importance and have a neutral affect on cooperative relationships. 4-H youth development personnel found frequency of interaction to have “some” importance and have a “slightly positive” affect on cooperative relationships.

*Research Objective Four: Participation in Cooperative Activities*

Figure 13 depicts the mean values of level of participation in cooperative activities of secondary agriculture teachers and 4-H youth development personnel. Secondary agriculture teachers indicated that no cooperative activities were participated in with 4-H youth development personnel more than occasionally. In fact, most were reported as occurring rarely or never. Secondary agriculture teachers did however indicate that all 12 activities should be participated in occasionally or frequently based upon the mean values shown in Figure 14.

4-H youth development personnel indicated that no cooperative activities were participated in more than occasionally with secondary agriculture teachers. In fact, most of which, were reported as occurring rarely or never. 4-H youth development personnel indicated that all 12 activities should be participated in occasionally or frequently based upon the mean values of desired level of participation in cooperative activities with

secondary agriculture teachers.

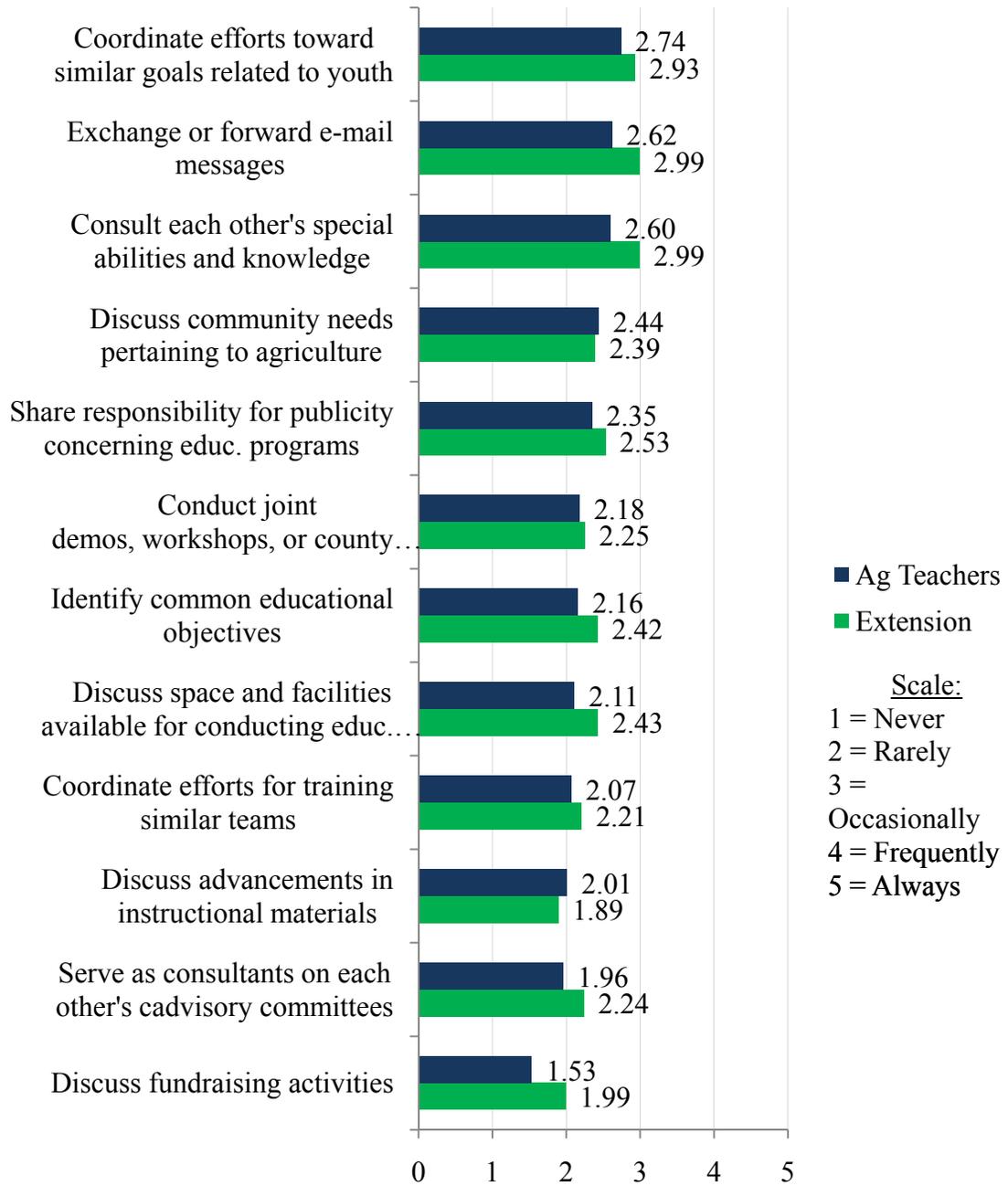


Figure 13. Mean values of perceived level of participation of secondary agriculture teachers and 4-H youth development personnel in cooperative activities.

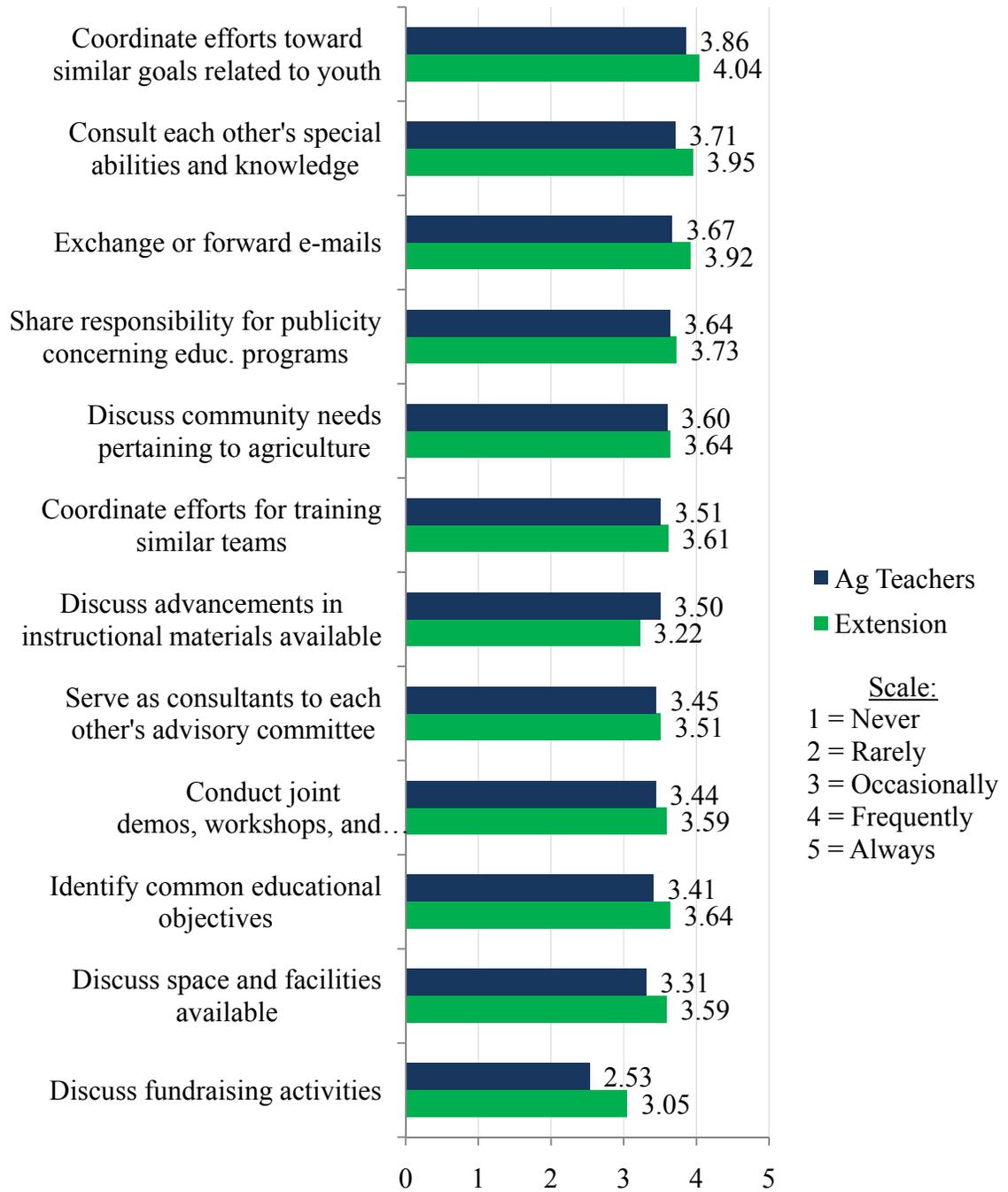


Figure 14. Mean values of desired participation of secondary agriculture teachers and 4-H youth development personnel in cooperative activities.

The first four activities, ranked according to desired level of activities, are the ranked in the same order for secondary agriculture teachers and 4-H youth development personnel. Both groups indicated that coordinating efforts toward similar goals, consulting each other's special abilities and knowledge, exchanging e-mail messages, and sharing the responsibility for publicizing their programs should occur more often than they do.

*Research Objective Five: Discrepancies between Levels of Participation*

Utilizing the Borich (1980) needs assessment model, discrepancy scores were calculated for each activity for secondary agriculture teachers (see Figure 15) and 4-H youth development personnel (see Figure 16) to determine the discrepancy between “what is” and “what should be.” Secondary agriculture teachers’ Category I consisted of three activity items as a result of having high discrepancy scores according to the perceptions of secondary agriculture teachers, indicating a high need for improvement. Secondary agriculture teachers’ Category II consisted of six activity items that received moderate discrepancy scores, indicating a moderate need for improvement. Secondary agriculture teachers’ Category III consisted of two activity items that received low discrepancy scores, indicating a low need for improvement. One activity, placed into secondary agriculture teachers’ Category IV (negligible), indicated a lesser need for improvement.

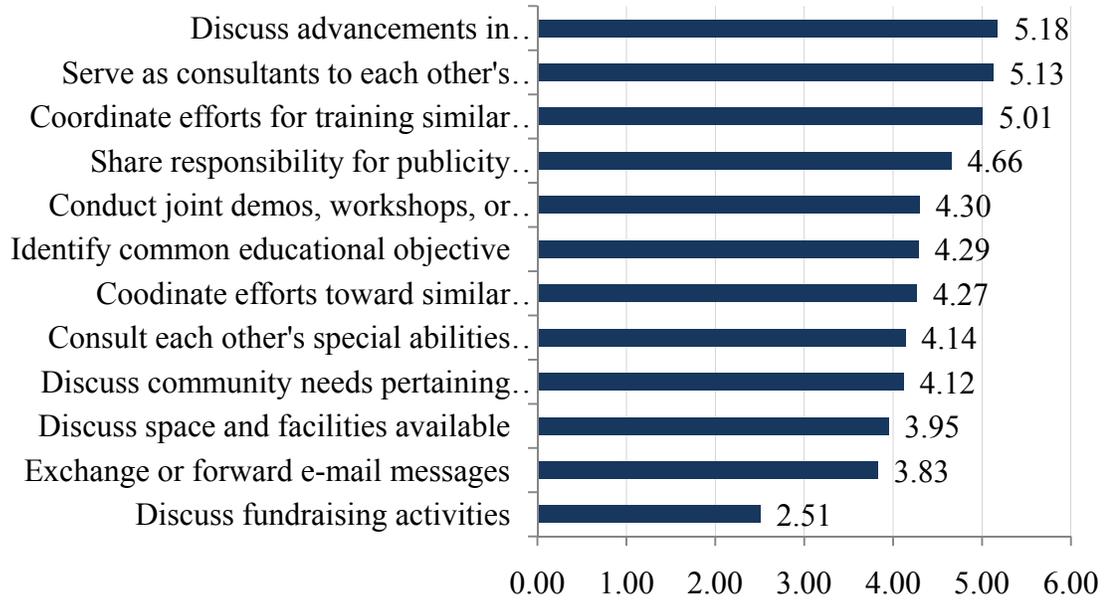


Figure 15. MWSD were calculated for each activity for secondary agriculture teachers.

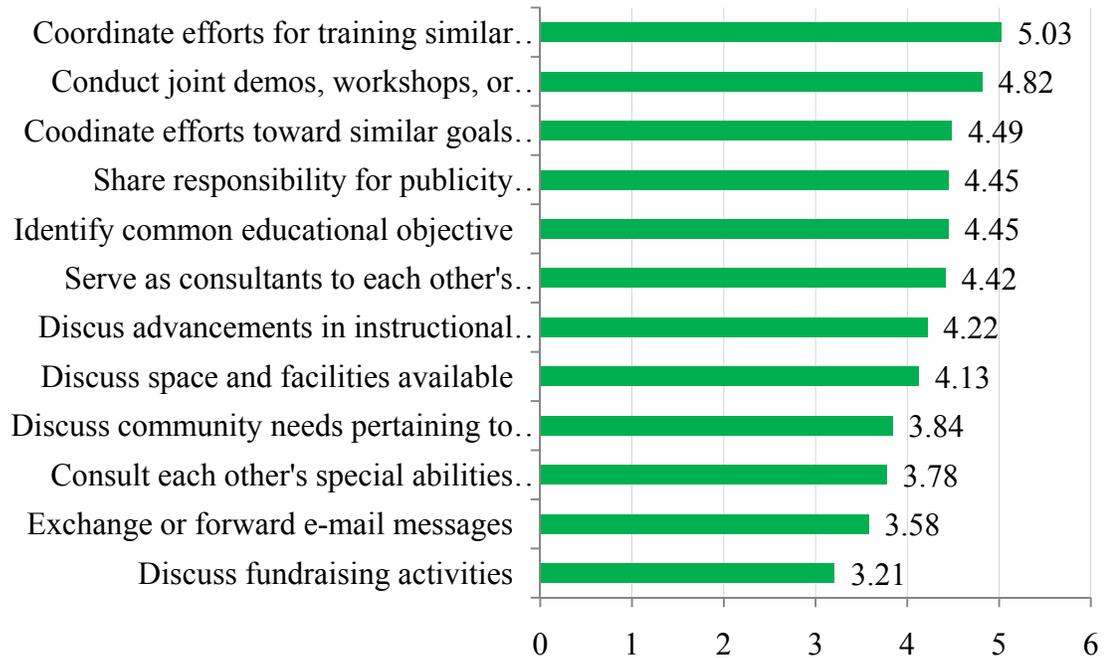


Figure 16. MWSD were calculated for each activity for 4-H youth development personnel.

4-H youth development personnel Category I consisted of two activity items as a result of having high discrepancy scores according to the perceptions of secondary agriculture teachers, indicating a high need for improvement. 4-H youth development personnel Category II consisted of six activity items that received moderate discrepancy scores, indicating a moderate need for improvement. 4-H youth development personnel Category III consisted of four activity items that received low discrepancy scores, indicating a low need for improvement.

*Research Objective Six: Levels of Cooperative Behavior*

Figure 17 and Figure 18 illustrate that secondary agriculture teachers and 4-H youth development personnel exhibited all three levels of cooperation (cooperate, give and take, defect) in relation to the Prisoner's Dilemma matrix. Responses to the two case-scenarios indicated levels of cooperation varied depending on the context of the situation. Cooperation was more likely to occur at the give and take level when competition was a factor, whereas secondary agriculture teachers and 4-H youth development personnel were more likely to cooperate when nonmonetary resources were a factor.

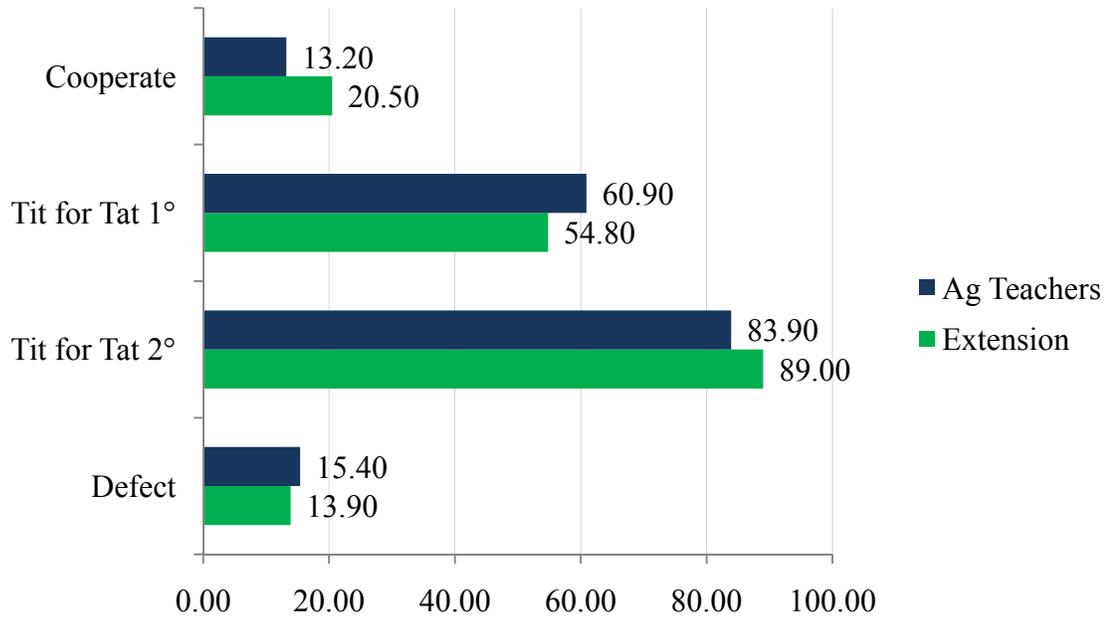


Figure 17. Levels of cooperative behavior regarding the county fair case-scenario.

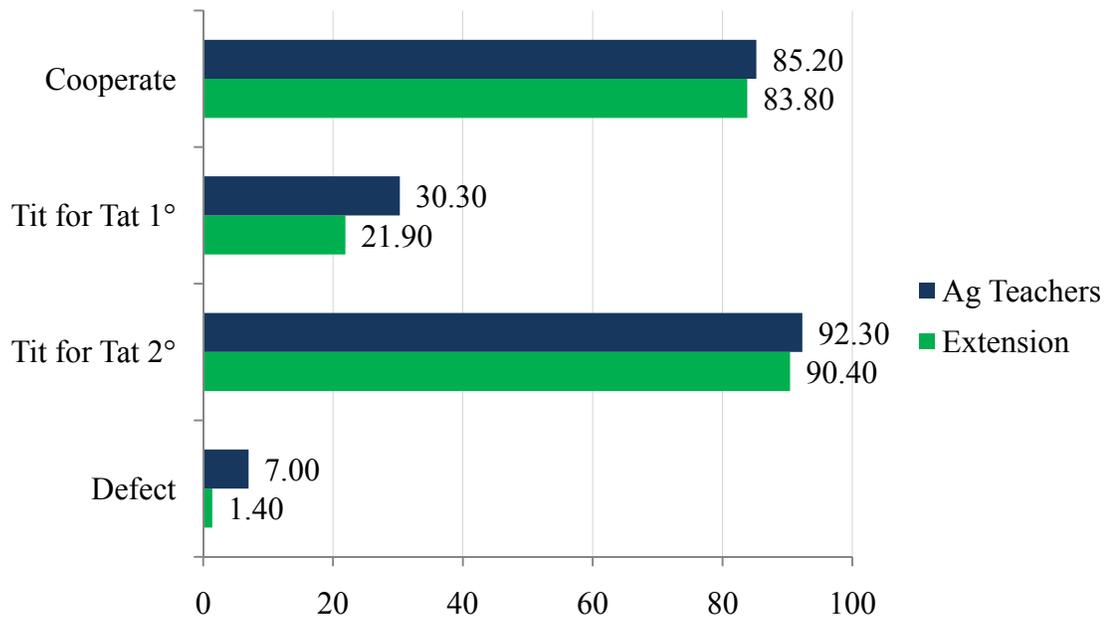


Figure 18. Levels of cooperative behavior regarding the land lab case-scenario.

*Research Objective Seven: Importance and Affect of Activity/Factor Items*

Figure 19 shows the values of “what is” regarding the level of importance of activities or factors that affect cooperation between secondary agriculture teachers and 4-H youth development personnel. Figure 20 depicts the values of “what should be” regarding the level of importance of activities or factors that affect cooperation between secondary agriculture teachers and 4-H youth development personnel. Secondary agriculture teachers and 4-H youth development personnel perceived activity/factor items as neutral to not important. Both groups did however indicate that 12 of 13 activity/factor items should be more important than what they were.

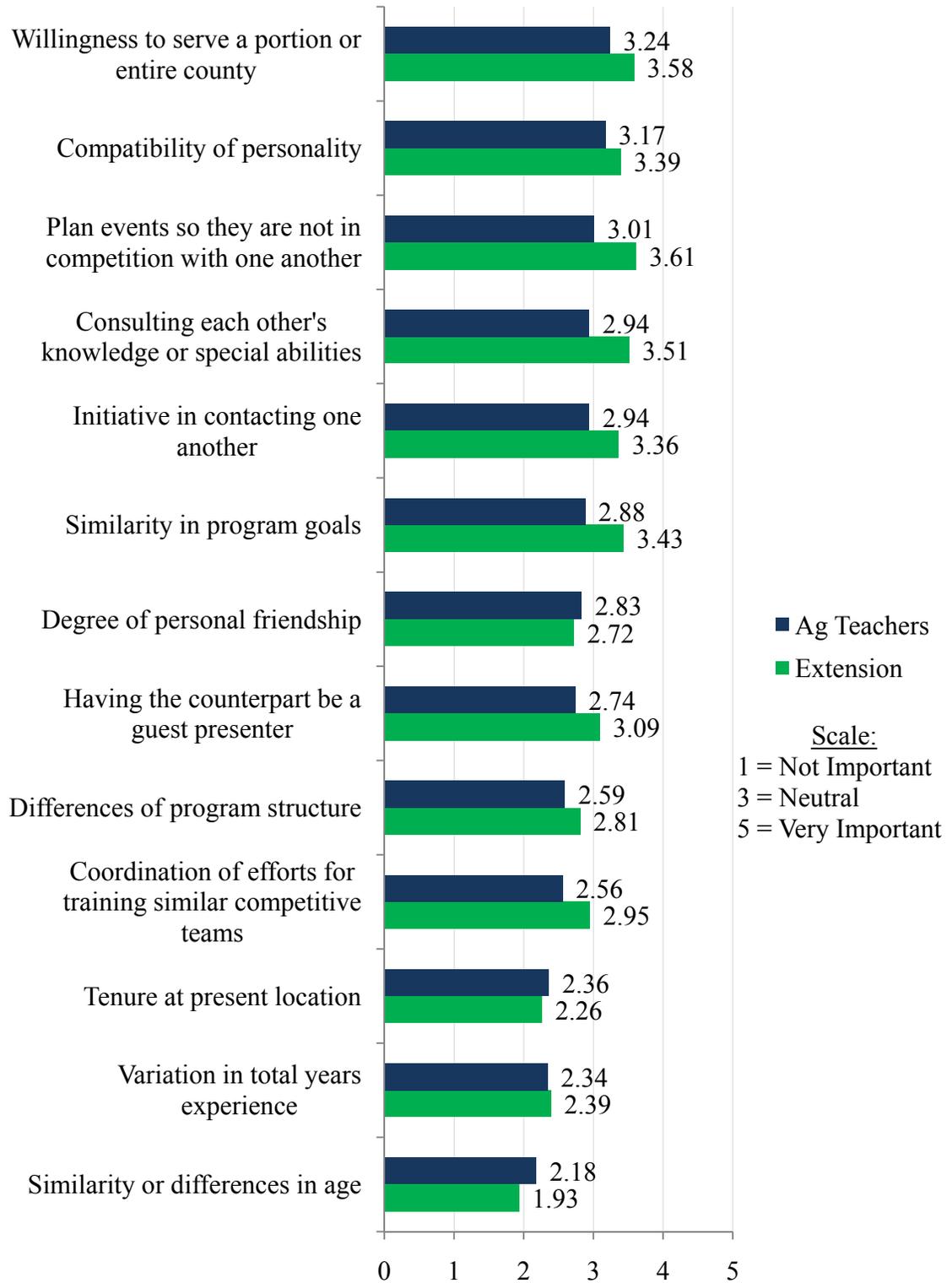


Figure 19. “What is” regarding the importance of activity/factor items.

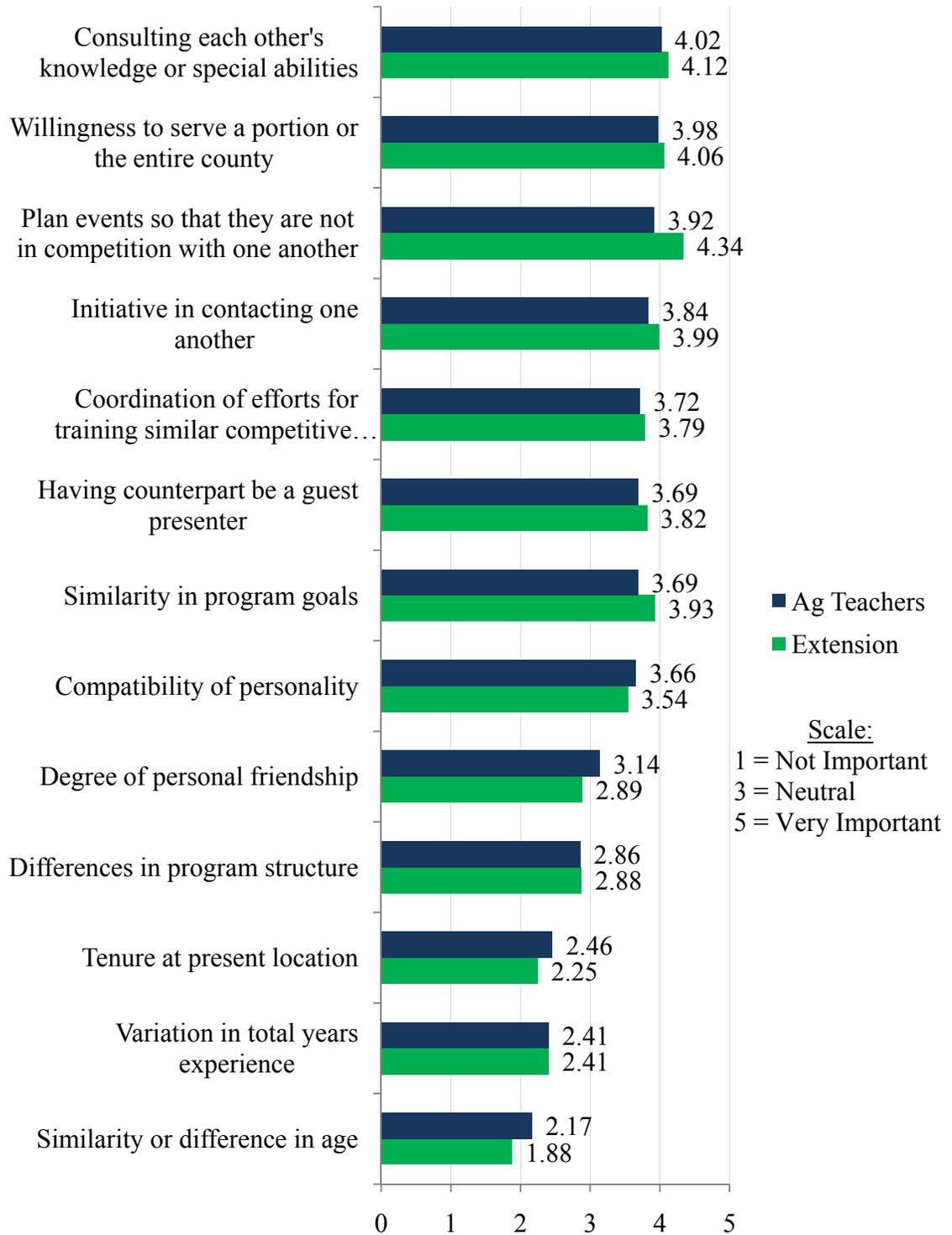


Figure 20. “What should be” regarding the importance of activity/factor items.

*Research Objective Eight: Discrepancies of Activity/Factor Items*

The Borich (1980) needs assessment model was used to determine discrepancy scores for each activity/factor item for secondary agriculture teachers (see Figure 21) and 4-H youth development personnel (see Figure 22) to determine the discrepancy between what is and what should be regarding importance. Secondary agriculture teachers' Category I consisted of two activities as a result of having high discrepancy scores according to the perceptions of secondary agriculture teachers, indicating a high need for improvement. Secondary agriculture teachers' Category II consisted of four activities and one factor that received moderate discrepancy scores, indicating a moderate need for improvement. Secondary agriculture teachers' Category III consisted of five factors that received low discrepancy scores, indicating a low need for improvement. One factor "similarity or difference in our age," fell into secondary agriculture teachers' Category V (negative). The negative MWDS indicated that the perceived level of importance was low and the desired level of importance was lower.



Figure 21. MWDS of secondary agriculture teachers' activity/factor items.

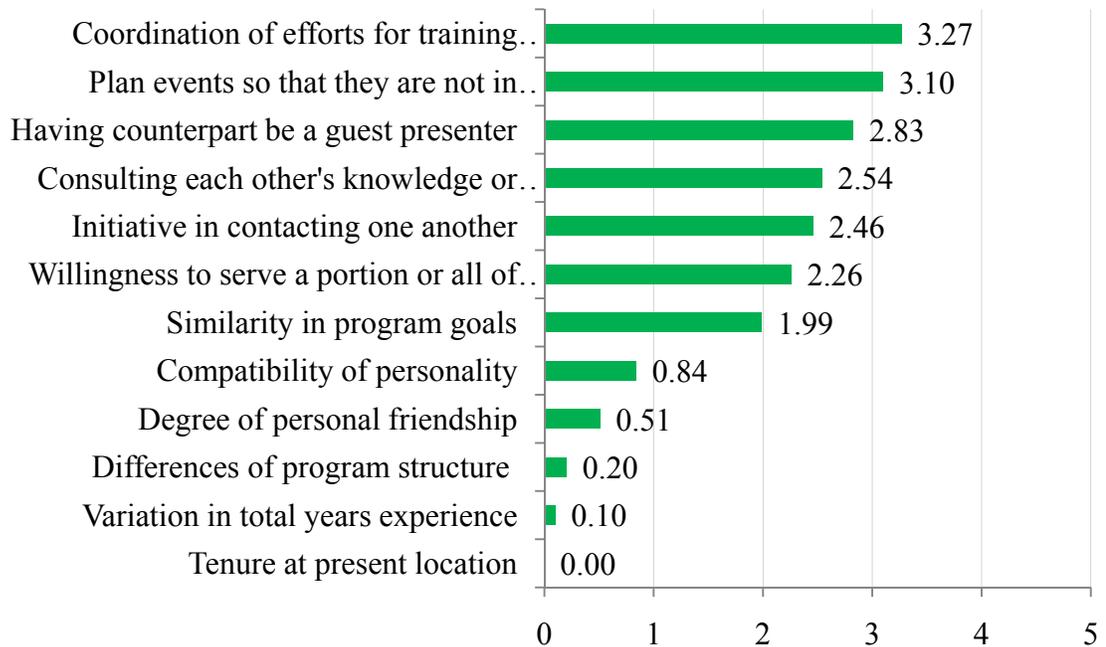


Figure 22. MWDS of 4-H youth development personnel activity/factor items.

4-H youth development personnel Category I consisted of two activities as a result of having high discrepancy scores, indicating a high need for improvement. 4-H youth development personnel Category II consisted of four activities and one factor that received moderate discrepancy scores, indicating a moderate need for improvement. 4-H youth development personnel Category III consisted of four factors that received low discrepancy scores, indicating a low need for improvement. In addition, one factor “similarity or difference in our age,” fell into 4-H youth development personnel Category V (negative). The negative MWDS indicated that the perceived level of importance was low and the desired level of importance was lower.

*Research Objective Nine: Knowledge of Cooperative Agreement*

Figure 23 illustrates that approximately 11% of secondary agriculture teachers and 29% of 4-H youth development personnel were aware of a cooperative agreement between secondary agriculture teachers and 4-H youth development personnel in Missouri. Overwhelmingly, 88.60% of secondary agriculture teachers and 70.80% of 4-H youth development personnel were not aware of any cooperative agreement.

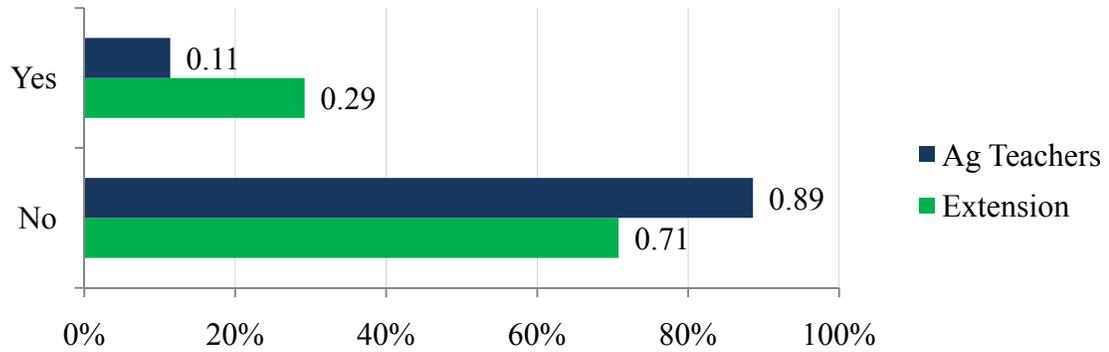


Figure 23. Percent of secondary agriculture teachers and 4-H youth development personnel aware of a cooperative agreement in Missouri.

### Research Objective One: Demographics

#### *Conclusion*

Several demographic differences between secondary agriculture teachers and 4-H youth development personnel have been identified (gender, age, education, and experience). The ratio of men to women for secondary agriculture teachers was nearly three to one respectively, whereas the ratio of men to women for 4-H youth development personnel was approximately one to five and one-half respectively. A relatively inverse (three male to 1 female vs. one male to 5.5 female) relationship exists when considering gender characteristics of secondary agriculture teachers and 4-H youth development personnel. Similarly a nearly inverse relationship exists when comparing age characteristics of secondary agriculture teachers and 4-H youth development personnel. Approximately 60% of secondary agriculture teachers were 35 years of age or younger as opposed to approximately 70% of 4-H youth development personnel that were 41 years

of age or older. Could there be any correlation between demographics and cooperative behaviors?

Secondary agriculture teachers and 4-H youth development personnel were similar in relation their location of residence. In the sense of simple majority, a majority of both groups lived in the same county in which they worked. However, upon closer review, nearly twice as great a percentage of secondary agriculture teachers lived in a different county than that which they worked (31.7% secondary agriculture teachers vs. 15.10 % 4-H youth development personnel). Many 4-H meetings and Extension events occur in the evening. Could cooperative behaviors of secondary agriculture teachers be affected by a possible disconnect with the community which they teach in because they live in a different community?

One hundred percent of secondary agriculture teachers held a bachelors degree or higher; whereas nearly half (48.60%) of 4-H youth development personnel held a bachelor degree or lower. Could the highest level of academic degree attained affect cooperative relationships? Do individuals with different academic degrees perceive cooperative behaviors similarly?

Approximately 60% of secondary agriculture teachers have 10 or less years experience in their profession; whereas the distribution of experience among 4-H youth development personnel is relatively even. Could age and experience be correlated? If so, could that correlation affect cooperative behaviors?

### *Implications*

The nearly inverse relationship of academic degrees held would seem to have some effect on cooperative behaviors. Although this study did not determine what specific degree each participant held or academic field that degrees were granted in, one may question what reasoning and social skills are attained through greater education. *The Handbook of Conflict Resolution* (Deutsch & Coleman, 2000) suggested that in order for controversy to be managed correctly, the people or groups involved must possess certain skills. While many skills were indicated as being influential in conflict resolution, Johnson, Johnson, and Tjosvold (2000) stressed the importance of being able to disagree with the other person's idea while acknowledging the other person's competence. Johnson and his associates further noted that if one disagrees with the other, inputting that the individual is incompetent will only perpetuate conflict.

### Research Objective Two: Membership in 4-H and FFA as Youth

### *Conclusion*

The percentage of secondary agriculture teachers involved in 4-H and/or FFA as a youth was considerably different than the percentage of 4-H youth development personnel involved in 4-H and/or FFA. A much larger percentage of 4-H youth development personnel (38.40%) were not members of 4-H or FFA, than secondary agriculture teachers (5.00%).

### *Implications*

Nearly 64% of secondary agriculture teachers indicated that they were members of 4-H as a youth which would indicate that those agriculture teachers had some level of understanding of the function and organizational structure of both 4-H and FFA. Conversely, approximately 10% of 4-H youth development personnel indicated that they were members of FFA as a youth which would indicate that those 4-H youth development personnel had some level of understanding of the function and organizational structure of both 4-H and FFA.

Lack of involvement in 4-H and FFA as a youth does not prohibit one from becoming a successful agriculture teacher or 4-H youth development personnel. However, those people who have experience as a youth member may have valuable insight regarding function and organizational structure of the 4-H and FFA, perhaps allowing more opportunities to take advantage of cooperative activities.

### *Recommendations*

It would seem obvious that involvement in 4-H and FFA as a youth would improve one's level of understanding of each organization, thereby improving one's ability to identify areas of possible cooperation. Furthermore, persons who have experienced 4-H and FFA as a youth have a distinct advantage over those who did not. Therefore, an effort should be made by academic units who frequently provide training to secondary agriculture teachers and 4-H youth development personnel to require a high level of understanding of the function and organizational structure of both 4-H and FFA. Furthermore, workshops to familiarize current secondary agriculture teachers and

Extension personnel with the function and organizational structure of both 4-H and FFA should be organized and endorsed by the University of Missouri Extension administration and agriculture teacher-education units throughout Missouri.

In addition, the University of Missouri Extension administrators should work closely with the faculty of the Agricultural Education Department at the University of Missouri to bring the groups together. Specifically the Professional Development Specialist in the Agricultural Education Department should work with the State 4-H Youth Development Specialist to promote understanding and cohesion among the secondary agriculture teachers and 4-H youth development personnel by organizing and facilitating a joint youth development summit for youth in 4-H and FFA. Furthermore, the facilitators of the summit should consider including other youth development organizations, such as Boy Scouts and Girl Scouts of America, to further benefit the youth of Missouri.

Research Objective Three: Factors Related to Cooperative Relationships

### *Conclusion*

Secondary agriculture teachers and 4-H youth development personnel perceive the same factors as being most important and having the greatest positive affect. Respect would seem to be a common professional attribute; however, this study did not attempt to determine the level of respect between secondary agriculture teachers and 4-H youth development personnel. Arguably, it is difficult to determine or quantify compatibility of personality. Are secondary agriculture teachers' and 4-H youth development personnel's personalities compatible? Is the underlying issue personality or ego? Is perceived

incompatibility due to a lack of familiarity with each other's program (secondary agricultural education/Extension service)?

### *Implications*

Mutual respect is important to secondary agriculture teachers and 4-H youth development personnel. Deutsch (2003) suggested that it is important to “respect yourself and your interests, respect the other and his or her interests” (p. 27). Deutsch further notes that a lack of respect and perceived incompatibility are interconnected and may lead to conflict.

According to Axelrod (1984, 1997), cooperation requires ongoing and frequent interaction of the parties expecting to cooperate. Furthermore, reciprocation of cooperative activities requires frequent interaction. Do secondary agriculture teachers and 4-H youth development personnel see frequency of interaction as having only some importance and neutral to slightly positive affect because they don't interact more often? As Barash (2003) suggested, a key element of reciprocity is identified in the phrase “you scratch my back, I'll scratch yours.” How can “back scratching” occur if neither group is present to scratch?

### *Recommendations*

Deutsch (2003) noted that “helping people to develop a respect for themselves and their interests enables them to see their conflicts in a reasonable proportion and facilitates their constructive confrontation” (p. 27). Deutsch further notes that it is important to define a conflict; specifically, whether it is due to general principles or

personality. Hence, one should clearly diagnose the problem and find a mutually beneficial solution.

Agriculture teacher-educators and academic programs frequently providing undergraduate training to Extension personnel must address conflict resolution techniques in their curriculum. It is further recommended that University of Missouri Extension service and the Agricultural Education Division of the Missouri Department of Elementary and Secondary Education (DESE) conduct workshops or in-service training to further educate secondary agriculture teachers and 4-H youth development personnel deal with conflict and both groups in resolution.

One agriculture teacher indicated in his/her additional comments, “I don’t even know who my Extension agent is. I guess I could look it up.” Furthermore, one 4-H youth development personnel returned his/her questionnaire with a note indicating that he/she did not have a secondary agriculture program in their county. Upon further investigation, the researcher found that the county did in fact have a secondary agriculture program.

It is important for University of Missouri Extension and DESE to exchange and distribute contact information of secondary agriculture teachers and Extension personnel to both groups. Furthermore, it is imperative that University of Missouri Extension administration and Missouri Vocational Agriculture Teachers Association (MVATA) actively encourage more frequent interaction by forwarding any newsletters published by each organization to each group to identify activities being conducted throughout the state.

In addition, the Professional Development Specialist in the Agricultural Education Department at the University of Missouri should work with the State 4-H Youth

Development Specialist to develop a Web-based electronic inventory for secondary agriculture teachers and Extension personnel, including Extension agricultural specialists, to post available resources and ideas for collaboration. Further, access to the Web-based electronic inventory should be made available to all secondary agriculture teachers, and Extension faculty and staff, which would serve as a forum for discussion of issues or challenges affecting the professionals in both programs.

#### Research Objective Four: Participation in Cooperative Activities

##### *Conclusion*

There is an obvious difference in the perceived level of participation and desired level of participation in cooperative activities among secondary agriculture teachers and 4-H youth development personnel. Both groups indicated that they desired a greater level of participation in cooperative activities. This supports the finding of the 1984 study by Schroeder & Moss that reported that the 11 of the 12 activities respondents were asked about in this study were appropriate for cooperation between secondary agriculture teachers and 4-H youth development personnel. The one activity found to be inappropriate by Schroeder & Moss was “discuss fundraising activities,” which secondary agriculture teachers and 4-H youth development personnel in this study did not perceive to be important.

### *Implications*

Secondary agriculture teachers and 4-H youth development personnel are not opposed to, and arguably, will not resist participating in cooperative activities. Hence, the question must be asked, do secondary agriculture teachers and 4-H youth development personnel want to cooperate, but they do not know how? Is communication the barrier to increasing the level of participation in cooperative activities?

If secondary agriculture teachers and 4-H youth development personnel do not establish communication it will be difficult for them to increase the frequency of joint activities. Arguably, secondary agriculture teachers and 4-H youth development personnel may encounter difficulty jointly publicizing events without first establishing open communication channels, which further requires contact and frequent interaction.

In addition, secondary agriculture teachers and 4-H youth development personnel must know what abilities and knowledge their counterparts have/possess in order to benefit from consultation.

### *Recommendations*

Communication is important to increasing all four of the top ranked desirable activities. It is important for University of Missouri Extension and DESE to exchange and distribute contact information of secondary agriculture teachers and Extension personnel to both groups. Furthermore, it is imperative that University of Missouri Extension administration and MVATA actively encourage more frequent interaction. An appropriate phrase may be “lead by example.” Therefore, University of Missouri Extension, DESE, and MVATA must establish and maintain frequent interaction, which

may set the example for secondary agriculture teachers and 4-H youth development personnel to follow. Furthermore, administrators of both organizations have access to list serves for their respective professions. It may seem appropriate for state administrators to distribute information through the channels of the list serves, which may further stimulate secondary agriculture teachers and 4-H youth development personnel to communicate more frequently, thus increasing the likelihood of participation in cooperative activities.

#### Research Objective Five: Discrepancies between Levels of Participation

##### *Conclusions*

Levels of discrepancies vary between secondary agriculture teachers and 4-H youth development personnel. Secondary agriculture teachers and 4-H youth development personnel in many cases recognized differences between “what is” and “what should be.” However, the specific levels of discrepancies are unknown to secondary agriculture teachers and 4-H youth development personnel.

##### *Implications*

Addressing discrepancies between “what is” and “what should be” may be a difficult task, if not daunting. The ranked order of MWDS calculated using the Borich (1980) needs assessment model differed from the ranked order of desired level of activities for secondary agriculture teachers and 4-H youth development personnel. Discrepancies cannot be addressed if the secondary agriculture teachers and 4-H youth development personnel are not aware of them. However, secondary agriculture teachers

and 4-H youth development personnel may not know how to address the discrepancies even if they are aware of them.

### *Recommendations*

Each discrepancy must be addressed in a specific and individualized manner. Secondary agriculture teachers and 4-H youth development personnel would benefit from the formation of a joint advisory committee of representatives from each profession, including administrators, to formulate a plan of action to address each discrepancy and create a list of suggested ways that secondary agriculture teachers and 4-H youth development personnel can interact through joint activities. Axelrod (1984) stated, "... the possibility of achieving stable mutual cooperation depends upon there being a good chance of a continuing interaction ..." (p. 16). Should a joint advisory committee be formed, the committee should meet annually to monitor and revise the list of suggested activities.

In addition, Stimson (1920) suggested that conferences or committees were necessary to coordinate efforts of the federally funded agencies providing agricultural education in order to avoid "overlapping" and "overlooking." Stimson noted that, "good teamwork could hardly be expected in the absence of such conferences" (p. 359). Following the spirit of Stimson's suggestions, a professional development conference should be organized by the University of Missouri Extension administration and DESE, and held annually. Such conferences should promote efforts toward effective teaching, the talents of the members of each group, and areas of possible cooperation. In order for conferences to be well attended, endorsement should be sought from the Director of the

Agricultural Education Division of the Missouri Department of Elementary and Secondary Education, and the University of Missouri Vice Provost and Director of Cooperative Extension.

#### Research Objective Six: Levels of Cooperative Behavior

##### *Conclusion*

Secondary agriculture teachers and 4-H youth development personnel may not be aware that both groups are receptive to participating in give and take relationships. The existence or absence of competition may shift the level of cooperation to or from pure cooperation. In addition, the cooperative behaviors of secondary agriculture teachers may be affected by the resources at stake in each situation. This study only investigated two context-specific case-scenarios. One may question whether give and take relationships exist in other contexts as well.

##### *Implications*

A give and take relationship is mutually beneficial for secondary agriculture teachers and 4-H youth development personnel. Arguably, the allocation of resources appears to have some effect on cooperative behavior. If both groups are not aware that they willing to engage in this type of relationship the likelihood of each group initiating the reciprocal relationship is reduced.

### *Recommendations*

Bender, Cunningham, McCormick, Wolf, and Woodin (1972) suggested that, “the kind and extent of physical facilities and instructional materials available – including community resources – affect the methods of teaching that can and should be used” (p. 29). Secondary agriculture teachers should consider the resources available in the community, such as farms, greenhouses, and agriculture-related businesses, to supplement the curriculum and use as potential laboratories (Bender et al., 1972). The previously suggested Web-based inventory of resources would benefit both groups by familiarizing secondary agriculture teachers and 4-H youth development personnel with the resources available in the communities and counties they serve.

Secondary agriculture teachers and 4-H youth development personnel both indicated activities such as “consulting each other’s abilities and knowledge in problem situations” and “coordinating efforts for training similar competitive teams” as desirable activities; further indicating a positive reception of give and take relationships. Therefore, the previously suggested joint advisory committee should recommend additional give and take activities for secondary agriculture teachers and 4-H youth development personnel, and monitor the effectiveness of such activities.

### Research Objective Seven: Importance and Affect of Activity/Factor Items

### *Conclusion*

Secondary agriculture teachers and 4-H youth development personnel, perceive activity/factor items as having neutral to no importance. However, both groups indicated that 12 of 13 activity/factor items should be more important than what they are, with the

exception of “discuss fundraising activities.” The indication that little importance is placed on cooperative activities/factors may lead one to question if secondary agriculture teachers and 4-H youth development personnel are making an honest effort to cooperate.

### *Implications*

One must acknowledge that factors are more difficult to influence or change than activities. In addition, if secondary agriculture teachers and 4-H youth development personnel do not acknowledge the importance of positive activities and factors, change is unlikely, if not impossible.

### *Recommendations*

It is recommended that the previously suggested joint advisory committee should suggest ways of promoting the importance of positively perceived activities and factors. Suggestions should be made in an effort to increase the likelihood that secondary agriculture teachers and 4-H youth development personnel will adopt perceptions and practices that are more conducive to cooperation. Furthermore, when problems arise, secondary agriculture teachers and 4-H youth development personnel should ask, “How can the situation be improved?” rather than, “Who is to blame?”

## Research Objective Eight: Discrepancies of Activity/Factor Items

### *Conclusion*

The highest MWDS were related to integrating resources of secondary agricultural educators and 4-H youth development personnel. Although a desire to

increase the importance of interaction between secondary agriculture teachers and 4-H youth development personnel is evident, it is possible that agricultural educators and 4-H youth development personnel do not know how to accomplish it.

### *Implications*

Coordination of efforts is frequently the missing factor in how to accomplish a goal. A lack of communication can further inhibit progress as well. If secondary agriculture teachers and 4-H youth development personnel do not receive guidance on how to coordinate activities and effectively communicate, it is unlikely that the future will differ from the past.

### *Recommendations*

Increasing the level of communication between secondary agriculture teachers and 4-H youth development personnel should be paramount. It is recommended that the suggested joint advisory committee seek ways to identify and promote conducive activities and factors perceived to be important by secondary agriculture teachers and 4-H youth development personnel. Furthermore, as Axelrod noted, effective cooperation cannot exist without frequent interaction. Secondary agriculture teachers and Extension should conduct more joint activities in an effort to increase their frequency of interaction. Furthermore, joint ventures reduce the likelihood that unnecessary duplication of services is occurring.

As Lemons (1958) suggested, secondary agriculture teachers and 4-H youth development personnel make every attempt to publicize joint activities in a manner that reflects the contributions of each organization. Lemons further suggested that publicizing

joint activities helps the public to better understand the purposes and functions of each organization.

#### Research Objective Nine: Knowledge of Cooperative Agreement

##### *Conclusions*

A majority of secondary agriculture teachers and 4-H youth development personnel are not aware of cooperative agreement in Missouri. An agreement has been in existence since 1966, and has been revised six times.

##### *Implications*

Regardless of the existence of such an agreement, a lack of knowledge of its existence makes it difficult for secondary agriculture teachers and 4-H youth development personnel to follow the guidelines set forth in the document.

##### *Recommendations*

Distribution of the agreement to secondary agriculture teachers and 4-H youth development personnel would seem to improve or guide cooperative efforts of secondary agriculture teachers and 4-H youth development personnel. Therefore, it is recommended that the *4-H and FFA Memorandum of Cooperation* be distributed to all secondary agriculture teachers and 4-H youth development personnel in the state. Furthermore, additional active endorsement of the document by MVATA should be sought by University of Missouri Extension.’

Secondary agriculture teachers and 4-H youth development personnel should be mindful that the welfare of the people in the counties and communities which they serve

is paramount. Every effort should be made to render efficient services to the people rather than promote the interests of any one organization or gain personal recognition for work done. Therefore, cooperative relationships should be established and maintained in accordance with the Missouri *4-H and FFA Memorandum of Cooperation*, state and federal regulations, and the needs of the people of the counties and communities which secondary agriculture and 4-H youth development personnel serve.

#### Recommendations for Further Research

Cooperation between secondary agriculture teachers and 4-H youth development personnel has been a concern for nearly nine decades. Numerous studies have been conducted to determine why, how, and to what extent secondary agriculture teachers cooperate. However, the researcher is not aware of any study that has investigated the perceptions of cooperation of state and federal-level leaders of the secondary agricultural education programs and the Cooperative Extension Service. Therefore, this study should be replicated to focus on cooperative relationships between the leaders of secondary agricultural education programs and the Cooperative Extension Service at the state and federal-levels to determine the attitudes of these individuals towards professional relationships between county Extension personnel and secondary agriculture teachers.

Furthermore, should this study be replicated at the state and federal-levels, the researcher(s) should expand the number of activities and factors investigated to determine if more activities and factors are conducive to cooperative relationships than those investigated in this study. Moreover, a greater number of context-specific case-scenarios should be developed to further investigate which contexts state and federal-level leaders

perceive as appropriate for cooperation for secondary agriculture teachers and 4-H youth development personnel.

The conclusions of this study may lead one to question if secondary agriculture teachers' and 4-H youth development personnel's involvement in 4-H and FFA as youth may affect their professional roles. Further investigation should be conducted to determine what affect involvement in 4-H and FFA as youth may have on the professional capabilities of secondary agriculture teachers and 4-H youth development personnel. Furthermore, this study did not determine what knowledge secondary agriculture teachers and 4-H youth development personnel possessed regarding the function and organizational structure of the youth organization (4-H and FFA) associated with their counterparts' program. Further research should be conducted to determine what knowledge secondary agriculture teachers and 4-H youth development personnel possess regarding the function and organizational structure of the youth organization (4-H and FFA) associated with their counterparts' program and if that knowledge is correlated with secondary agriculture teachers' and 4-H youth development personnel's involvement with 4-H and FFA as youth.

This study found that the characteristics of secondary agriculture teachers and 4-H youth development personnel in Missouri were different. Therefore, further research should be conducted to determine if correlations exist between characteristic and cooperative behavior.

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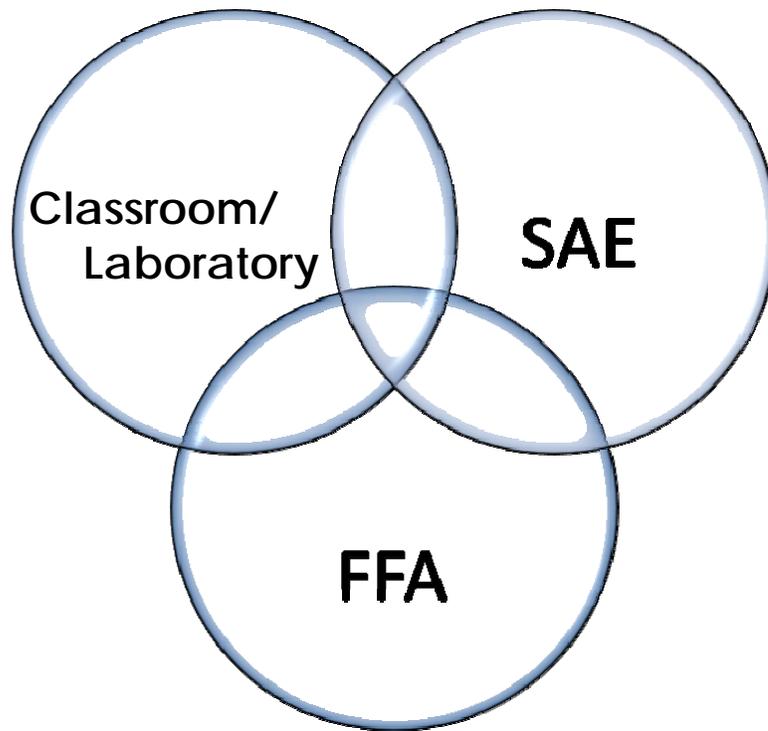
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APPENDIX A

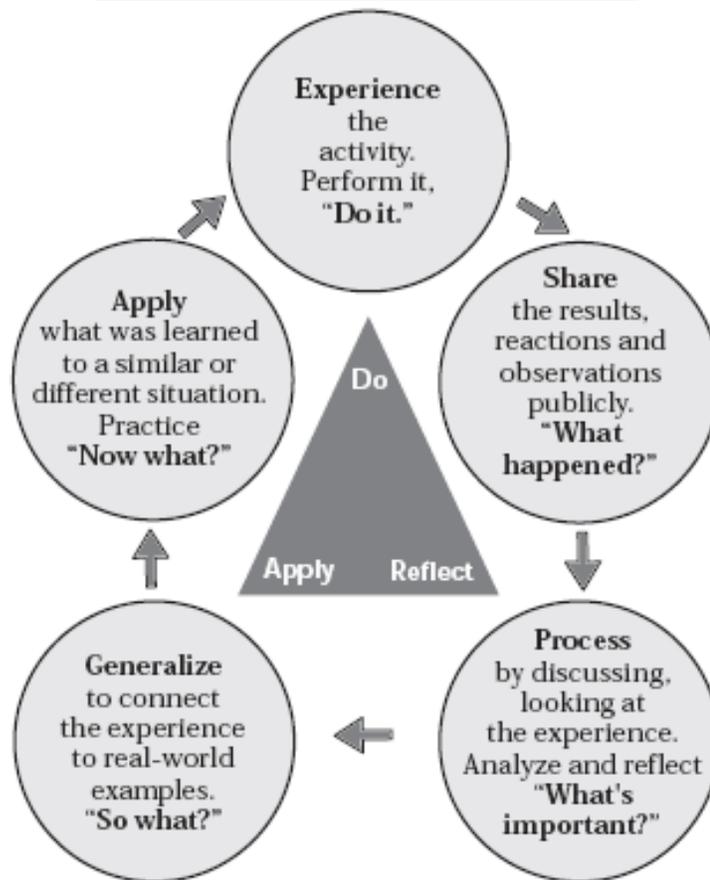
AGRICULTURAL EDUCATION THREE-PART MODEL



## APPENDIX B

### 4-H EXPERIENTIAL LEARNING MODEL

## Experiential Learning Model



APPENDIX C

MISSOURI COOPERATIVE AGREEMENT

## 4-H and FFA Memorandum of Cooperation

Rev 07 BG

Between the Agricultural Education Section of the Missouri Department of Elementary and Secondary Education and the University of Missouri and Lincoln University Cooperative Extension Services - August 1, 2005

The primary objective of 4-H and FFA membership is to provide a variety of educational experiences for youth which should lead to the further development of knowledge and leadership abilities. The state, community and nation will ultimately profit if large numbers of youth avail themselves of these opportunities.

FFA through agricultural education and 4-H through Cooperative Extension were organized as complementary educational efforts. The two organizations also operate as complementary groups in Missouri. Each can make a definite contribution to the growth and development of youth. Agriculture instructors and extension personnel have superior competencies in certain fields because of academic training and personal preferences. Youth staff and instructors are encouraged to share these competencies when it will be mutually advantageous to each and to youth enrolled in the respective programs.

In order to maintain the harmony and wholesome attitude that now exist, and to foster a spirit of common purpose among those engaged in developing Missouri's youth, the staff and advisory committees of the agricultural section of the Missouri Department of Elementary and Secondary Education and the Missouri Cooperative Extension Service suggests that this MEMORANDUM OF COOPERATION serve as a guideline for interaction between the members and leaders of these two organizations.

1. Extension personnel and agricultural instructors should counsel prospective students and members to assist them in reaching their highest potential in keeping with their future educational and vocational interests, needs, and abilities.
2. Agriculture instructors and extension personnel should each make a personal effort to be aware of all the educational opportunities afforded in 4-H and FFA. An exchange of information relative to educational programs is encouraged.
3. County extension personnel should encourage youth interested in agriculture to take advantage of agricultural education.
4. Agriculture instructors should encourage youth to enroll in 4-H club work.
5. If youth are dually enrolled, they may carry the same enterprise in 4-H and supervised agricultural experience programs.
6. A member may not serve on the State FFA Executive Committee and the State 4-H Council Executive Committee at the same time.
7. A list of State Executive Committee members will be exchanged between state offices for the purpose of implementing items 6.
8. Members should be encouraged to continue their education beyond the secondary level – education is always an unfinished task.

(\*This document was adopted on March 15, 1966 and revised in 1969, 1980, 1987, 1995 and 2005.)

Missouri 4-H Youth Development Programs August 1, 2005

APPENDIX D

MEMORANDUM OF UNDERSTANDING RELATIVE TO SMITH-HUGHES AND

SMITH-LEVER RELATIONSHIPS IN AGRICULTURE

MEMORANDUM OF UNDERSTANDINGS BETWEEN THE SMITH-LEVER  
AGRICULTURAL EXTENSION SERVICE AND THE  
SMITH-HUGHES AGRICULTURAL PROGRAM

May 10, 1921

It is recognized that the functions, obligations, and responsibilities of the parties to the agreement, as defined by law, may be similar, with the possibility of overlapping, as in the fields of (1) the junior project work of the schools and the junior extension (boys' and girls' club) work of the college both in agriculture and home economics, (2) the part-time and evening homemaking courses of the State board for vocational education and the home economics extension work of the college, and (3) the short-unit courses in agriculture and home economics, in the public schools, and the extension classes conducted by the land-grant colleges. In a spirit of fairness to both groups of interest, this report seeks to present a basis for clear differentiation of the functions of the respective agencies in these closely related tasks. It is proposed that the work in these related fields shall be made a matter of cooperative agreement in the several States. Such cooperative agreement should recognize the following facts and principles:

(1) It is the function, duty, and responsibility of the public school to provide education for all children, and to provide such adult education as is authorized by law.

(2) Under the law, it is the function and duty of the land-grant college of agriculture to maintain extension service. The theory underlying extension service is that it is, first to provide supplemental education for persons engaged in agriculture and homemaking, and, second, to enable the college and the Federal Department of Agriculture to bring their advances in knowledge to farmers and their families who can make the applications. Furthermore, by virtue of its staff of technical specialists and its responsibility for training vocational teachers, the land-grant college is in a position to furnish technical information and advice in the fields of agriculture and home economics to vocational work in the schools.

(3) It is clearly recognized and affirmed that the college of agriculture is the source and authority, in the State, in technical subject matter in agriculture and home economics. The principle should be clearly observed that neither the State nor any lesser administrative unit charged with the supervision of vocational education, should employ any itinerant subject-matter specialists for the purpose of giving technical instruction in any phase of agriculture or home economics. In so far as the vocational schools may have need for the assistance of technical specialists other than the regular vocational teacher or teachers in the local schools, they should look to the college of agriculture to supply such specialists. If, by reason of limitation of funds, the college is unable to meet all demands for aid on technical matters, the remedy is to be found in strengthening

the resources of the college to fully meet the requirements, and not in establishing subject-matter specialists as part of the State vocational system.

(4) There are three types of situation to be considered: (a) Where agricultural and home economics education is fully developed by the local schools, (b) where such education has not yet been undertaken by the local schools, (c) where such education is in process of development by the local schools.

(a) Where the school provides a comprehensive program of agricultural and home economics education which meets the needs of children and adults, through systematic instruction and supervised practice, the extension forces of the land-grant colleges shall not duplicate such work of the schools, but shall rather cooperate with the schools by providing, on request, subject matter, special lectures, conferences, and other similar services. This shall not be interpreted to limit the freedom of the extension forces to prosecute their extension work through local organizations of farmers.

(b) Where the school does not provide such a program of instruction in agriculture and home economics, the extension service of the college should organize extension work. In such localities, the school should give its fullest support and cooperation to the extension workers.

(c) It is recognized that, in some places, schools will be in the process of developing such educational programs. In these cases, the following principles should apply: Extension workers should confine their work with children to those whom the school does not enroll in systematic vocational or prevocational project work, including supervised home practice: unless requested or authorized by school authorities to enroll them. The school should organize its work with adults to provide systematic vocational instructions defined herein. The school should offer its facilities so the junior extension worker wherever the school has not, in reasonable operation, vocational or prevocational project work accompanied by supervised home practice.

(5) Before undertaking junior extension work in any county, the extension division should submit in writing to the county superintendent of schools, the plans proposed for junior extension in that county, and should endeavor to arrange for a basis of understanding and cooperation. Copies of plans, when agreed upon, should be filed with the State department of education for consideration, before being put into operation.

(6) The State department of education should look to the land-grant college to furnish technical subject matter in agriculture and home economics in the form of outlines, leaflets, and bulletins for use in the public schools. It is understood, however, that no such material in agriculture and home economics should be used in the schools until approved by the State department of education.

The highest service in this great field will spring from a spirit of copartnership, or mutual respect, and from intimate association on a clearly defined basis, with the single purpose of serving the complete vocational needs of the communities. When both of the agencies shall have been fully developed on a carefully adjusted basis, there will be large place for them both in every community.



**MEMORANDUM OF UNDERSTANDING**

**RELATIVE TO**

**SMITH-HUGHES AND SMITH-LEVER RELATIONSHIPS**

**IN**

**AGRICULTURE**

---

**December, 1928  
Washington, D. C.**

MEMORANDUM OF UNDERSTANDING RELATIVE TO SMITH-HUGHES  
AND SMITH-LEVER RELATIONSHIPS

in  
Agriculture

January 19, 1928

INTRODUCTION

In 1918 conferences were held between representatives of the Federal Board for Vocational Education, responsible for the administration of the Smith-Hughes Act, and representatives of the United States Department of Agriculture, responsible for the administration of the Smith-Lever Act, looking toward cooperation between these two agencies in promoting an effective system of agriculture. The respective fields of work of the two groups were defined and the relationships of the groups outlined. About three years later a joint committee, representing several groups more or less directly interested in the Smith-Hughes and the Smith-Lever Acts prepared a report, the purpose of which was to interpret this memorandum and to set out more fully what were thought to be desirable relationships and objectives.

These two memoranda have served in considerable degree as guides to both Smith-Hughes and Smith-Lever workers in carrying on their respective activities. When they were prepared, both vocational teaching and extension work were comparatively new. With the development of these two closely related and rapidly expanding lines of public service, problems have arisen which make desirable a restatement of the respective fields of Smith-Hughes and Smith-Lever workers and of the relationships between the two groups.

In conformance with a suggestion of the Secretary of Agriculture, approved by the Federal Board for Vocational Education at its meeting of January 19, 1928, the following memorandum has been prepared to supersede all earlier memoranda.

TEXT OF MEMORANDUM

EXTENSION WORK IN AGRICULTURE

The United States Department of Agriculture, in cooperation with the land-grant colleges, has organized an agricultural extension system which extends throughout the United States including the Territory of Hawaii. This has been done in accordance with a series of acts of Congress authorizing the establishment of such work and making appropriations therefor. This extension work consists of practical demonstrations, and the dissemination of information among men, women, and children through the personal work of county agents, home demonstration agents, boys' and girls' club workers, and technical specialists in various fields of agriculture and home economics. This work covers the various branches of agriculture and home

economics, including marketing and rural organization. It is supplemented by the widespread distribution of publications of the United States Department of Agriculture, the experiment stations, the agricultural colleges, and State departments of agriculture. The instruction and information used in this system of popular education is based chiefly on the work of the United States Department of Agriculture, the State agricultural colleges and the experiment stations.

This extension work is not a systematic course of instruction, but deals with the problems of practice and business on the farm, in the home, or in the rural community. This is expressed in the following quotation from the Smith-Lever Act; "To aid in diffusing among the people of the United States useful and practical information on subjects relating to agriculture and home economics, and to encourage the application of the same."

As the extension system develops and becomes established it deals more and more with special problems of the farm and rural community rather than with the details of practice with which the farming people are generally familiar. Backed by the research system of agricultural colleges and the United States Department of Agriculture, it brings to the people the new things which have been found worthy of broad trial in actual practice.

#### VOCATIONAL AGRICULTURE INSTRUCTION

The creation of the Federal Board for Vocational Education and a State board for vocational education in each State, under the provisions of an Act of the 64th Congress, approved February 23, 1917, makes possible a nation-wide organization for the administration of vocational education. The act carries an appropriation for salaries of teachers, supervisors, and directors of agricultural subjects. The money so appropriated is to reimburse schools for expenditures for salaries of teachers to carry on instruction in vocational agriculture or for the salaries of supervisors of such instruction.

Certain standards must be set up by the State board for vocational education and approved by the Federal Board for Vocational Education for schools in which Federal funds are to be used. These standards include, among other things, qualifications of teachers, minimum amount for maintenance, minimum plant and equipment, directed or supervised practice in agriculture, methods of teaching, and type courses of study. In case any of the fund is to be used for salaries of supervisors or directors, a plan of supervision for the State must be set up by the State board with approval of the Federal Board.

This act makes provision for courses of systematic instruction in agriculture, carried on in schools or classes, for those "who have entered upon or who are preparing to enter upon the work of the farm or of the farm home," under a definite plan of cooperation between a State board

and the Federal Board. This systematic instruction in agriculture, however, under the terms of the act, "shall in every case provide directed or supervised practice in agriculture, either on a farm provided for by the school or other farm, for at least six months per year."

#### RELATIONSHIPS

In many counties of the various States there will be the cooperative agricultural extension system conducted by the State agricultural college in cooperation with the United States Department of Agriculture and the county under the provisions of the Smith-Lever Act and under other Federal and State legislation. There will also be vocational agricultural instruction carried on by the State board for vocational education in cooperation with the Federal Board for Vocational Education and the county or the local school district under the provisions of the Smith-Hughes Act. The extension service and the vocational service will deal with both adults and youth.

In each case there are officials charged with the responsibility of administering these acts. It is suggested that these officials determine upon a plan of cooperation for the State based upon the following general policies or principles:

1. It is understood that all agricultural extension work should be administered by those in charge of extension activities in the State, and that all vocational education in agriculture should be administered by those in charge of the vocational schools of the State.
2. Any work participated in by the teacher of vocational agriculture not included in all-day, day unit, evening or part-time instruction, should be done in accordance with the plans of the extension system for the State and in cooperation with the agent who is in charge of the extension work in the county. However, it is recognized that the agricultural teacher must respond to occasional calls for individual help on the part of farmers within the patronage area of his school, but this type of activity which is not systematic instruction should not be sought and should represent but a small and incidental part of his job. It is further recognized that all general community activities of an agricultural nature dealing with persons not enrolled in vocational agricultural classes are in the field of extension work and should be done in cooperation with the agent who is in charge of extension work in the county. Teachers of vocational agriculture or representatives of vocational agricultural work should be invited to participate in all meetings conducted by the extension service for the formulation of county and State agricultural programs.
3. In counties having vocational agricultural departments or schools it is recommended that the cooperative agricultural extension service do not enroll students of vocational agriculture for 4-H Club Work.

4. Care should be taken to see that work which is supported by Federal funds under any of the aforementioned acts will not in any way duplicate or overlap work being carried on in that same community when that work is supported in any part from another Federal fund.

### DISCUSSION

An elucidation of some of the matters touched upon in foregoing statements may be helpful in facilitating a clear understanding and harmonious adjustment of the two lines of work within the States.

### EXTENSION WORK

The term "extension" work shall be understood to include, aside from special duties assigned by State laws in the several States, cooperative agricultural extension, as defined and provided for in the Smith-Lever Act of May 8, 1914, accepted by the legislatures in the several states. The law provides that such extension work "shall consist of the giving of instruction and practical demonstrations in agriculture and home economics to persons not attending or resident at said colleges in the several communities and imparting to such persons useful and practical information on said subjects through field demonstrations, publications, and otherwise, and to encourage the application of the same."

#### Methods or Types of Extension Teaching

Extension teaching is, as a rule, conducted by means of cooperative projects with local agencies or groups. These projects are agreed upon between local members of the farmers' organizations and the representatives of the extension service. They are then carried into effect, usually by the following methods:

- (a) Cooperative demonstrations given in fields and barns and other appropriate places.
- (b) Lectures and addresses before public meetings, including community meetings, meetings of general groups, and meetings of special groups.
- (c) Extension schools, in which instruction in subject matter of immediate practical interest is given over a period usually from three to five days in length, and not exceeding two weeks, in the localities where the students reside.
- (d) Exhibits at fairs, expositions, and other local and state-wide meetings, at which subject matter is graphically presented.

- (e) Supplying technical subject matter through bulletins, leaflets, special memoranda, outlines, and other means.
- (f) Junior extension, or boys' and girls' 4-H Club work.
- (g) Aid in meeting special problems of individual farmers.
- (h) Conference with county officers and representatives to arrange, organize, and supervise demonstration and other work.
- (i) Assisting farmers with their marketing and other economic problems.

#### VOCATIONAL AGRICULTURE IN PUBLIC SCHOOLS

The Vocational education act makes provision for courses of systematic instruction in agriculture, carried on in schools or classes for those who have entered upon or who are preparing to enter upon the work of the farm or the farm home.

By systematic instruction is meant instruction in regular organized classes which meet at reasonably frequent intervals, at given centers, to pursue a consecutive series of lessons involving lectures, laboratory work, conference discussions on farm problems, occasional field trips and at least six months' directed or supervised practice correlated with the instruction. <sup>1/</sup> Systematic instruction should specifically exclude general farmers' meetings, farmers' institutes, and extension classes of less than two weeks' duration.

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<sup>1/</sup> NOTE: Interpretation of directed or supervised practice.

"The term 'practice' implies the performing of the activities, operative or managerial or both, of the jobs taught a sufficient number of times to enable the pupil to reach a certain standard of proficiency. This interpretation should, of course, accord with the objectives set up by the instructor and the pupil. It allows for the training of the operator, the training of the manager, or, as will be found in most cases, the training for both management and operation resulting from a well-organized farm practice program.

"DIRECTED PRACTICE is that practice which is done under specific direction of the supervisor. It implies the giving of definite directions by the supervisor and the carrying out of such directions by the pupil. Directed practices more commonly deals with operative training and is a common form of practice by vocational pupils on school farms.

In order to carry out the intent of the Vocational Education Act, there have developed and are now under way in the States, four types of vocational instruction:

- (1) The All-Day School. - These are schools composed of pupils who are pursuing their education in regular public schools, who do at least six months' of directed or supervised practice in agriculture, and who are receiving not less than 90 minutes of actual instruction in agriculture per day.
- (2) The Day-Unit School. - These are schools in which pupils, pursuing the usual public school course, take a minimum of 90 minutes a week in some short-unit course of instruction in technical agriculture and who do at least six months' directed or supervised practice in agriculture.
- (3) The Part-Time School. - These are schools for persons who are not yet established in farming and who return to school and pursue short-unit courses in technical agriculture and in subjects which improve their civic and vocational intelligence, and who do at least six months' directed or supervised practice in agriculture.
- (4) The Evening School. - These are schools in which persons over 16 years of age, who have entered upon work of the farm, are definitely enrolled for short-unit courses of not less than 10 lessons on one farm enterprise which will supplement their daily employment or will later lead to promotion and supervised practice in agriculture.

#### BASES FOR AGREEMENTS IN RELATED FIELDS OF WORK

It is recognized that the functions, obligations, and responsibilities of the parties to this memorandum of understanding are closely related in the fields of --

- (1) Boys' and girls' 4-H Club work and the directed or supervised practice of students in vocational agriculture.

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"SUPERVISED PRACTICE is that practice performed by the pupil more largely on his own responsibility and over which the supervisor exerts an influence and power of approval. It implies the working out of plans and the carrying out of such plans by the pupil under the general guidance of the supervisor. Supervised practice deals with both managerial and operative training and is a common form of practice by vocational pupils on home farms." (Bulletin No. 112, pp. 4 and 5. Federal Board for Vocational Education).

- (2) Part-time and evening classes in vocational agriculture and the agricultural extension work of the college.

This memorandum presents a basis for differentiation of the functions of the representative agencies in these closely related activities. The work of these related fields should be made a matter of cooperative agreement in the several States. Such cooperative agreements should recognize the following facts and principles:

- (1) It is clearly recognized and affirmed that the college of agriculture is the logical source of information in the State in technical subject matter in agriculture. If the college is unable to furnish technical specialists on request of State or local boards for vocational education these boards may employ special teachers to conduct regular all-day, day-unit, part-time, or evening classes in agriculture. Such employment may include as part-time or evening school teachers practical farmers, who have demonstrated clearly that they have outstanding ability in some particular phase of agriculture, and whose judgment and opinions are universally respected. All instruction given by such teachers must be supplemented by at least six months' of directed or supervised practice.
- (2) In most cases, it is undesirable for Smith-Hughes teachers to act as local leaders of 4-H club work.
- (3) Extension forces, particularly those engaged in 4-H Club work, may well encourage boys and girls of suitable age to take the Smith-Hughes vocational training as good preparation for later becoming 4-H Club leaders and leaders of extension projects with adults.

Cooperation should be the watchword in all Smith-Hughes and Smith-Lever relationships. This means going beyond the letter of the law and doing what one is not obligated to do. Both these laws were instituted in the interests of all the people. Each group, while attending to its own task first, should lose no opportunity to promote, in all practical ways, the work of the other. With this spirit animating both forces good feeling is likely to prevail everywhere and the maximum accomplished in both lines of work.

It is recommended, therefore, that a committee representing the Association of Land-Grant Colleges and Universities, and one representing the National Association of State Directors of Vocational Education, be called to convene in joint conference annually or as often as may be necessary by the administrative officers of the Federal Smith-Hughes and Smith-Lever organizations. It is further recommended that similar committees be appointed in every State to meet from time to time as may be necessary to promote

mutual understanding. Such conferences between administrative groups would seem to be the normal way most effectively to meet the situation.

SIGNED:

U. S. Department of Agriculture:

C. W. Warburton, Director of Extension  
C. B. Smith, Chief, Office of Cooperative Extension Work.

Federal Board for Vocational Education:

J. C. Wright, Director  
C. H. Lane, Chief, Agricultural Education Service.

APPROVED:

W. M. Jardine  
Secretary, U. S. Department of  
Agriculture.

APPROVED:

Jas. J. Davis  
Chairman, Federal Board for  
Vocational Education.

Washington, D. C.,  
Dec. 20, 1928.

APPENDIX E

CALIFORNIA COOPERATIVE AGREEMENT

**AGREEMENT  
BETWEEN THE UNIVERSITY OF CALIFORNIA  
AND THE STATE BOARD OF EDUCATION RE-  
GARDING AGRICULTURAL EDUCATION IN THE  
ELEMENTARY AND SECONDARY SCHOOLS OF  
CALIFORNIA.**

1. The agreement between the Federal Board for Vocational Education and the land grant colleges is hereby accepted, and the policies set forth shall govern relationships between the Extension Service of the University of California and the State Board for Vocational Education.

2. Teachers employed in schools operating under the State and Federal Acts shall not be encouraged to undertake extra curricular activities until their vocational agricultural program is certified by the State Supervisor of Agricultural Instruction to be on a high plane of efficiency.

3. When the agricultural teachers are in need of the aid of certain Extension specialists they shall take up this matter with their local farm advisor, who, if possible, will arrange to permit the attendance of the high school students at certain demonstrations in the county; it being definitely understood that, owing to the small staff of specialists, it is impossible for the Extension specialists to answer the calls of every agricultural instructor in the State of California.

4. Requests for information regarding agricultural education in the schools shall be forwarded to the State Board of Education for action. The State Supervisor of Agricultural Instruction shall investigate the situation and recommend the type of agricultural education best suited to the community, and forward a copy of these recommendations to the Extension Service, University of California.

5. When agricultural club work is undertaken by a teacher working under the State and Federal Vocational Education Acts it is understood that this club work becomes a part of his regular program, and he is expected to conduct that work to the same degree of efficiency that he conducts his vocational program.

6. The State Supervisor of Agricultural Instruction shall furnish, not later than October 1, a list of those vocational departments that are declared to be doing very satisfactory work. It is further recommended that these schools, under the direction of the University of California

Extension Service, conduct Boys' and Girls' Club Work in their junior high school and elementary school systems.

7. The University of California will furnish expert guidance and assistance to the Smith-Hughes teachers through regular visits of employed club specialists and will furnish to the members of agricultural clubs printed and written directions, bulletins, and forms, etc., such as are now used throughout California, and such other printed matter as may in the future be deemed advisable.

8. Records of members of agricultural clubs are to be forwarded by them to teachers in direct charge of their club work. Said teachers shall in turn place these records in the hands of the local director of Smith-Hughes classes. He shall thereupon make such summaries and reports to both the University of California and the State Board of Education as may be required by either of these departments. The original record sheets are later to be filed in the agricultural club office at Berkeley.

9. Publication of results by the State Board of Education will in all cases mention that the agriculture club work was done by the Smith-Hughes teachers under the supervision and direction of the agriculture club office of the University of California. Publication of results by the University of California will in all cases mention that this portion of the work was done by Smith-Hughes teachers under the above supervision and direction.



## SMITH-LEVER ACT

An ACT TO provide for co-operative agricultural extension work between the agricultural colleges in the several States receiving the benefits of an act of Congress approved July second, eighteen hundred and sixty-two, and of acts supplementary thereto, and the United States Department of Agriculture.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That in order to aid in diffusing among the people of the United States useful and practical information on subjects relating to agriculture and home economics, and to encourage the application of the same, there may be inaugurated in connection with the college or colleges in each state now receiving, or which may hereafter receive, the benefits of the act of Congress approved July second, eighteen hundred and sixty-two, entitled "An Act donating public lands to the several States and Territories which may provide colleges for the benefit of agriculture and the mechanic arts" (Twelfth Statutes at Large, page five hundred and three), and of the act of Congress approved August thirtieth, eighteen hundred and ninety (Twelfth Statutes at Large, page four hundred and seventeen and chapter eight hundred and forty-one), agricultural extension work shall be carried on in co-operation with the United States Department of Agriculture: Provided, That in any state in which two or more such colleges have been or hereafter may be established the appropriations hereinafter made to such state shall be administered by such college or colleges as the legislature of such state may direct: Provided further, That, pending the inauguration and development of the co-operative extension work herein organized, nothing in this act shall be construed to discontinue either the farm management work or the farmers' co-operative demonstration work as now conducted by the Bureau of Plant Industry of the Department of Agriculture.

SEC. 2. That co-operative agricultural extension work shall consist of the giving of instruction and practical demonstrations in agriculture and home economics to persons not attending or resident in said colleges in the several communities, and imparting to such persons information on said subjects through field demonstrations, publications, and otherwise; and this work shall be carried on in such manner as may be mutually agreed upon by the Secretary of Agriculture and the State agricultural college or colleges

receiving the benefits of this act.

SEC. 3. That for the purpose of paying the expenses of said co-operative agricultural extension work and the necessary printing and distributing of information in connection with the same, there is permanently appropriated, out of any money in the Treasury not otherwise appropriated, the sum of \$480,000 for each year, \$10,000 of which shall be paid annually, in the manner hereinafter provided, to each state which shall by action of its legislature assent to the provisions of this act; Provided, That payment of such installments of the appropriation hereinbefore made as shall become due to any state before the adjournment of the regular session of the legislature meeting next after the passage of this act may, in the absence of prior legislative assent, be made upon the assent of the governor thereof, duly certified to the Secretary of the Treasury: Provided further, That there is also appropriated an additional sum of \$600,000 for the fiscal year following that in which the foregoing appropriation first becomes available, and for each year thereafter for seven years a sum exceeding by \$500,000 the sum appropriated for each year after that, and for each year thereafter there is permanently appropriated for each year the sum of \$4,100,000 in addition to the sum of \$480,000 hereinbefore provided: Provided further, That before the funds herein appropriated shall become available to any college for any fiscal year, plans for the work to be carried on under this act shall be submitted to the proper officials of each college and approved by the Secretary of Agriculture and paid in the manner hereinbefore provided, in the proportion which the rural population of each state bears to the total rural population of all the states as determined by the next preceding Federal census: Provided further, That no payment out of the additional appropriations herein provided shall be made in any year to any state until an equal sum has been appropriated for that year by the legislature of such state, or provided by state, county, college, local authority, or individual contributions from within the state, for the maintenance of the co-operative agricultural extension work provided for in this act.

SEC. 4. That the sums hereby appropriated for extension work shall be paid in equal semi-annual payments on the first day of January and July of each year by the Secretary of the Treasury upon the warrant of the Secretary of Agriculture, out of the Treasury of the United States, to the treasurer or other officer of the state duly authorized by the laws of the state to receive the same; and such

officer shall be required to report to the Secretary of Agriculture, on or before the first day of September of each year, a detailed statement of the amount so received during the previous fiscal year, and of its disbursement, on forms prescribed by the Secretary of Agriculture.

SEC. 5. That if any portion of the moneys received by the designated officer of any state for the support and maintenance of co-operative agricultural extension work, as provided in this act, shall by any action or contingency be diminished or lost or be misapplied, it shall be replaced by said state to which it belongs, and until so replaced no subsequent appropriation shall be apportioned or paid to said state, and no portion of said moneys shall be applied, directly or indirectly, to the purchase, erection, preservation, or repair of any building or buildings, or the purchase or rental of land, or in college-course teaching, lectures in colleges, promoting agricultural trains, or any other purpose not specified in this act, and not more than five percentum of each annual appropriation shall be applied to the printing and distribution of publications. It shall be the duty of each of said colleges annually, on or before the first day of January, to make to the governor of said state in which it is located a full and detailed report of its operations in the direction of extension work as defined in this act, including a detailed statement of receipts and expenditures from all sources for this purpose, a copy of which report shall be sent to the Secretary of Agriculture, and to the Secretary of the Treasury of the United States.

SEC. 6. That on or before the first day of July in each year after the passage of this act the Secretary of Agriculture shall ascertain and certify to the Secretary of the Treasury as to each state whether it is entitled to receive its share of the annual appropriation for co-operative agricultural extension work under this act, and the amount which it is entitled to receive. If the Secretary of Agriculture shall withhold a certificate from any state of its appropriation, the facts and reasons therefor shall be reported to the President, and the amount involved shall be kept separate in the Treasury until the expiration of the Congress next succeeding a session of the legislature of any state from which a certificate has been withheld, in order that the state may, if it should so desire, appeal to Congress from the determination of the Secretary of Agriculture. If the next Congress shall not direct such sum to be paid, it shall be covered into the Treasury.

SEC. 7. That the Secretary of Agriculture shall make an annual report to Congress of the receipts, expenditures, and results of the co-operative agricultural extension work in all of the states receiving the benefits of this act, and also whether the appropriation of any state has been withheld, and if so, the reason therefor.

SEC. 8. That Congress may at any time, alter, amend or repeal any or all of the provisions of this act.

Approved, May 8, 1914 (38 Stat. L. 372.)

STATUTES AND AMENDMENTS TO THE CODES---CALIFORNIA, 1915.

Chapter 244

An act assenting to the provisions and requirements of the act of Congress of the United States of America entitled, "An act to provide for co-operation of agricultural extension work between the agricultural colleges in the several states receiving the benefits of the act of Congress approved July 2, 1862, and of acts supplementary thereto, and the United States Department of Agriculture," approved by the President of the United States, May 8, 1914, and authorizing and empowering the regents of the University of California to receive grants of money appropriated under said act, and to organize and conduct agricultural extension work in accordance with the terms and conditions expressed in said act.

(Approved May 17, 1915. In effect August 8, 1915.)

The people of the State of California do enact as follows:

Section 1: The assent of the state of California is hereby given to the provisions and requirements of the act of the Congress of the United States entitled, "An act to provide for co-operative agricultural extension work between the agricultural colleges in the several states receiving the benefits of the act of Congress approved July 2, 1862, and of acts supplementary thereto,

and the United States Department of Agriculture" and approved by the President of the United States, May 8, 1914.

Section 2: The regents of the University of California are hereby authorized and empowered to receive the grants of money appropriated under said act of Congress and to organize and conduct agricultural extension work in accordance with the terms and conditions expressed in said act.

Section 3: The regents of the University of California are hereby authorized and directed to appropriate, expend, and use for the support and maintenance of the work of organizing and conducting said agricultural work the sum of thirty-one thousand, two hundred and seventy-five dollars out of the amount appropriated for the support and maintenance of the College of Agriculture of the University of California by the general appropriation bill passed at this legislative session, said amount of thirty-one thousand, two hundred and seventy-five dollars may be so expended by the regents of the University of California in one or more fiscal years.

#### Chapter 373.

An act empowering county boards of supervisors to appropriate and use county funds for the support and maintenance of extension work in agriculture in co-operation with the United States Department of Agriculture and the

University of California.

(Approved May 18, 1915. In effect August 8, 1915.)

Section 1: The board of supervisors of the respective counties within the state are hereby empowered to appropriate and use county funds in not to exceed the amount of ten thousand dollars in any one year for the support and maintenance within their respective counties of extension work in agriculture under the approval of the United States Department of Agriculture in co-operation with the University of California.

## THE SMITH-HUGHES ACT

An Act to provide for the promotion of vocational education; to provide for co-operation with the States in the promotion of such education in agriculture and the trades and industries; to provide for co-operation with the States in the preparation of teachers of vocational subjects; and to appropriate money and regulate its expenditure.

BE IT ENACTED BY THE SENATE AND HOUSE OF REPRESENTATIVES OF THE UNITED STATES OF AMERICA IN CONGRESS ASSEMBLED, That there is hereby annually appropriated, out of any money in the Treasury not otherwise appropriated, the sums provided in sections two, three and four of this Act, to be paid to the respective States for the purpose of co-operating with the States in paying the salaries of teachers of trade, home economics, and industrial subjects, and in the preparation of teachers of agricultural, trade, industrial, and home economics subjects; and the sum provided for in section seven for the use of the Federal Board for Vocational Education for the administration of this Act and for the purpose of making studies, investigations, and reports to aid in the organization and conduct of vocational education, which sums shall be expended as hereinafter provided.

SEC. 2. That for the purpose of co-operating with the States in paying the salaries of teachers, supervisors, or directors of agricultural subjects there is hereby appropriated for the use of the States, subject to the provisions of this Act, ...for the fiscal year ending June thirtieth, nineteen hundred and twenty-four, the sum of \$2,000,000; for the fiscal year ending June thirtieth, nineteen hundred and twenty-five, the sum of \$2,500,000; for the fiscal year ending June thirtieth, nineteen hundred and twenty-six, and annually thereafter, the sum of \$3,000,000. Said sums shall be allotted to the States in the proportion which their rural population bears to the total rural population in the United States, not including outlying possessions, according to the last preceding United States census: PROVIDED,...

SEC. 3. That for the purpose of co-operating with the States in paying the salaries of teachers of trade, home economics, and industrial subjects there is hereby appropriated for the use of the States, ...for the fiscal

year ending June thirtieth, nineteen hundred and twenty-four, the sum of \$2,000,000; for the fiscal year ending June thirtieth, nineteen hundred and twenty-five, the sum of \$2,500,000; for the fiscal year ending June thirtieth, nineteen hundred and twenty-six, the sum of \$3,000,000; and annually thereafter the sum of \$3,000,000. Said sums shall be allotted to the States in the proportion which their urban population bears to the total urban population in the United States, not including outlying possessions, according to the last preceding United States census: PROVIDED,...

That not more than twenty per centum of the money appropriated under this Act for the payment of salaries of teachers of trade, home economics, and industrial subjects, for any year, shall be expended for the salaries of teachers of home economics subjects.

SEC. 4. That for the purpose of co-operating with the States in preparing teachers, supervisors, and directors of agricultural subjects and teachers of trade and industrial and home economics subjects there is hereby appropriated for the use of the States for the fiscal year ending June thirtieth, nineteen hundred and eighteen, the sum of \$500,000; for the fiscal year ending June thirtieth, nineteen hundred and nineteen, the sum of \$700,000; for the fiscal year ending June thirtieth, nineteen hundred and twenty, the sum of \$900,000; for the fiscal year ending June thirtieth, nineteen hundred and twenty-one, and annually thereafter, the sum of \$1,000,000. Said sums shall be allotted to the States in the proportion which their population bears to the total population of the United States, not including outlying possessions, according to the last preceding United States census: PROVIDED, ...

SEC. 5. That in order to secure the benefits of the appropriations provided for in sections two, three and four of this Act, any State shall, through the legislative authority thereof, accept the provisions of this Act and designate or create a State board, consisting of not less than three members, and having all necessary power to cooperate, as herein provided, with the Federal Board for Vocational Education in the administration of the provisions of this Act. The State board of education, or other board having charge of the administration of public education in the State, or any State board having charge of the administration of any kind of vocational education in the State, may, if the State so elect, be designated as the State board, for the purposes of this Act.

In any State, the legislature of which does not meet in nineteen hundred and seventeen, if the governor of that State, so far as he is authorized to do so, shall accept the provisions of this Act and designate or create a State board of not less than three members to act in co-operation with the Federal Board for Vocational Education, the Federal board shall recognize such local board for the purposes of this Act until the legislature of such State meets in due course and has been in session sixty days.

Any State may accept the benefits of any one or more of the respective funds herein appropriated, and it may defer the acceptance of the benefits of any one or more of such funds, and shall be required to meet only the conditions relative to the fund or funds the benefits of which it has accepted: Provided, That after June thirtieth, nineteen hundred and twenty, no State shall receive any appropriation for salaries of teachers, supervisors, or directors of agricultural subjects, until it shall have taken advantage of at least the minimum amount appropriated for the training of teachers, supervisors, or directors of agricultural subjects, as provided for in this Act, and that after said date no State shall receive any appropriation for the salaries of teachers of trade, home economics, and industrial subjects until it shall have taken advantage of at least the minimum amount appropriated for the training of teachers of trade, home economics, and industrial subjects, as provided for in this Act.

SEC. 6. That a Federal Board for Vocational Education is hereby created, to consist of the Secretary of Agriculture, the Secretary of Commerce, the Secretary of Labor, the United States Commissioner of Education, and three citizens of the United States to be appointed by the President, by and with the advice and consent of the Senate. One of said three citizens shall be a representative of the manufacturing and commercial interest, one a representative of the agricultural interests, and one a representative of labor. The board shall elect annually one of its members as chairman. In the first instance, one of the citizen members shall be appointed for one year, one for two years, and one for three years, and thereafter for three years each. The members of the board other than the members of the Cabinet and the United States Commissioner of Education shall receive a salary of \$5,000 per annum.

The board shall have power to co-operate with State boards in carrying out the provisions of this Act. It shall be the duty of the Federal Board for Vocational Education to

make, or cause to have made studies, investigations, and reports, with particular reference to their use in aiding the States in the establishment of vocational schools and classes and in giving instruction in agriculture, trades and industries, commerce and commercial pursuits, and home economics. Such studies, investigations, and reports shall include agriculture and agricultural processes and requirements upon agricultural workers; trades, industries, and apprenticeships, trade and industrial requirements upon industrial workers, and classification of industrial processes and pursuits; commerce and commercial pursuits and requirements upon commercial workers; home management, domestic science, and the study of related facts and principles; and problems of administration of vocational schools and of courses of study and instruction in vocational subjects.

When the board deems it advisable such studies, investigations, and reports concerning agriculture, for the purposes of agricultural education, may be made in co-operation with or through the Department of Agriculture; such studies, investigations, and reports concerning trades and industries, for the purposes of trade and industrial education, may be made in co-operation with or through the Department of Labor; such studies, investigations, and reports concerning commerce and commercial pursuits, for the purposes of commercial education, may be made in co-operation with or through the Department of Commerce; such studies, investigations, and reports concerning the administration of vocational subjects, may be made in co-operation with or through the Bureau of Education.

The Commissioner of Education may make such recommendations to the board relative to the administration of this Act as he may from time to time deem advisable. It shall be the duty of the chairman of the board to carry out the rules, regulations, and decisions which the board may adopt. The Federal Board for Vocational Education shall have power to employ such assistants as may be necessary to carry out the provisions of this Act.

SEC. 7. That there is hereby appropriated to the Federal Board for Vocational Education the sum of \$200,000 annually, to be available from and after the passage of this Act, for the purpose of making or co-operation in making the studies, investigations, and reports provided for in section six of this Act, and for the purpose of paying the salaries of the officers, the assistants, and such office and other expenses as the board may deem necessary to the execution and administration of this Act.

SEC. 8. That in order to secure the benefits of the appropriation for any purpose specified in this Act, the State board shall prepare plans, showing the kinds of vocational education for which it is proposed that the appropriation shall be used; the kinds of schools and equipment; courses of study; methods of instruction; qualifications of teachers; and, in the case of agricultural subjects the qualifications of supervisors or directors; plans for the training of teachers; and, in the case of agricultural subjects, plans for the supervisions of agricultural education, as provided for in section ten. Such plans shall be submitted by the State board to the Federal Board for Vocational Education, and if the Federal board finds the same to be in conformity with the provisions and purposes of this Act, the same shall be approved. The State board shall make an annual report to the Federal Board for Vocational Education, on or before September first of each year, on the work done in the State and the receipts and expenditures of money under the provisions of this Act.

SEC. 9. That the appropriation for the salaries of teachers, supervisors or directors of agricultural subjects and of teachers of trade, home economics, and industrial subjects shall be devoted exclusively to the payment of salaries of such teachers, supervisors, or directors having the minimum qualifications set up for the State by the State board, with the approval of the Federal Board for Vocational Education. The cost of instruction supplementary to the instruction in agricultural work and in trade, home economics, and industrial subjects provided for in this Act, necessary to build a well-rounded course of training, shall be borne by the State and local communities, and no part of the cost thereof shall be borne out of the appropriations herein made. The moneys expended under the provisions of this Act, in co-operation with the States, for the salaries of teachers, supervisors, or directors of agricultural subjects, or for the salaries of teachers of trade, home economics, and industrial subjects, shall be conditioned that for each dollar of Federal money expended for such salaries the State or local community, or both, shall expend an equal amount for such salaries; and that appropriations for the training of teachers of vocational subjects, as herein provided, shall be conditioned that such money be expended for maintenance of such training and that for each dollar of Federal money so expended for maintenance, the State or local community, or both, shall expend an equal amount for the maintenance of such training.

SEC. 10. That any State may use the appropriation for agricultural purposes, or any part thereof allotted to it, under the provisions of this Act, for the salaries of teachers, supervisors, or directors of agricultural subjects, either for the salaries of teachers of such subjects in schools or classes or for the salaries of supervisors or directors of such subjects under a plan of supervision for the State to be set up by the State board, with the approval of the Federal Board for Vocational Education. That in order to receive the benefits of such appropriation for the salaries of teachers, supervisors, or directors of agricultural subjects the State board of any State shall provide in its plan for agricultural education that such education shall be that which is under public supervision or control; that the controlling purpose of such education shall be to fit for useful employment; that such education shall be of less than college grade and be designed to meet the needs of persons over fourteen years of age who have entered upon or who are preparing to enter upon the work of the farm or of the farm home; that the State or local community, or both, shall provide the necessary plant and equipment determined upon by the State board, with the approval of the Federal Board for Vocational Education, as the minimum requirement for such education in schools and classes in the State; that the amount expended for the maintenance of such education in any school or class receiving the benefit of such appropriation shall be not less than the amount fixed by the State board, with the approval of the Federal board as the minimum for such schools or classes in the State; that such schools shall provide for directed or supervised practice in agriculture, either on a farm provided for by the school or other farm, for at least six months per year; that the teachers, supervisors, or directors of agricultural subjects shall have at least the minimum qualifications determined for the State by the State board, with the approval of the Federal Board for Vocational Education.

SEC. 11. That in order to receive the benefits of the appropriation for the salaries of teachers of trade, home economics, and industrial subjects the State board of any State shall provide in its plan for trade, home economics, and industrial education that such education shall be given in schools or classes under public supervision or control; that the controlling purpose of such education shall be to fit for useful employment; that such education shall be of less than college grade and shall be designed to meet the

needs of persons over fourteen years of age who are preparing for a trade or industrial pursuit or who have entered upon the work of a trade or industrial pursuit; that the State or local community, or both, shall provide the necessary plant and equipment determined upon by the State board, with the approval of the Federal Board for Vocational Education, as the minimum requirement in such State for education for any given trade or industrial pursuit; that the total amount expended for the maintenance of such education in any school or class receiving the benefit of such appropriation shall be not less annually than the amount fixed by the State board, with the approval of the Federal board, as the minimum for such schools or classes in the State; that such schools or classes giving instruction to persons who have not entered upon employment shall require that at least half of the time of such instruction be given to practical work on a useful or productive basis, such instruction to extend over not less than nine months per year and not less than thirty hours per week; that at least one-third of the sum appropriated to any State for the salaries of teachers of trade, home economics, and industrial subjects shall, if expended, be applied to part-time schools or classes for workers over fourteen years of age who have entered upon employment, and such subjects in a part-time school or class may mean any subject given to enlarge the civic or vocational intelligence of such workers over fourteen and less than eighteen years of age; that such part-time schools or classes shall provide for not less than one hundred and forty-four hours of class room instruction per year; that evening industrial schools shall fix the age of sixteen years as a minimum entrance requirement and shall confine instruction to that which is supplemental to the daily employment; that the teachers of any trade or industrial subject in any State shall have at least the minimum qualifications for teachers of such subjects determined upon for such State by the State board, with the approval of the Federal Board for Vocational Education; PROVIDED, That for cities and towns of less than twenty-five thousand population, according to the last preceding United States census, the State board, with the approval of the Federal Board for Vocational Education, may modify the conditions as to the length of course and hours of instruction per week for schools and classes giving instruction to those who have not entered upon employment, in order to meet the particular needs of such cities and towns.



SEC. 12. That in order for any State to receive the benefits of the appropriation in this Act for the training of teachers, supervisors, or directors of agricultural subjects, or of teachers of trade, industrial or home economics subjects, the State board of such State shall provide in its plan for such training that the same shall be carried out under the supervision of the State board; that such training shall be given in schools or classes under public supervision or control; that such training shall be given only to persons who have had adequate vocational experience or contact in the line of work for which they are preparing themselves as teachers, supervisors, or directors, or who are acquiring such experience or contact as a part of their training; and that the State board, with the approval of the Federal board, shall establish minimum requirements for such experience or contact for teachers, supervisors, or directors of agricultural subjects and for teachers of trade, industrial, and home economics subjects; that not more than sixty per centum nor less than twenty per centum of the money appropriated under this Act for the training of teachers of vocational subjects to any State for any year shall be expended for any of the following purposes: For the preparation of teachers, supervisors, or directors of agricultural subjects, or the preparation of teachers of trade and industrial subjects, or the preparation of teachers of home economics subjects.

SEC. 13. That in order to secure the benefits of the appropriations for the salaries of teachers, supervisors, or directors of agricultural subjects, or for the training of teachers as herein provided, any State shall, through the legislative authority thereof, appoint as custodian for said appropriations its State treasurer, who shall receive and provide for the proper custody and disbursements of all money paid to the State from said appropriations.

SEC. 14. That the Federal Board for Vocational Education shall annually ascertain whether the several States are using, or are prepared to use, the money received by them in accordance with the provisions of this Act. On or before the first day of January of each year the Federal Board for Vocational Education shall certify to the Secretary of the Treasury each State which has accepted the provisions of this Act and complied therewith, certifying the amounts which each State is entitled to receive under the provisions of the Act. Upon such certification the Secretary of the Treasury shall pay quarterly to the custodian for vocational education of each State the moneys to which it is entitled under the provisions of this Act. The moneys so received by the custodian for vocational education for any State shall be paid out on the

requisition of the State board as reimbursement for expenditures already incurred to such schools as are approved by said State board and are entitled to receive such moneys under the provisions of this Act.

SEC. 15. That whenever any portion of the fund annually allotted to any State has not been expended for the purpose provided for in this Act, a sum equal to such portion shall be deducted by the Federal board from the next succeeding annual allotment from such fund to such State.

SEC. 16. That the Federal Board for Vocational Education may withhold the allotment of moneys to any State whenever it shall be determined that such moneys are not being expended for the purposes and under the conditions of this Act.

If any allotment is withheld from any State, the State board of such State may appeal to the Congress of the United States, and if the Congress shall not direct such sum to be paid it shall be covered into the treasury.

SEC. 17. That if any portion of the moneys received by the custodian for vocational education of any State under this Act, for any given purpose named in this Act, shall, by any action or contingency, be diminished or lost, it shall be replaced by such State, and until so replaced, no subsequent appropriation for such education shall be paid to such State. No portion of any moneys appropriated under this Act for the benefit of the States shall be applied, directly or indirectly, to the purchase, erection, preservation, or repair of any building or buildings or equipment, or for the purchase or rental of lands, or for the support of any religious or privately owned or conducted school or college.

SEC. 18. That the Federal Board for Vocational Education shall make an annual report to Congress, on or before December first, on the administration of this Act and shall include in such report the reports made by the State boards on the administration of this Act by each State and the expenditure of the money allotted to each State.

Approved, February 23, 1917.

STATUTES AND AMENDMENTS TO THE CODES.

Chapter 720. (297, 1916/17)

An act to accept the provisions and benefits of an act passed by the Senate and House of Representatives of the United States of America in Congress assembled and approved February twenty-third, Nineteen Hundred Seventeen, to provide for the promotion of Vocational Education; to create a Vocational Education fund and making an appropriation therefor.

(Approved May 31, 1917. In effect, July 30, 1917.)

The people of the state of California do enact as follows:

Section 1: The people of the state of California do hereby accept the provisions of, and each and all of the funds provided by, an act passed by the Senate and House of Representatives entitled, "An act to provide for the promotion of Vocational Education; to provide for co-operation with states in the promotion of such education in agriculture and the trades and industries; to provide for co-operation with the states in the preparation of teachers of Vocational subjects; and to appropriate money and regulate its expenditure," and approved by the president, February twenty-third, Nineteen Hundred Seventeen. In accepting the benefits of said act, the people of the state of California

agree to comply with all of its provisions and observe all of its requirements.

Section 2: The state board of education is hereby designated as the state board to carry out the purposes and the provisions of said act, and is hereby given all necessary power and authority to co-operate with the federal act and of this act.

Section 3: The state treasurer as required by said federal act, is hereby made custodian of all the funds received by the state of California under the provisions of that act. He is also hereby made custodian of all state funds appropriated in this act for the purpose of co-operating with the Federal government in the promotion of Vocational Education. He is hereby authorized to receive and provide for the proper custody of all moneys provided under the provisions of this act, and the above mentioned Federal act. It shall be the duty of the state treasurer upon receiving any apportionment of funds from the Federal government on account of the Vocational Education fund, to report the same immediately, with the amount thereof to the state controller and the state board of Education and deposit the same to the credit of the "vocational education fund," which is hereby created. Thereupon, the state controller and the state treasurer shall transfer from the general fund of the state to the Vocational Education fund

an amount which shall equal the federal act mentioned in this act. The moneys so transferred into the Vocational Education fund and hereby appropriated without reference to the fiscal years for the purpose of co-operating with the Federal government in promoting Vocational Education in this state and are exempt from the provisions of part three, title one, chapter three, article eighteen of the Political Code, relating to the state board of control. The moneys constituting the Vocational Education fund shall be paid out by the state treasurer on warrants drawn by the controller as requisitioned by the state board of Education in carrying out the provisions of this act, the Federal act and the rules and regulations of said state board established as required by said acts.

APPENDIX F

KENTUCKY COOPERATIVE AGREEMENT

April 18, 2005

## RELATIONS PERTAINING TO AGRICULTURAL EDUCATION AND AGRICULTURAL EXTENSION IN KENTUCKY

The laws providing for the establishment and maintenance of Cooperative Extension work and the establishment and maintenance of agricultural education have as one of their common objectives the greatest possible service to all people. The officials in charge of carrying out the purposes of the above laws are concerned that there be developed and maintained among the personnel of each agency a spirit of cooperation and helpful relationships.

In order to cooperate effectively, avoid duplication, and render the maximum service, personnel in extension and agricultural education should be aware of common characteristics and differences in the two programs

Some common characteristics in both programs are:

1. Designed to serve people through educational programs.
2. Financed with local, state, and federal funds.
3. Personnel in Extension and agricultural education have similar goals in leadership development

Some differences in the programs are:

1. The Extension program is administered through the Cooperative Extension Service of the University of Kentucky College of Agriculture, through county Extension personnel cooperating with local groups.
2. Agricultural Education is administered by local boards of education in cooperation with the state office, Agricultural Education, Division of Career and Technical Education, Department of Education.
3. Extension is designed to serve large numbers of people through the cooperation volunteer leaders with relatively few professional workers.
4. Agricultural Education is designed to serve both youth and adults enrolled in organized classes by providing systematic instruction and supervising the practices of the class members in the patronage area of the school.
5. Extension is the United States Department of Agriculture on the national level, University of Kentucky College of Agriculture on the state level, and cooperates with county fiscal courts and other local cooperating bodies.
6. Agricultural Education is in the United States Department of Education on the national level, State Department of Education on the state level, and boards of education on the local level.

April 18, 2005

Both are similar and the different characteristics of Cooperative Extension and Agricultural Education must be recognized and used effectively in the educational program of each organization.

The following policies of operation have been adopted by the state administration of the Extension Service and Agricultural Education, Division of Career and Technical Education.

1. Agricultural Education Teachers are to expect and receive from the County Extension Agents for 4-H helpful cooperation in promoting their program of Agricultural Education.
2. County Extension Agents for 4-H are to expect and receive from the Agricultural Education Teachers helpful cooperation in the promotion of the Extension program in their respective counties.
3. County Extension Agents for 4-H are encouraged to involve Agricultural Education Teachers to help formulate a county program for agriculture.
4. County Extension Agents and teachers of Agricultural Education are to cooperate in releasing news items, in which both agencies are involved, each giving credit where credit is due.
5. An individual may be a member of 4-H and FFA while enrolled in agricultural education; however, the individuals may not exhibit or submit any of the products, etc. of their project or enterprise in both organizations during the same year. Example: A member may not exhibit corn in FFA and 4-H simultaneously however they may submit records on a corn project in both organizations in the same year.
6. An individual may participate in the same 4-H or FFA contest provided the contest is not being conducted on the same day or in connection with the same event (i.e. State Fair or similar event).

To further aid in carrying out the aforementioned policies and to assist in bringing about closer cooperation between Extension Agents for 4-H and Agricultural Education Teachers, we call to your attention the following recommendations. These items will be helpful in developing greater uniformity in 4-H and FFA events and are in keeping with the procedures followed so successfully in 4-H and FFA shows.

Agricultural Education Teachers and Extension Agents will need to use their leadership in working with lay groups in bringing about changes needed to carry out these recommendations.

1. In planning and conducting livestock shows, the Danish system of judging should be used.

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2. Ownership of registered animals should be promoted on county and district level.
3. Grade animals should be permitted to show against registered animals in local and district shows. The exception to this is the district beef heifer shows.
4. Premium money under the Danish system should be the same for each 4-H and FFA member in comparable local, district, and state livestock shows.
5. Certification of ownership for grade and registered animals in local shows and fairs should be the same as is required for district and state shows.

Cooperation and mutual help should be die objective in all Agricultural Education and Extension relationships. This means that representatives of each organization will go beyond the letter of die law to be helpful and cooperative. Both lines of work are operated or conducted for the benefit of all people. Representatives of each group, Agricultural Education and Cooperative Extension, should use every opportunity to promote in all practical ways the work of the other. With this spirit animating both forces, good feeling will prevail and will result in the maximum accomplished in both educational programs.

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The original Relationship Agreement was developed and approved November 12, 1963, by the following committee members:

Agricultural Education

Robert L. Kelley, Frankfort  
William Judge, Frankfort  
James Owensby, Austin-Tracy HS, Lucas  
Ralph Estes, Memorial HS, Waynesburg

Agricultural Extension

Dr. Ray Ranta, Lexington  
Conrad Feltner, Lexington  
Leroy Travis, Alien County  
George Herbst, Owen County

Updated November 5, 1980, by the following committee members:

Delmer L. Dalton, Frankfort  
Rodney Kelly, Frankfort  
John Crowder, Nicholasville

Coleman White, Lexington  
Mark Reese, Lexington  
Ron Arnett, Carter County

Updated July 20, 1988, by die following committee members:

Rodney Kelly, Frankfort  
Delmer L. Dalton, Frankfort  
Coleman White, Lexington  
Monty Chappell, Lexington

Dennis Goodman, Lexington  
Dwight Crum, Lexington  
Roger Rennekamp, Lexington

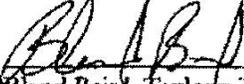
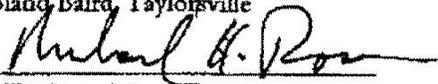
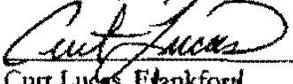
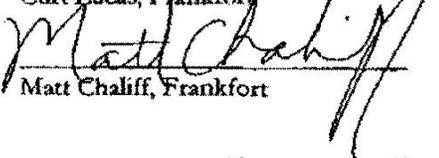
April 18, 2005

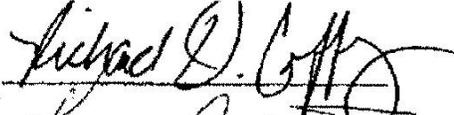
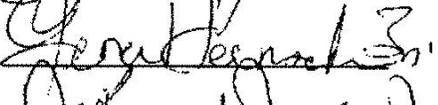
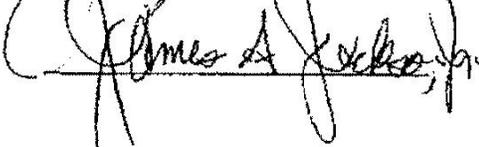
Revised April 1, 1993, by the following committee members:

Delmer L. Dalton, Frankfort  
Bruce Metzger, Frankfort  
Bill Turpin, Madison Central  
Curt Lucas, Frankfort

Bill Umscheid, Lexington  
Monty Chappell, Lexington  
Dwight Crum, Lexington

Revised April 18, 2005, by the following committee members:

  
Bland Baird, Taylorsville  
  
Mike Ross, Maysville  
  
Curt Lucas, Frankfort  
  
Matt Chaliff, Frankfort

  
Richard D. Coffey  
  
Don Culp  
  
Gerard Henschel, Sr.  
  
James A. Jackson, Jr.

APPENDIX G

OKLAHOMA COOPERATIVE AGREEMENT

## Joint Agreement Between Vocational Agriculture

and

## Extension Service

It has been agreed as follows:

1. That at the next enrollment of club members, it is understood between the Extension Service of the Oklahoma Agricultural and Mechanical College and the State Department of Vocational Education, that two different groups will be organized, as follows: One group shall consist of all boys and girls in the State of Oklahoma between the ages of 10 and 21 years, who desire to enroll in 4-H Club work and who are not regularly enrolled as vocational students in a vocational school; and in the second group shall be enrolled in every community where there is a vocational teacher with regularly established vocational courses in agriculture, a group shall be called by a different name than the 4-H Club work, and shall be entirely under supervision of the Smith-Hughes teacher in that community. The 4-H Club work shall be under the supervision of the county agents and their locally appointed leaders, as heretofore provided.

Both divisions are asking the personnel in the field to unite in the harmonious instruction of both groups, and the harmonious operation of both groups. This means that we will have separate contests and separate management as to these two types of organizations, except as otherwise specifically agreed.

2. Both of these forces recognize that a boy or girl in the community from the age of 10 to 14 may and should unite with the 4-H Club work in the community or county, and receive 4 years' training, and that they may and should unite with the vocational school if such is organized in the school in their community after they become 14 years of age and receive such instruction as the vocational school has to offer during the time of their being a member of such school.

3. Students who are not now members of vocational schools, but who have taken courses in such schools, must be recognized and taken care of in the same way. It is agreed that as to such persons, instruction of them, unless they are actually enrolled in regular vocational school classes, is Extension work.

A student who has been enrolled in regular vocational classes, but who is no longer enrolled, shall have the privilege of deciding for himself whether he will enroll in 4-H Club work or join the Vocational Club (F.F.A.) in his community, but shall participate only in the organization which he chooses, and shall not be eligible to participate in exhibits or contests of the other club at the same time.



Where there is no vocational work in the community where a boy is located who has in time gone by been enrolled in vocational classes, or where the vocational work has been discontinued in his community, such a boy should be enrolled in 4-H Club work in his county, if he is under 21 years of age.

4. In the operation of these dual groups, the Vocational forces will be entirely in charge of their own pupils, while the 4-H Club work will be entirely in the charge of the Extension Service of the college. However, the Extension Service offers and stands ready and willing to help in every possible way, and to render service with subject matter specialists to vocational teachers as well as to county agents, insofar as arrangements and time will possibly permit.

5. To the end that there may be good understanding and harmony between the two forces, teachers of vocational education will be invited by the Extension workers to sit in on the making of the county agricultural program in every county where there is a vocational school. Where the Extension work holds meetings within a community where there is a vocational school and a vocational teacher, care shall be taken to invite the teacher if possible to participate in the meeting. Where short-time night schools have vocational teachers, the county agent will also be invited to speak during the progress of the meetings and participate if possible in the instruction.

Where there is a demand for night classes or special courses to be given in a community, the county agent will ask the vocational workers to take the matter up and conduct such night schools or short-time courses.

6. It is understood between the two forces that vocational teachers will not only feel free but will be instructed to ask when necessary for help from the college in its various divisions, and from the Extension Division especially in the answering of technical questions involving the need of specialists.

7. That wherever certain lines of research work seem necessary to be taken up, which involve the ascertaining of facts of a broad nature effecting the agriculture or the agricultural economics of the community or section, it is agreed that they will be taken up in cooperation with the State Experiment Station, so that general research work in agriculture may be thoroughly correlated, and done under the general supervision of the Experiment Station.

8. The A. and M. College will continue to offer such short courses and teacher training courses for vocational teachers of agriculture as may seem desirable to facilitate the effort of the vocational forces in improving the work in vocational education.

9. That for the promotion of good understanding of this agreement, wherever deemed necessary or advisable, the Director of Extension, district agents or other representatives of the Extension Division will hold meetings with the county agent and the proper representatives of the State Department of Vocational Education and Smith-Hughes teachers in a county.

10. That in all of the cooperation the two forces are going to try to keep a good distinction between the vocational work of the schools, which properly belongs to them, and the Extension work for

all boys and girls and adults who are not enlisted in the vocational schools, which lies within the proper function of the Extension Division.

Those who have signed this letter are very happy to make this announcement and particularly to say that it has been brought about with the utmost of harmony and good feeling, and that the details are of the most friendly understanding.

Signed: September 19, 1927

/s/ Chas. W. Briles

CHAS. W. BRILES, State Director Vocational Education

/s/ Bradford Knapp

BRADFORD KNAPP, President Oklahoma Agricultural and Mechanical College

/s/ D. P. Trent

D. P. TRENT, Director Agricultural Extension Service

/s/ E. B. Nelms

E. B. NELMS, State Supervisor Vocational Agricultural Education

APPENDIX H

TENNESSEE COOPERATIVE AGREEMENT

STATE DEPARTMENT OF EDUCATION  
DIVISION OF VOCATIONAL EDUCATION  
NASHVILLE, TENNESSEE.

March 9, 1939

To Teachers of Agriculture and Home Economics:

Attached to this letter is a memorandum of cooperation between the Agricultural Extension Service and the Division of Vocational Education in Tennessee.

I want you to study it very carefully and be sure that you understand its provisions.

I believe, Sections 1, 2, and 3 are clear enough with very little explanation. Section 2 includes students enrolled in day unit, part-time and all day classes. Section 4 means simply that new students coming into our classes in the fall, or at the opening of school, will be assisted by us in completing the projects they started in the spring under the County or Home Demonstration Agent, and that the records will be turned over to the Club Leader. After the completion of that project, or that year's cycle, it is definitely agreed that all subsequent practice programs or projects are to be the responsibility of the Vocational Teacher.

In Section 5, it should be borne in mind that "community" means the normal service area of the teacher of Agriculture or Home Economics.

We will continue to organize our out-of-school groups as in the past and nothing in this section is to be interpreted as eliminating these organizations.

As set forth in Section 6, we do not propose to organize out-of-school groups except on a community basis and built around the membership of the classes, and we will cooperate in any effective county-wide educational organization which may be set up by the Agricultural Extension Service.

Very truly yours,

/s/

G. E. Freeman  
Director, Vocational Education

GEF/f

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MEMORANDUM OF COOPERATION BETWEEN THE AGRICULTURAL  
EXTENSION SERVICE AND THE STATE DEPARTMENT OF  
VOCATIONAL EDUCATION, WITH BOYS AND GIRLS  
ENROLLED IN 4-H CLUBS AND BOYS AND GIRLS  
IN HIGH SCHOOL VOCATIONAL DEPARTMENTS

Every opportunity possible should be given all rural boys and girls to have the advantage of the educational work in Agriculture and Home Economics available from the Vocational Division of the State Department of Education and the Agricultural Extension Service of the University of Tennessee and the United States Department of Agriculture. These educational facilities are to aid rural boys and girls in becoming better farmers and home makers, and more useful and constructive citizens. There is a big field of educational activity here, which is far greater than either agency has the facilities to meet. Therefore, with the viewpoint of avoiding any duplication of work, and doing the most effective and constructive work with the greatest number of boys and girls; and, further, from the viewpoint of each line of work supplementing the other, the following relationships are subscribed to by the Division of Vocational Teachers and County Agricultural Agents and Home Demonstration Agents in the several counties of the State of Tennessee.

1. Inasmuch as Vocational Work in Agriculture and Home Economics is systematic instruction much more intensive than can be offered in 4-H Club Work, all 4-H Club boys and girls will be encouraged to enroll in Vocational courses when they enter high school.
2. The Agricultural Extension Service will not solicit students in Vocational Agriculture or Home Economics for 4-H Club Work. Boys and girls who insist on continuing in club work after they have enrolled in Vocational Agriculture or Home Economics will be accepted, but the average youth can accomplish more by concentrating his, or her time and effort on only one of the organizations. County Agents and Home Demonstration Agents will advise boys and girls to discontinue Club Work while they are enrolled as Vocational students.
3. The Agricultural Extension Service will not organize or conduct 4-H Clubs for non-vocational students in High Schools where Agricultural or Home Economics Teachers are employed except on request from school principals.
4. 4-H Clubs are organized early in the calendar year, or at the end of the calendar year, while new students for Agriculture and Home Economics classes are



enrolled just prior to the opening of school in the fall. Club members, who enroll in Vocational Courses in Agriculture and Home Economics, will be encouraged by the Vocational teachers to complete 4-H Club projects for that year, exhibit at fairs and club shows, and submit reports, but will be advised to discontinue club work at the close of that year and until they complete their Vocational training.

5. The Division of Vocational Education will conduct local classes for the out-of-school older youth, but no organization will be set up for this group other than the class in the community and Future Farmer and Home Economics organizations that have already been established in the community.
6. The Agricultural Extension Service will conduct programs for older young men and women, the ages to be approximately 19 to 25. These clubs will be county wide and perhaps district or State wide, but no club will be organized in an area smaller than the county, and systematic instruction will not be undertaken. Members of the part-time Vocational classes are eligible to membership in these clubs. This plan will permit both the Agricultural Extension Service and the State Vocational Department to work cooperatively with the older youth, but will prevent duplication of effort as the teachers will conduct local classes and the county agents will conduct county-wide clubs.

Date: 1/22/39                      /s/ G. E. Freeman  
Director, Vocational Education

Date: 1/22/39                      /s/ C. E. Brehm  
Director, Agricultural Extension  
Service.

2321 West End Avenue  
Nashville, Tennessee  
March 2, 1939

TO ALL COUNTY AND HOME DEMONSTRATION AGENTS

Dear Agent:

Please refer to my letter of February 21 addressed to all county and home demonstration agents, and to which is attached memorandum of cooperation between the Agricultural Extension Service and the State Department of Vocational Education, with boys and girls enrolled in 4-H Clubs and boys and girls in High School Vocational Departments.

Concerning paragraph 4 of my letter, I have been reminded that the State Department of Vocational Education is very definitely a part of the public school system of the state, and is required to conduct day-unit classes at the request of county boards of education, but the State Department of Education is not definitely pushing it. In cases where such classes are conducted, however, it is understood that enrollees in these classes will not be solicited for 4-H Club membership. This is adequately covered in Section 2 of the memorandum, and it relates to day-unit, all-day and part-time classes except as otherwise provided for part-time students.

In paragraph 5 of my letter dated February 21, I made the statement "the State Department of Vocational Education, as well as the Extension Service, may work with older youth . . . but no organization will be extended beyond the local community in which the vocational department is located."

This should be interpreted to mean that vocational teachers may conduct several part-time classes with older youth, and that they are usually held in outlying communities, but within the normal service area of the teacher.

Day-unit and part-time students are both eligible for membership in the F.F.A. and chapters may be organized around any of these classes. However, membership in the F.F.A. is restricted exclusively to those who are enrollees in day-unit or part-time classes.

Yours very truly

C. E. Brehm, Director

Cooperative Extension Work  
Agriculture and Home Economics  
State of Tennessee

CEB:M

STATE DEPARTMENT OF EDUCATION  
DIVISION OF VOCATIONAL EDUCATION  
202 War Memorial Building  
Nashville 3, Tennessee

March 9, 1949

Mr. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Dear Sir:

I have taken sometime in replying to your letter as in my answer I am doing rather more than simply replying to a letter which you addressed jointly to me and to Mr. Brehm, President of the University of Tennessee.

Vocational Education in Agriculture, or any other type of Vocational Training, is carried on by a qualified instructor employed by a County Board of Education to work as a teacher in one or more of its schools.

The Federal Law providing for this type of education provided that it be administered in the manner indicated above and that the training offered in Agriculture by Agriculture Teachers is to cover all phases of farming carried on in the community in which it is taught and/or by those enrolled in Vocational Agriculture classes, and all phases of the farming program is to be interpreted as the production of crops and livestock, the conservation of soil, farm management, farm finances, accounting, etc., and further provides that the instruction shall consist both of instruction in classroom and actual participation in all of these activities on the student's home farm under the supervision of the instructor so as to insure that both instruction and practices shall be correlated and be applied to the individual's needs. Since this is true the Vocational Agricultural teacher is limited in his supervisory activities and in the enrollment of individuals in any organization to those actually enrolled in his classes.

The above clearly indicates that Vocational Training in Agriculture is definitely and squarely in the school and is entirely a school activity. The same applies to home economics.

The Vocational Agriculture teacher has no boys to work with other than those in his classes and they are high school or junior high school students, and do not affect more than five to ten per cent of the youth in Tennessee eligible for membership either in the "Future Farmer" organization or 4-H Club work. All other farm youth not enrolled in these classes are, therefore, the exclusive responsibility of 4-H Club leaders.

The "Future Farmers of America," to which you referred in your letter, is a voluntary organization of students of Vocational Agriculture, and to be eligible for membership a boy must be enrolled in a class in Vocational Agriculture under an approved instructor and be carrying on a supervised farming program in line with the above.

Not all boys enrolled in Vocational Agriculture are members of the Future Farmer organization since they may elect to become members or not as they choose. They do not automatically become members of the F.F.A. organization by virtue of the fact that they are enrolled in Vocational Agriculture classes. What has been said with reference to Vocational Agriculture students applies in full to students of home economics.

The Agricultural Extension Service, on the other hand, is not authorized under law to conduct organized instructional programs in public schools or elsewhere. Its workers are not employees of the County Board of Education and it is not, therefore, a school activity.

The original Vocational Education Act and subsequent congressional authorizations permit the organization of classes in Vocational Training, both at the high school and elementary school level, but more recently, as you will observe below, we have not been organizing classes for students in the elementary grades.

I have always felt that membership in 4-H Clubs is highly desirable for all farm youth prior to their entrance into an intensive training program such as is provided through Vocational Agriculture and Home Economics in high schools, but I do not feel that Vocational Training in high schools is merely a continuation of a program which is non-school and conducted by voluntary leaders, meeting about twelve times a year.

In his seven hours class work each week under an Agricultural Teacher, a farm boy receives training and supervision in one week's time which is almost the equivalent of the instruction he would receive under a voluntary 4-H Club leader, meeting once a month, in an entire year.

It is obvious too that the instruction and supervision provided by the Vocational Agricultural teacher is much more intensive than is available through any other agency since the total enrollment in Vocational Agriculture classes in Tennessee is approximately 15,000, and practically the same number of Agricultural Extension workers enrolled last year 113,000 4-H Club members. The average number of students per Vocational Agriculture teacher in Tennessee is sixty (60). A boy enrolled in Vocational Agriculture, therefore, and carrying a project under 4-H Club leader would of necessity be receiving instruction and supervision for the project he has under the 4-H Club leader from his Agriculture teacher.

On January 22, 1939, an agreement was reached with reference to the relationships between Vocational Agriculture and 4-H Club work and signed by me, as Director of Vocational Education, and by the then Director of

Agricultural Extension Service. Among other things it provided that the Agriculture teacher would encourage and assist all boys coming into his classes with 4-H Club projects to complete those projects and turn the records over to the 4-H Club leader or County Agent. It was further agreed that county 4-H Club leaders would not solicit Vocational Agriculture students or Future Farmers for membership in 4-H Clubs and while it is not expressly set out in the agreement signed, we in Vocational Education agreed not to organize classes in elementary schools or grades, leaving those students entirely to the Extension Workers.

This agreement further provided that 4-H Clubs were not to be organized in schools having vocational departments, except at the request of the principal of that school.

This agreement was in conformity with an agreement entered into in Washington on December 20, 1928, the latter having been signed by the Director of Extension in the United States Department of Agriculture, the then United States Secretary of Agriculture and the Chairman of the Federal Board for Vocational Education. I should like to call your attention to two items which appeared in this December 1928 agreement signed by these agencies -

- "1. In counties having Vocational Agriculture Departments or Schools, it is recommended that the Cooperative Agricultural Extension Service do not enroll students of Vocational Agriculture for 4-H Club Work."
- "2. Care should be taken to see that work which is supported by Federal funds under any of the aforementioned acts (Vocational and Extension) will not in any way duplicate or overlap work being carried on in that same community when that work is supported in part from another Federal fund."

If the agreement entered into in Washington by the National Heads of the Agricultural Extension Service and by Vocational Education has been rescinded, I have not been so advised.

On February 25, 1948, I did receive a letter from the Director of Agricultural Extension Service in Tennessee in which he stated that the agreement, which had been entered into in Tennessee in January 1939, had served its purpose well and had been the basis of a very fine cooperative relationship between the Agricultural Extension Service and the State Board for Vocational Education in giving farm boys and girls education in Agriculture and Home Economics enrolled in high school Vocational Departments and in 4-H Clubs. He further advised that he was terminating the agreement and notifying all Extension personnel due to the fact that there had been great progress in both lines during the eleven years that the agreement had been in effect.

As Director of Vocational Education, I have never notified the Vocational teachers in this State that the agreement is no longer in effect and we are still adhering to it as originally agreed.

It seems to me that the solution to the problem, which you present, is very simple if the welfare of the boy or girl only is considered. The projects which he carries under a 4-H Club leader are that boy's projects, the animals and crops are his, and do not belong to any particular agency. Likewise, the farming program which he carries on under the instruction and supervision of his Vocational teacher is also his and if this is kept in mind and the objectives of both agencies to better equip youth to meet the problems which he will face in the future as a farm operator are made paramount, it should be relatively easy to determine under certain situations which agency is in position to render the most effective service. I assure you that is my sincere wish.

Very truly yours,

(signed) G. E. Freeman

G. E. Freeman  
State Director, Vocational  
Education



MEMORANDUM OF AGREEMENT BETWEEN THE STATE DEPARTMENT  
OF EDUCATION, DIVISION OF VOCATIONAL EDUCATION,  
AND THE UNIVERSITY OF TENNESSEE AGRICULTURAL  
EXTENSION SERVICE ENTERED INTO ON THE 23<sup>rd</sup>  
DAY OF APRIL 1957 IN NASHVILLE, TENN.

The passage of time and pressure of activities in our rapidly moving society often makes us lose sight of the primary objective of many of our programs, thus a lack of understanding and appreciation develops. This memorandum is created to re-emphasize that the primary purpose of high school vocational work, FFA, FHA, and 4-H Club activities is to offer farm boys and girls the maximum educational opportunity to develop their capabilities and become better farmers and homemakers and more useful citizens. The field of activity and the need for such educational opportunities is much greater than either agency or youth organization has the facilities to fully meet. In the interest of accomplishing the most good for the greatest number of boys and girls of Tennessee, of making the efforts of each agency and each organization as useful and constructive as possible, and to help the activities of each to supplement the other, the following policy is agreed upon and set forth:

That representatives of the Agricultural Extension Service shall not discourage any boy or girl from enrolling and participating in vocational agriculture or vocational home economics and FFA or FHA organizations. Likewise that Vocational Education personnel shall not discourage any boy or girl from enrolling and participating in 4-H Club work. That single or joint enrollment, participation, and organizational membership is a decision that shall be made by each boy or girl concerned and that he or she shall have complete freedom in making the decision.

That only 4-H Club projects under the supervision of Extension representatives may be used in 4-H Club competition, awards or recognition programs. Likewise that only programs and activities under the supervision of Vocational personnel may be used in FFA or FHA competition, awards or recognition programs.

To obtain the broadest understanding of this policy statement, each organization or agency involved shall make every effort to familiarize all affected personnel and the rural people of Tennessee as to its intent, purpose and scope.

UNIVERSITY OF TENNESSEE  
AGRICULTURAL EXTENSION SERVICE

/s/ C. E. Brehm  
President

/s/ Webster Pendergrass  
Dean

/s/ V. W. Darter  
Director

STATE DEPARTMENT OF EDUCATION  
DIVISION OF VOCATIONAL EDUCATION

/s/ Guill E. Cope  
Commissioner

/s/ G. E. Freeman  
Director

APPENDIX I

WASHINGTON COOPERATIVE AGREEMENT

MEMORANDUM OF UNDERSTANDING

1995

AGRICULTURE EDUCATION  
WASHINGTON FFA ASSOCIATION

and

WSU COOPERATIVE EXTENSION  
4-H YOUTH DEVELOPMENT PROGRAM  
for Yakima County

concerning

4-HAND FFA PROGRAM OPERATION IN WASHINGTON STATE

Agriculture Education/FFA and the 4-H Youth Development Programs in Washington State exist to promote the maximum, personal development of participants. To achieve this and avoid program duplication, guiding principles must be understood and used by all professional leaders. We recommend that the following principles be used in carrying out the two programs in Washington State's 39 counties.

1. Agriculture Education teachers should encourage students to enroll and re-enroll in the 4-H program.
2. County extension agents and adult volunteer leaders should encourage members to enroll in Agriculture Education classes available in local secondary schools and to become members of the Washington FFA Association.
3. A member may participate in all judging or bowl division activities in FFA and 4-H unless contests are held simultaneous. Then the member must choose one.
4. Youth who are enrolled in both 4-H and FFA will not carry or exhibit the same enterprise or project during the same program year (October 1--September 30). Different enterprises and projects will be defined as specifically as possible. Yakima County 4-H Leaders Council has defined project as the following.

*These are examples of different enterprises or projects: beef breeding, beef marketing, sheep breeding, sheep marketing, swine breeding, swine marketing, production dairy cow, dairy heifer and calf, poultry breeding, poultry marketing, horse breeding and production, horse performance, vegetable gardening, container gardening, home horticulture, etc. Refer to the appropriate names of enterprises or projects used by both organizations.*

Taken from minutes of the Yakima County 4-H Leader Council "definition" of project October 28, 1995 and the 1994 Memorandum of Understanding between 4-H and FFA.

5. Members cannot exhibit the same project or individual animal in both FFA and 4-H divisions during one program year. Project records that inventory project or enterprise must accompany each article or animal when it is entered at an exhibit or fair.
6. Publicity should reflect the total contributions of both organizations.

7. For the benefit of both 4-H and FFA, separate divisions should be provided in all fairs in the state to eliminate competition between the members of the two organizations. Champions representing the two organizations will not compete against each other.

However, when a situation in a particular fair or show indicates that the creation of a youth division (without 4-H or FFA identification) is desirable, a single division may be organized with the agreement of the local agriculture teacher and FFA advisor, the county extension agents, show management and state leaders in 4-H and FFA. Local fairs or shows may set up special rules and regulations to manage that event. However, these must be in accordance with this memorandum.

8. Other Cooperative Extension programs, such as summer training programs, can be jointly planned and administered by representatives of FFA and 4-H. When practical, youths from 4-H and FFA shall be encouraged to work together in their home communities. In these cases, FFA and 4-H should both receive proper recognition.
9. Cooperative Extension of Washington State University; the Office of Superintendent of Public Instruction, Special Services and Vocational Education; Agriculture Education; and Washington State FFA as the "approving agents" for your shows and fairs (15.76.120 (4) RCW) will inform each other in advance of basic changes contemplated for the specific youth fairs and shows for which each has the contracted responsibility; each approving agency will co-sign contacts on youth shows where both FFA and 4-H are involved. Administration of funds for the Marysville Junior Livestock Show, Washington Junior Poultry Exposition, Northwest Junior Livestock Show, Toppenish Livestock Show, Washington Spring Fair, and Washington State FFA Exhibition will remain with the Washington Association of FFA. Washington State University will continue as administrator of funds for Spokane Junior Livestock Show, Eastern Washington Junior Lamb Carcass Show, and Enumclaw Junior Dairy Show.
10. The existing agreement concerning youth shows and fairs is terminated. The provisions of that agreement of April 1962 as amended in April 1970, 1973, 1976 and 1983 are either no longer applicable or are covered by Department of Agriculture regulations.

It is recommended that district or county meetings be held with agents and vocational agriculture and natural resources teachers periodically to discuss their roles and to determine local application. Frequent contacts between the agents and teachers for mutual support and planning of leadership development programs are encouraged.

APPENDIX J

AGRICULTURE TEACHER QUESTIONNAIRE PAPER

# Cooperative Perceptions Questionnaire

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Spring 2008

AE25

Please take some time to participate in this study; it will take approximately 10-15 minutes to complete this questionnaire. Your input is very important to us, as the information you provide is very valuable.

Be assured that the responses that you provide will remain confidential. The code number listed on the front cover of the questionnaire will only be used for follow-up purposes. Only summarized data will be reported, so the identity of each individual participant will be protected.

For clarification, any reference to "county Extension agent" or "Extension agent" is in reference to the employee of the county Cooperative Extension office who you are most closely associated with.

Thank you for participating in this study.

**Part A**

**DIRECTIONS:** This section provides 2 scenarios for you to read and consider the likelihood of each response. Please consider each possible response and indicate how likely you would be to choose each response. Please indicate your response by placing a check in the corresponding box.

Scenario A

*The sale order of the Junior Livestock Auction at the county fair is under review by the fair board. The fair board has decided to review the sale order policy because the sale prices are higher at the beginning of the auction when most of the buyers are present and have the most money to spend. You know that the prices at the beginning of the sale are much higher, but it has been a long-time tradition that FFA members are first in the sale order, followed by the 4-H members. The fair board has asked for your input.*

**How likely is it that you will support each of the following options?**

1) Change the sale order and allow the 4-H members to go first.

Not Likely						Very Likely
1	2	3	4	5	6	
<input type="checkbox"/>						

2) The sale order should alternate each year, which would allow the 4-H members sell their animals first in even years and let the FFA members sell their animals first in odd years.

Not Likely						Very Likely
1	2	3	4	5	6	
<input type="checkbox"/>						

3) The sale should be integrated so that FFA and 4-H members do not sell their animals at different times. Have the sale order alternate FFA member, 4-H member, FFA member, 4-H member, and so on. This alleviates changing the sale order each year.

Not Likely						Very Likely
1	2	3	4	5	6	
<input type="checkbox"/>						

4) Keep the sale order as it has been for many years, with the FFA members selling their animals first

Not Likely						Very Likely
1	2	3	4	5	6	
<input type="checkbox"/>						

**Part A Continued:** Please consider each possible response and indicate how likely you would be to choose each response. Please indicate your response by placing a check in the corresponding box.

Scenario B

*The county Extension agent has received a donation of a nearby 20 acre farm. Prior to being donated to the County Extension Office, the farm was vacant for a year. The barn is in good condition, but it needs a coat of paint, the fences around the pasture need mending, and some of the boards on the corrals need to be replaced. The Extension agent and her 4-H members do not have the tools or equipment to repair the farm so she has approached you. Your school does have all of the necessary tools and equipment, and you have enough FFA members with the experience necessary to safely use them.*

**The decision is up to you. How likely is it that you will support each of the following options?**

1) You and your FFA members agree to help the Extension agent.

Not Likely					Very Likely
1	2	3	4	5	6
<input type="checkbox"/>					

2) You agree to loan the necessary tools and equipment to the Extension agent, but you and your FFA members are not interested in helping with the labor.

Not Likely					Very Likely
1	2	3	4	5	6
<input type="checkbox"/>					

3) You agree to help the Extension agent if she is willing to let you and your FFA members use the farm on occasion as a land lab.

Not Likely					Very Likely
1	2	3	4	5	6
<input type="checkbox"/>					

4) Suggest to the Extension agent that this would probably NOT be a good idea.

Not Likely					Very Likely
1	2	3	4	5	6
<input type="checkbox"/>					

**Part B**

**DIRECTIONS:**

The items in this section are activities which may or may not be carried out in your working relationships with a county Extension agent.

In Column 1 please check the box to indicate the frequency that you currently carry out each of the activities in your working relationship with a county Extension agent .

In Column 2 please check the box to indicate your opinion of the frequency that you would like to carry out the activity in your working relationship with a county Extension agent.

Activities	Column 1					Column 2				
	How often do you do this?					How often should you do this?				
	Never	Rarely	Occasionally	Frequently	Always	Never	Rarely	Occasionally	Frequently	Always
1) Discuss community needs pertaining to education in agriculture.	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
2) Identify common educational objectives of Extension and high school agriculture programs.	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
3) Serve as consultants to each other's advisory committees.	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
4) Coordinate efforts toward similar goals related to youth.	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
5) Share responsibility for publicity concerning educational programs in agriculture in the county.	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>

**Part B Continued** The items in this section are activities which may be carried out in your working relationship with the county Extension agent.

Activities	How often do you do this?					How often should you do this?				
	Never	Rarely	Occasionally	Frequently	Always	Never	Rarely	Occasionally	Frequently	Always
6) Exchange or forward e-mail messages which might be beneficial to the other's program.	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
7) Consult each other's special abilities and knowledge in problem situations.	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
8) Coordinate efforts for training similar competitive teams. (i.e. floriculture, meats judging, etc.)	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
9) Conduct joint demonstrations, workshops, or county field days.	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
10) Discuss space and facilities available for conducting education programs in agriculture.	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
11) Discuss fundraising activities.	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
12) Discuss advancements in instructional materials available for teaching educational programs in agriculture.	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>

**Part C**

**DIRECTIONS:**

The items in this section are factors which may be carried out in your working relationships with a county Extension agent.

In Column 1 please check the box to indicate how important each factor is in determining your working relationship with the county Extension agent .

In Column 2 please check the box to indicate how much each factor affects your working relationship with the county Extension agent .

Factors	Importance to you					Effect on relationship				
	Not at All		Some		Very Much	Very Negative	Slightly Negative	Neutral	Slightly Positive	Very Positive
	▼ 0 □	▼ 1 □	▼ 2 □	▼ 3 □	▼ 4 □	▼ 0 □	▼ 1 □	▼ 2 □	▼ 3 □	▼ 4 □
1) Personality of the Extension agent.	0 □	1 □	2 □	3 □	4 □	0 □	1 □	2 □	3 □	4 □
2) Similarity of our age.	0 □	1 □	2 □	3 □	4 □	0 □	1 □	2 □	3 □	4 □
3) Mutual respect of efforts.	0 □	1 □	2 □	3 □	4 □	0 □	1 □	2 □	3 □	4 □
4) Views passed down from county and state administrators.	0 □	1 □	2 □	3 □	4 □	0 □	1 □	2 □	3 □	4 □
5) Belief that 4-H and FFA are always in competition with each other.	0 □	1 □	2 □	3 □	4 □	0 □	1 □	2 □	3 □	4 □
6) Frequency of interaction.	0 □	1 □	2 □	3 □	4 □	0 □	1 □	2 □	3 □	4 □
7) The success of the Extension agent.	0 □	1 □	2 □	3 □	4 □	0 □	1 □	2 □	3 □	4 □

**Part D**

**DIRECTIONS:**

The items in this section are activities or factors which may influence your working relationship with the county Extension agent. Each question has two parts: the first part asks you to indicate “what is” the current situation; the second part asks you to indicate what you believe the ideal situation “should be.” Please indicate your opinion by checking the box that most closely corresponds to how important you feel the activity or factor is, or should be.

		Effect on Cooperation Between Teacher and Agent				
Activity or Factor	Situation	Not Important	Neutral	Very Important		
1) Consulting each other's special abilities and knowledge in problem situations.	what is	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	what should be	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2) Having the Extension agent be a guest presenter in a class or at an FFA meeting.	what is	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	what should be	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3) Plan events so that they are not in conflict or competing with one another.	what is	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	what should be	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4) Willingness to serve a portion or all of the county.	what is	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	what should be	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5) Coordination of efforts for training similar competitive teams, (i.e. Livestock Judging, etc.)	what is	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	what should be	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6) Similarity or difference in our age.	what is	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	what should be	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7) Similarity in program goals	what is	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	what should be	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8) Variation in total years experience.	what is	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	what should be	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Part D Continued** The items in this section are activities or factors which may or may not influence your working relationships with the county Extension agent. Each question has two parts: the first part asks you to indicate "what is" the current situation; the second part asks you to indicate what you believe the ideal situation "should be." Please indicate your opinion by checking the box that most closely corresponds to how important you feel the activity or factor is, or should be.

Activity or Factor	Situation	Effect on Cooperation Between Teacher and Agent				
		Not Important		Neutral		Very Important
9) Tenure at present location.	what is	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	what should be	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10) Compatibility of personality.	what is	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	what should be	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11) Initiative in contacting one another.	what is	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	what should be	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12) Degree of personal friendship.	what is	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	what should be	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13) Differences of program Structure (4-H & FFA).	what is	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	what should be	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Part E**

**DIRECTIONS:**

For this section please indicate your answer by filling in the blank space or checking the box which most accurately describes you.

1) What is the highest level degree you hold?

- Bachelors Degree
- Masters Degree
- Doctorate

2) How many years have you been employed as a secondary agriculture teacher?

- Less than 5 years
- 5 to 10 years
- 11 to 15 years
- 16 to 20 years
- More than 20 years

3) Have you ever been employed as an Extension faculty or staff member?

- Yes
- No

4) What is your current age?

- Under 25 years
- 25 to 30 years
- 31 to 35 years
- 36 to 40 years
- 41 to 45 years
- 46 to 50 years
- More than 50 years

5) Do you live in the county in which you work?

- Yes
- No

6) What is your gender?

- Male
- Female

7) Please indicate which youth organization(s) you were a member of during your childhood. (Please check all that apply)

- 4-H
- FFA

8) Are you aware of any written agreements in Missouri that suggest or require cooperation between secondary agriculture teachers and Extension agents?

- Yes
- No

Please use this space to make any additional comments you might want to share

Please Return To:

Billy McKim  
121 Gentry Hall  
Columbia, MO 65211

**Thank you for your participation!**

APPENDIX K

EXTENSION QUESTIONNAIRE PAPER

# Cooperative Perceptions Questionnaire

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Spring 2008

EXT2

Please take time to participate in this study; it will take approximately 10-15 minutes to complete this questionnaire. Your input is very important to us, as the information you provide is very valuable.

Be assured that the responses that you provide will remain confidential. The code number listed on the front cover of the questionnaire will only be used for follow-up purposes. Only summarized data will be reported, so the identity of each individual participant will be protected.

For clarification, any reference to agriculture teacher is made in reference to the public school agricultural education teacher, vocational agriculture (vo-ag) teacher, or FFA advisor that you are most closely associated with.

Thank you for participating in this study.

**Part A**

**DIRECTIONS:** This section provides 2 scenarios for you to read and consider the likelihood of each response. Please consider each possible response and indicate how likely you would be to choose each response. Please indicate your response by placing a check in the corresponding box.

Scenario A

*The sale order of the Junior Livestock Auction at the county fair is under review by the fair board. The fair board has decided to review the sale order policy because the sale prices are higher at the beginning of the auction when most of the buyers are present and have the most money to spend. You know that the prices at the beginning of the sale are much higher, but it has been a long-time tradition that 4-H members are first in the sale order, followed by the FFA members. The fair board has asked for your input.*

How likely is it that you will support each of the following options?

1) Change the sale order and allow the FFA members to go first.

Not Likely			Very Likely		
1	2	3	4	5	6
<input type="checkbox"/>					

2) The sale order should alternate each year, which would allow the FFA members sell their animals first in even years and let the 4-H members sell their animals first in odd years.

Not Likely			Very Likely		
1	2	3	4	5	6
<input type="checkbox"/>					

3) The sale should be integrated so that FFA and 4-H members do not sell their animals at different times. Have the sale order alternate 4-H member, FFA member, 4-H member, FFA member, and so on. This alleviates changing the sale order each year.

Not Likely			Very Likely		
1	2	3	4	5	6
<input type="checkbox"/>					

4) Keep the sale order as it has been for many years, with the 4-H members selling their animals first.

Not Likely			Very Likely		
1	2	3	4	5	6
<input type="checkbox"/>					

**Part A Continued:** Please consider each possible response and indicate how likely you would be to choose each response. Please indicate your response by placing a check in the corresponding box.

**Scenario B**

*The high school agriculture teacher has received a donation of a nearby 20 acre farm. Prior to being donated to the high school agricultural education program, the farm was vacant for a year. The barn is in good condition, but it needs a coat of paint, the fences around the pasture need mending, and some of the boards on the corrals need to be replaced. The agriculture teacher and her FFA members do not have the tools or equipment to repair the farm so she has approached you. Between the Extension office and your volunteers, you have all of the necessary tools and equipment, as well as enough 4-H members and volunteers with the experience necessary to safely use them.*

**The decision is up to you. How likely is it that you will support each of the following options?**

1) You, your 4-H members, and your volunteers agree to help the agriculture teacher.

Not Likely				Very Likely	
1	2	3	4	5	6
<input type="checkbox"/>					

2) You agree to loan the necessary tools and equipment to the agriculture teacher, but you, your 4-H members, and your volunteers are not interested in helping with the labor.

Not Likely				Very Likely	
1	2	3	4	5	6
<input type="checkbox"/>					

3) You agree to help the agriculture teacher if she is willing to let you and your 4-H members use the farm on occasion for agricultural demonstrations.

Not Likely				Very Likely	
1	2	3	4	5	6
<input type="checkbox"/>					

4) Suggest to the agriculture teacher that this would probably NOT be a good idea.

Not Likely				Very Likely	
1	2	3	4	5	6
<input type="checkbox"/>					

**Part B**

**DIRECTIONS:**

The items in this section are activities which may or may not be carried out in your working relationship with the local agriculture teacher .

In Column 1 please check the box to indicate the frequency that you currently carry out each of the activities in your working relationship with the local agriculture teacher .

In Column 2 please check the box to indicate your opinion of the frequency that you would like to carry out the activity in your working relationship with the local agriculture teacher.

Activities	Column 1					Column 2				
	How often do you do this?					How often should you do this?				
	Never	Rarely	Occasionally	Frequently	Always	Never	Rarely	Occasionally	Frequently	Always
1) Discuss community needs pertaining to education in agriculture.	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
2) Identify common educational objectives of Extension and high school agriculture programs.	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
3) Serve as consultants to each other's advisory committees.	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
4) Coordinate efforts toward similar goals related to youth.	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
5) Share responsibility for publicity concerning educational programs in agriculture in the county	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>

**Part B Continued** The items in this section are activities which may be carried out in your working relationship with a high school agriculture teacher.

Activities	How often do you do this?					How often should you do this?				
	Never	Rarely	Occasionally	Frequently	Always	Never	Rarely	Occasionally	Frequently	Always
6) Exchange or forward e-mail messages which might be beneficial to the other's program.	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
7) Consult each other's special abilities and knowledge in problem situations.	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
8) Coordinate efforts for training similar competitive teams. (i.e. floriculture, meats judging, etc.)	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
9) Conduct joint demonstrations, workshops, or county field days.	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
10) Discuss space and facilities available for conducting education programs in agriculture.	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
11) Discuss fundraising activities.	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
12) Discuss advance ments in instructional materials available for teaching educational programs in Agriculture.	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>

**Part C**

**DIRECTIONS:**

The items in this section are factors which may be carried out in your working relationship with a high school agriculture teacher.

In Column 1 please check the box to indicate how important each factor is in determining working relationship with a high school agriculture teacher.

In Column 2 please check the box to indicate how much each factor affects your working relationship with a high school agriculture teacher.

Factors	Importance to you					Effect on relationship				
	Not at All		Some		Very Much	Very Negative	Slightly Negative	Neutral	Slightly Positive	Very Positive
	▼ 0 □	▼ 1 □	▼ 2 □	▼ 3 □	▼ 4 □	▼ 0 □	▼ 1 □	▼ 2 □	▼ 3 □	▼ 4 □
1) Personality of the agriculture teacher	0 □	1 □	2 □	3 □	4 □	0 □	1 □	2 □	3 □	4 □
2) Similarity of our age.	0 □	1 □	2 □	3 □	4 □	0 □	1 □	2 □	3 □	4 □
3) Mutual respect of efforts.	0 □	1 □	2 □	3 □	4 □	0 □	1 □	2 □	3 □	4 □
4) Views passed down from county and state administrators.	0 □	1 □	2 □	3 □	4 □	0 □	1 □	2 □	3 □	4 □
5) Belief that 4-H and FFA are always in competition with each other.	0 □	1 □	2 □	3 □	4 □	0 □	1 □	2 □	3 □	4 □
6) Frequency of interaction.	0 □	1 □	2 □	3 □	4 □	0 □	1 □	2 □	3 □	4 □
7) The success of the agriculture teacher.	0 □	1 □	2 □	3 □	4 □	0 □	1 □	2 □	3 □	4 □

**Part D**

**DIRECTIONS:**

The items in this section are activities or factors which may influence your working relationship with the local agriculture teacher. Each question has two parts: the first part asks you to indicate "what is" the current situation; the second part asks you to indicate what you believe the ideal situation "should be." Please indicate your opinion by checking the box that most closely corresponds to how important you feel the activity or factor is, or should be.

Activity or Factor	Situation	Effect on Cooperation Between Extension Member & Teacher				
		Not Important	Neutral	Very Important		
1) Consulting each other's special abilities and knowledge in problem situations.	what is	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	what should be	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2) Having the agriculture teacher be a guest presenter in an Extension presentation or at a 4-H meeting.	what is	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	what should be	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3) Plan events so that they are not in conflict or competing with one another.	what is	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	what should be	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4) Willingness to serve a portion or all of the county.	what is	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	what should be	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5) Coordination of efforts for training similar competitive teams, (i.e. Livestock Judging, etc.)	what is	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	what should be	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6) Similarity or difference in our age.	what is	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	what should be	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7) Similarity in program goals.	what is	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	what should be	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8) Variation in total years experience.	what is	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	what should be	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Part D Continued** The items in this section are activities or factors which may or may not influence your working relationships with the local agriculture teacher. Each question has two parts: the first part asks you to indicate “what is” the current situation; the second part asks you to indicate what you believe the ideal situation “should be”. Please indicate your opinion by checking the box that most closely corresponds to how important you feel the activity or factor is.

Effect on Cooperation Between Extension Member & Teacher

Activity or Factor	Situation	Not Important	Neutral	Very Important
9) Tenure at present location.	what is	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	what should be	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10) Compatibility of personality.	what is	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	what should be	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11) Initiative in contacting one another.	what is	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	what should be	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12) Degree of personal friendship	what is	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	what should be	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13) Differences of program Structure (4-H & FFA)	what is	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	what should be	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Part E**

**DIRECTIONS:**

For this section please indicate your answer by filling in the blank space or checking the box which most accurately describes you.

1) What is the highest level degree you hold?

- High School Diploma
- Associates Degree
- Bachelors Degree
- Masters Degree
- Doctorate

- 2) How many years have you been employed as an Extension faculty or staff member?
- Less than 5 years
  - 5 to 10 years
  - 11 to 15 years
  - 16 to 20 years
  - More than 20 years
- 3) Have you ever been employed as a public high school agriculture teacher?
- Yes
  - No
- 4) What is your current age?
- Under 25 years
  - 25 to 30 years
  - 31 to 35 years
  - 36 to 40 years
  - 41 to 45 years
  - 46 to 50 years
  - More than 50 years
- 5) Do you live in the county which you work?
- Yes
  - No
- 6) What is your gender?
- Male
  - Female
- 7) Please indicate which youth organization(s) you were a member of during your childhood. (Please check all that apply)
- 4-H
  - FFA
- 8) Are you aware of any written agreements in Missouri that suggest or require cooperation between high school agriculture teachers and Extension faculty and staff?
- Yes
  - No

Please use this space to make any additional comments you might want to share.

Please Return To:

Billy McKim  
121 Gentry Hall  
Columbia, MO 65211

**Thank you for your participation!**

APPENDIX L

MISSOURI AGRICULTURE TEACHERS QUESTIONNAIRE



## Cooperative Perceptions Questionnaire

Please take a few minutes to participate in this study of cooperation between secondary agriculture teachers and county Extension faculty and staff. This questionnaire should take approximately 10-15 minutes to complete the questionnaire. Your input is very important to us, as the information you provide is very valuable. Be assured that the responses that you provide will remain confidential. Only summarized data will be reported, so the identity of each individual participant will be protected.

**For clarification:**

Any reference to "*county Extension agent*" or "*Extension agent*" is in reference to the employee of the county Cooperative Extension office who is responsible for working with youth.

If you need assistance or have questions while taking completing this questionnaire, please contact:

Billy Mckim  
[brmckim@mizzou.edu](mailto:brmckim@mizzou.edu)

[CLICK TO BEGIN](#)

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## Cooperative Perceptions Questionnaire

### Part A, Scenario 1

#### DIRECTIONS:

This section provides 2 scenarios for you to read and consider the likelihood of each response. Please consider each possible response and indicate how likely you would be to choose each response.

#### Scenario 1:

*The sale order of the Junior Livestock Auction at the county fair is under review by the fair board. The fair board has decided to review the sale order policy because the sale prices are higher at the beginning of the auction when most of the buyers are present and have the most money to spend. You know that the prices at the beginning of the sale are much higher, but it has been a long time tradition that the FFA members are first in the sale order, followed by the 4-H members. The fair board has asked for your input.*

#### How likely is it that you will support each of the following options?

	Not Likely					Very Likely
Change the sale order and allow the 4-H members to go first.	<input type="radio"/>					
The sale order should alternate each year, which would allow the FFA members to sell their animals first in even years and let the 4-H members sell their animals first in odd years.	<input type="radio"/>					
The sale order should be integrated so that FFA and 4-H members do not sell their animals at different times. Have the sale order alternate FFA member, 4-H member, FFA member, 4-H member and so on. This would prevent having to change the sale order each year.	<input type="radio"/>					
Keep the sale order as it has been for many years, with the FFA members selling their animals first.	<input type="radio"/>					

#### Scenario 2:

*The county Extension agent has received a donation of a nearby 20 acre farm. Prior to being donated to the County Extension Office, the farm was vacant for a year. The barn is in good condition, but it needs a coat of paint, the fences around the pasture need mending, and some of the boards on the corrals need to be replaced. The Extension agent and her 4-H members do not have the tools or equipment to repair the farm so she has approached you. Your school has all of the necessary tools and equipment, and you do have enough FFA members with the experience necessary to safely use them.*

#### The decision is up to you, how likely is it that you will support each of the following options?

	Not Likely					Very Likely
You and your FFA members agree to help the Extension agent.	<input type="radio"/>					
You agree to loan the necessary tools and equipment to the Extension agent, but you and your FFA members are not interested in helping with the labor.	<input type="radio"/>					
You agree to help the Extension agent if she is willing to let you and your FFA members use the farm on occasion as a land lab.	<input type="radio"/>					
Suggest to the Extension agent that this would probably <u>NOT</u> be a good idea.	<input type="radio"/>					

CLICK TO CONTINUE

Finish Later

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## Cooperative Perceptions Questionnaire

### Part B, Activities

PROGRESS: 

The items in this section are activities that may or may not be carried out in your working relationships with the county Extension agent.

#### DIRECTIONS:

In Column 1 please indicate the frequency which you currently carry out each of the activities in your working relationships with the county Extension agent.

In Column 2 please indicate your opinion of the frequency that you would like to carry out the activity in your working relationships with the county Extension agent.

	Column 1					Column 2				
	How often <u>do you</u> do this?					How often <u>should you</u> do this?				
	Never	Rarely	Occasionally	Frequently	Always	Never	Rarely	Occasionally	Frequently	Always
Discuss community needs pertaining to education in agriculture.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Identify common educational objectives of Extension and high school agriculture programs.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Serve as consultants to each other's advisory committees.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Coordinate efforts of similar goals related to youth.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Share responsibility for publicity concerning educational programs in agriculture within the county.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Consult each other's special abilities and knowledge in problem situations.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Exchange or forward e-mail messages which might be beneficial to the other's program.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Coordinate efforts for training similar competitive teams. (i.e. floriculture, meats judging, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Conduct joint demonstrations, workshops, or county field days.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Discuss space and facilities available for conducting educational programs in agriculture.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Discuss fundraising activities.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Discuss advancements in instructional materials available for teaching educational programs in agriculture.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

[CLICK TO CONTINUE](#)

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## Cooperative Perceptions Questionnaire

### Part C, Factors

PROGRESS: 

The items in this section are factors which may or may not influence your working relationships with the county Extension agent.

#### DIRECTIONS:

In Column 1 please indicate how important each factor is in determining your working relationships with the county Extension agent.

In Column 2 please indicate how much each factor effects your working relationships with the county Extension agent.

	Column 1			Column 2			
	IMPORTANCE TO YOU			EFFECT ON RELATIONSHIP			
	Not at All	Some	Very Much	Very Negative	Slightly Negative	Slightly Positive	Very Positive
Personality of the Extension agent.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Similarity of our age.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mutual respect of efforts.	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Views passed down from county and state administrators.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Belief that 4-H and FFA are always in competition with each other.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Frequency of interaction.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The success of the Extension agent.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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## Cooperative Perceptions Questionnaire

### Part D, Activities and Factors

PROGRESS: 

#### DIRECTIONS:

The items in this section are activities or factors that may or may not influence your working relationship with the county Extension agent. Each question has two parts: the first column asks you to indicate what you believe the current situation to be; the second column asks you to indicate what you believe the ideal situation should be. Please indicate your opinion by choosing the response that most closely corresponds to how you feel.

	What is.			What should be.		
	Not Important	Neutral	Very Important	Not Important	Neutral	Very Important
Consulting each other's special abilities and knowledge in problem situations.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Having the Extension agent be a guest presenter in a class or at FFA meetings.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Planning events so they are not in conflict or competing with one another.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Willingness to serve a portion or all of the county.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Coordinating the efforts for training similar competitive teams. (i.e. Livestock Judging, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Similarity or differences in our age.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Similarity of program goals.	<input checked="" type="radio"/>	<input type="radio"/>				
Variation in total years experience.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tenure at present location.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Compatibility of personality.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Initiative in contacting one another.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Degree of personal friendship.	<input checked="" type="radio"/>	<input type="radio"/>				
Differences of program structure. (4-H & FFA)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

[CLICK TO CONTINUE](#)

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## Cooperative Perceptions Questionnaire

### Part E

#### DIRECTIONS:

For this section, please indicate the response that most accurately describes you.

**What is the highest degree that you hold?**

- Bachelors Degree
- Masters Degree
- Doctorate

**How many years have you worked as a secondary agriculture teacher?**

- Less than 5 years
- 5 to 10 years
- 11 to 15 years
- 16 to 20 years
- More than 20 years

**How long have you been employed at your current location?**

- Less than 5 years
- 5 to 10 years
- 11 to 15 years
- 16 to 20 years
- More than 20 years

**Have you ever been employed as an Extension faculty or staff member?**

- Yes
- No

**What is your current age?**

- Under 25 years
- 25 to 30 years
- 31 to 35 years
- 36 to 40 years
- 41 to 45 years
- 46 to 50 years
- more than 50 years

**Do you live in the county in which you work?**

- Yes
- No

**What is your gender?**

- Male
- Female

**Please indicate which youth organization(s) you were a member of during your childhood.**  
Choose all that apply.

- 4-H
- FFA

**Are you aware of any written agreements in Missouri that suggest or require cooperation between secondary agriculture teachers and Extension agents?**

- Yes
- No

**Please feel free to make any additional comments you might want to share.**

PROGRESS: 

[CLICK TO CONTINUE](#)

[Finish Later](#)

## Cooperative Perceptions Questionnaire

**Thank You!**

The test survey is now complete, you may close this browser.

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APPENDIX M

EXTENSION QUESTIONNAIRE



## Cooperative Perceptions Questionnaire

Please take a few minutes to participate in this study of cooperation between secondary agriculture teachers and county Extension faculty and staff. This questionnaire should take approximately 10-15 minutes to complete the questionnaire. Your input is very important to us, as the information you provide is very valuable. Be assured that the responses that you provide will remain confidential. Only summarized data will be reported, so the identity of each individual participant will be protected.

**For clarification:**

Any reference to "*agriculture teacher*" is made in reference to the public school agricultural education teacher, vocational agriculture (vo-ag) teacher, or FFA advisor that you are most closely associated with.

If you need assistance or have questions while taking completing this questionnaire, please contact:

Billy McKim  
[brmckim@mizzou.edu](mailto:brmckim@mizzou.edu)

[CLICK TO BEGIN](#)

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## Cooperative Perceptions Questionnaire

### Part A, Scenario 1

#### DIRECTIONS:

This section provides 2 scenarios for you to read and consider the likelihood of each response. Please consider each possible response and indicate how likely you would be to choose each response.

#### Scenario 1:

*The sale order of the Junior Livestock Auction at the county fair is under review by the fair board. The fair board has decided to review the sale order policy because the sale prices are higher at the beginning of the auction when most of the buyers are present and have the most money to spend. You know that the prices at the beginning of the sale are much higher, but it has been a long time tradition that 4-H members are first in the sale order, followed by FFA members. The fair board has asked for your input.*

#### How likely is it that you will support each of the following options?

	Not Likely					Very Likely
Change the sale order and allow FFA members to go first.	<input type="radio"/>					
The sale order should alternate each year, which would allow 4-H members sell their animals first in even years and let FFA members sell their animals first in odd years.	<input type="radio"/>					
The sale order should be integrated so that 4-H and FFA members do not sell their animals at different times. Have the sale order alternate 4-H member, FFA member, 4-H member, FFA member and so on. This would prevent having to change the sale order each year.	<input type="radio"/>					
Keep the sale order as it has been for many years, with 4-H members selling their animals first.	<input type="radio"/>					

#### Scenario 2:

*The high school agriculture teacher has received a donation of a nearby 20 acre farm. Prior to being donated to the high school agricultural education program, the farm was vacant for a year. The barn is in good condition, but it needs a coat of paint, the fences around the pasture need mending, and some of the boards on the corrals need to be replaced. The agriculture teacher and her FFA members do not have the tools or equipment to repair the farm so she has approached you. Between the Extension office and your volunteers you have all of the necessary tools and equipment, and you have enough 4-H members and volunteers with the experience necessary to safely use them.*

#### The decision is up to you, how likely is it that you will support each of the following options?

	Not Likely					Very Likely
You, your 4-H members, and your volunteers agree to help the agriculture teacher.	<input type="radio"/>					
You agree to loan the necessary tools and equipment to the agriculture teacher, but you, your 4-H members, and your volunteers are not interested in helping with the labor.	<input type="radio"/>					
You agree to help the agriculture teacher if she is willing to let you and your 4-H members use the farm on occasion for agricultural demonstrations.	<input type="radio"/>					
Suggest to the agriculture teacher that this would probably <u>NOT</u> be a good idea.	<input type="radio"/>					

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## Cooperative Perceptions Questionnaire

### Part B, Activities

PROGRESS:

The items in this section are activities that may or may not be carried out in your working relationships with the high school agriculture teacher.

#### DIRECTIONS:

In Column 1 please indicate the frequency which you currently carry out each of the activities in your working relationships with the high school agriculture teacher.

In Column 2 please indicate your opinion of the frequency that you would like to carry out the activity in your working relationships with the high school agriculture teacher.

	Column 1					Column 2				
	How often <u>do you</u> do this?					How often <u>should you</u> do this?				
	Never	Rarely	Occasionally	Frequently	Always	Never	Rarely	Occasionally	Frequently	Always
Discuss community needs pertaining to education in agriculture.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Identify common educational objectives of Extension and high school agriculture programs.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Serve as consultants to each other's advisory committees.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Coordinate efforts of similar goals related to youth.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Share responsibility for publicity concerning educational programs in agriculture within the county.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Consult each other's special abilities and knowledge in problem situations.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Exchange or forward e-mail messages which might be beneficial to the other's program.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Coordinate efforts for training similar competitive teams. (i.e. floriculture, meats judging, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Conduct joint demonstrations, workshops, or county field days.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Discuss space and facilities available for conducting educational programs in agriculture.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Discuss fundraising activities.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Discuss advancements in instructional materials available for teaching educational programs in agriculture.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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## Cooperative Perceptions Questionnaire

### Part C, Factors

PROGRESS: 

The items in this section are factors which may or may not influence your working relationship with the high school agriculture teacher.

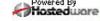
#### DIRECTIONS:

In Column 1 please indicate how important each factor is in determining your working relationships with the high school agriculture teacher.

In Column 2 please indicate how much each factor effects your working relationship with the high school agriculture teacher.

	Column 1			Column 2				
	IMPORTANCE TO YOU			AFFECT ON RELATIONSHIP				
	Not at All	Some	Very Much	Very Negative	Slightly Negative	Neutral	Slightly Positive	Very Positive
Personality of the agriculture teacher.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Similarity of our age.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mutual respect of efforts.	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Views passed down from county and state administrators.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Belief that 4-H and FFA are always in competition with each other.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Frequency of interaction.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The success of the agriculture teacher.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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## Cooperative Perceptions Questionnaire

### Part D, Activities and Factors

PROGRESS: 

#### DIRECTIONS:

The items in this section are activities or factors that may or may not influence your working relationship with the high school agriculture teacher. Each question has two parts: the first column asks you to indicate what you believe the current situation to be; the second column asks you to indicate what you believe the ideal situation should be. Please indicate your opinion by choosing the response that most closely corresponds to how you feel.

	What is.			What should be.		
	Not Important	Neutral	Very Important	Not Important	Neutral	Very Important
Consulting each other's special abilities and knowledge in problem situations.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Having the agriculture teacher be a guest presenter in an Extension presentation or at 4-H meetings.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Planning events so they are not in conflict or competing with one another.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Willingness to serve a portion or all of the county.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Coordinating the efforts for training similar competitive teams. (i.e. Livestock Judging, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Similarity or differences in our age.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Similarity of program goals.	<input checked="" type="radio"/>	<input type="radio"/>				
Variation in total years experience.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tenure at present location.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Compatibility of personality.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Initiative in contacting one another.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Degree of personal friendship.	<input checked="" type="radio"/>	<input type="radio"/>				
Differences of program structure. (4-H & FFA)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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## Cooperative Perceptions Questionnaire

### Part E

#### DIRECTIONS:

For this section, please indicate the response that most accurately describes you.

#### What is the highest degree that you hold?

- High School Diploma
- Associates Degree
- Bachelors Degree
- Masters Degree
- Doctorate

#### How many years have you worked as Extension faculty or staff member?

- Less than 5 years
- 5 to 10 years
- 11 to 15 years
- 16 to 20 years
- More than 20 years

#### How long have you been employed at your current location?

- Less than 5 years
- 5 to 10 years
- 11 to 15 years
- 16 to 20 years
- More than 20 years

#### Have you ever been employed as a public high school agriculture teacher?

- Yes
- No

#### What is your current age?

- Under 25 years
- 25 to 30 years
- 31 to 35 years
- 36 to 40 years
- 41 to 45 years
- 46 to 50 years
- more than 50 years

#### Do you live in the county in which you work?

- Yes
- No

#### What is your gender?

- Male
- Female

#### Please indicate which youth organization(s) you were a member of during your childhood.

Choose all that apply.

- 4-H
- FFA

#### Are you aware of any written agreements in Missouri that suggest or require cooperation between secondary agriculture teachers and Extension agents?

- Yes
- No

Please feel free to make any additional comments you might want to share.

PROGRESS: 

CLICK TO CONTINUE

## Cooperative Perceptions Questionnaire

**Thank You!**

The test survey is now complete, you may close this browser.

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APPENDIX N

AGRICULTURE TEACHER COVER LETTER

<<DATE>>

<<NAME>>

<<SCHOOL>>

<<Street Address>>

<<Town, MO Zip Code>>

Dear <<NAME>>:

We are writing to ask your help in a study of the perceptions of cooperation between secondary agriculture teachers and county Extension agents. This study is part of an effort to learn what activities, factors, and situations are perceived as being conducive to cooperative working relationships. Your input will be used to enhance the working relationships between secondary agriculture teachers and county Extension agents in Missouri.

Your expertise in the field of agricultural education allows you to provide insight that could prove extremely valuable to us. The enclosed questionnaire consists of two sections: The first section addresses situations, activities, and factors which may influence your working relationship with county Extension agents. The second section gathers basic demographic information. The entire questionnaire will take approximately 15 minutes to complete. We ask that you respond to each question openly and honestly by **March 21st**.

Your answers are completely confidential and will be released only as summaries in which no individual's answers can be identified. Once you have completed the enclosed questionnaire and returned it in the postage paid, self addressed envelope, your name will be deleted from the mailing list and never connected to your answers in any way.

Participation in this study is voluntary; however, you can help us very much by taking a few minutes to share your experiences and opinions about cooperation with county Extension agents. Should you choose not to participate in this study, please return the questionnaire in the postage paid, self addressed envelope so that we do not send you a follow up questionnaire. Rest assured that your refusal to participate in this study will not affect your relationship with the University of Missouri; it will not result in any penalty or loss of benefits to which you might otherwise be entitled.

We have enclosed a small token of appreciation as a way of saying thanks for your help.

Should you have any questions regarding this study, please do not hesitate to contact either of the individuals listed below. You may also contact the University of Missouri Campus IRB Office at (573) 882-9585 for further information concerning human participation in research studies.

Thank you in advance for your participation! We look forward to receiving your response by **Friday, March 21st**. Have a great day.

Sincerely,

Ben Gallup  
State 4-H Youth Development Specialist  
University of Missouri Extension  
gallupb@missouri.edu  
(573) 882-3835

Billy McKim  
Department of Agricultural Education  
University of Missouri  
brmckim@mizzou.edu  
(307) 760-5941

Robert Torres  
Professor  
Department of Agricultural Education  
University of Missouri  
torresr@missouri.edu  
(573) 884-7376

University of Missouri, Lincoln University, U.S. Department of Agriculture and Local Extension Councils Cooperating

EQUAL OPPORTUNITY/ADA INSTITUTIONS

APPENDIX O

4-H YOUTH DEVELOPMENT PERSONNEL COVER LETTER

March 5, 2008

<<NAME>>  
<<Street Address>>  
<<Town, MO Zip Code>>

Dear <<NAME>>:

We are writing to ask your help in a study of the perceptions of cooperation between county Extension faculty and staff, and public high school agriculture teachers. This study is part of an effort to learn what activities, factors, and situations are perceived as being conducive to cooperative working relationships between county Extension faculty and staff, and secondary agriculture teachers. Your input will be used to enhance the working relationships between county youth development faculty and staff, and secondary agriculture teachers in Missouri.

Your expertise in the field of Extension work allows you to provide insight that could prove extremely valuable to us. The enclosed questionnaire consists of two sections: The first section addresses situations, activities, and factors which may or may not influence your working relationship with secondary agriculture teachers. The second section gathers basic demographic information. The entire questionnaire will take approximately 15 minutes to complete. We ask that you respond to each question openly and honestly by Thursday, March 13.

Your answers are completely confidential and will be released only as summaries in which no individual's answers can be identified. Once you have completed the enclosed questionnaire and returned it in the postage paid, self addressed envelope, your name will be deleted from the mailing list and never connected to your answers in any way.

Participation in this study is voluntary; in no way are you required to participate. However, you can help us very much by taking a few minutes to share your experiences and opinions about cooperation with secondary agriculture teachers. Should you choose not to participate in this study, please return the questionnaire in the postage paid, self addressed envelope so that we do not send you a follow up questionnaire. Rest assured that your refusal to participate in this study will not affect your relationship with the University of Missouri; it will not result in any penalty or loss of benefits to which you might otherwise be entitled.

Should you have any questions regarding this study, please do not hesitate to contact either of the individuals listed below. You may also contact the University of Missouri Campus IRB Office at (573) 882-9585 for further information concerning human participation in research studies.

Thank you in advance for your participation! We look forward to receiving your response by Thursday, March 13. Have a great day.

Sincerely,

Ben Gallup  
Sate 4-H Youth Development Specialist  
University of Missouri Extension  
gallupb@missouri.edu  
(573) 882-3835

Robert M. Torres, Ph.D.  
Professor  
Department of Agricultural Education  
University of Missouri  
torresr@missouri.edu  
(573) 884-7376

Billy McKim  
Department of Agricultural Education  
University of Missouri  
brmckim@mizzou.edu  
(307) 760-5941

University of Missouri, Lincoln University, U.S. Department of Agriculture and Local Extension Councils Cooperating

EQUAL OPPORTUNITY/ADA INSTITUTIONS

APPENDIX P

PANEL OF EXPERTS

Name and Affiliation	Title
Agricultural Education	
Dr. Robert Terry, Jr.	Professor & Chair of Department of Agricultural Education
Dr. Robert Torres	Professor, Department of Agricultural Education
Dr. Bryan Garton	Professor, Department of Agricultural Education, Assistant Dean of Academic Programs College of Agriculture, Food and Natural Resources
Dr. Jon Ulmer	Professional Development Specialist and Instructor, Department of Agricultural Education
MU Extension	
Ben Gallup	Interim Assistant Director – State 4-H Youth Specialist
Diana Duncan	Interim State 4-H Youth Specialist
Tammy Gillespie	Project Director - Missouri 4-H LIFE Program
Don Day	County Program Director – Natural Resources Engineer

APPENDIX Q

MISSOURI AGRICULTURE TEACHERS PILOT QUESTIONNAIRE



## Cooperative Perceptions Questionnaire

Please take a few minutes to participate in this study of cooperation between secondary agriculture teachers and county Extension faculty and staff. This questionnaire should take approximately 10-15 minutes to complete the questionnaire. Your input is very important to us, as the information you provide is very valuable. Be assured that the responses that you provide will remain confidential. Only summarized data will be reported, so the identity of each individual participant will be protected.

**For clarification:**

Any reference to "*county Extension agent*" or "*Extension agent*" is in reference to the employee of the county Cooperative Extension office who is responsible for working with youth.

If you need assistance or have questions while taking completing this questionnaire, please contact:

Billy McKim  
[brmckim@mizzou.edu](mailto:brmckim@mizzou.edu)

[CLICK TO BEGIN](#)

## Cooperative Perceptions Questionnaire

### Part A, Scenario 1

#### DIRECTIONS:

This section provides 2 scenarios for you to read and consider the likelihood of each response. Please consider each possible response and indicate how likely you would be to choose each response.

#### Scenario 1:

*The sale order of the Junior Livestock Auction at the county fair is under review by the fair board. The fair board has decided to review the sale order policy because the sale prices are higher at the beginning of the auction when most of the buyers are present and have the most money to spend. You know that the prices at the beginning of the sale are much higher, but it has been a long time tradition that the FFA members are first in the sale order, followed by the 4-H members. The fair board has asked for your input.*

#### How likely is it that you will support each of the following options?

	Not Likely				Very Likely
Change the sale order and allow the 4-H members to go first.	<input type="radio"/>				
The sale order should alternate each year, which would allow the FFA members to sell their animals first in even years and let the 4-H members sell their animals first in odd years.	<input type="radio"/>				
The sale order should be integrated so that FFA and 4-H members do not sell their animals at different times. Have the sale order alternate FFA member, 4-H member, FFA member, 4-H member and so on. This would prevent having to change the sale order each year.	<input type="radio"/>				
Keep the sale order as it has been for many years, with the FFA members selling their animals first.	<input type="radio"/>				

#### Scenario 2:

*The county Extension agent has received a donation of a nearby 20 acre farm. Prior to being donated to the County Extension Office, the farm was vacant for a year. The barn is in good condition, but it needs a coat of paint, the fences around the pasture need mending, and some of the boards on the corrals need to be replaced. The Extension agent and her 4-H members do not have the tools or equipment to repair the farm so she has approached you. Your school has all of the necessary tools and equipment, and you do have enough FFA members with the experience necessary to safely use them.*

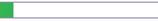
#### The decision is up to you, how likely is it that you will support each of the following options?

	Not Likely	-	-	-	Very Likely
You and your FFA members agree to help the Extension agent.	<input type="radio"/>				
You agree to loan the necessary tools and equipment to the Extension agent, but you and your FFA members are not interested in helping with the labor.	<input type="radio"/>				
You agree to help the Extension agent if she is willing to let you and your FFA members use the farm on occasion as a land lab.	<input type="radio"/>				
Suggest to the Extension agent that this would probably <u>NOT</u> be a good idea.	<input type="radio"/>				

CLICK TO CONTINUE

## Cooperative Perceptions Questionnaire

### Part B, Activities

PROGRESS: 

The items in this section are activities that may or may not be carried out in your working relationships with the county Extension agent.

#### DIRECTIONS:

In Column 1 please indicate the frequency which you currently carry out each of the activities in your working relationships with the county Extension agent.

In Column 2 please indicate your opinion of the frequency that you would like to carry out the activity in your working relationships with the county Extension agent.

	Column 1					Column 2				
	How often <u>do you</u> do this?					How often <u>should you</u> do this?				
	Never	Rarely	Occasionally	Frequently	Always	Never	Rarely	Occasionally	Frequently	Always
Discuss community needs pertaining to education in agriculture.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Identify common educational objectives of Extension and high school agriculture programs.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Serve as consultants to each other's advisory committees.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Coordinate efforts of similar goals related to youth.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Share responsibility for publicity concerning educational programs in agriculture within the county.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Consult each other's special abilities and knowledge in problem situations.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Exchange or forward e-mail messages which might be beneficial to the other's program.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Coordinate efforts for training similar competitive teams. (i.e. floriculture, meats judging, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Conduct joint demonstrations, workshops, or county field days.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Discuss space and facilities available for conducting educational programs in agriculture.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Discuss fundraising activities.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Discuss advancements in instructional materials available for teaching educational programs in agriculture.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

CLICK TO CONTINUE

## Cooperative Perceptions Questionnaire

### Part C, Factors

PROGRESS: 

The items in this section are factors which may or may not influence your working relationships with the county Extension agent.

#### DIRECTIONS:

In Column 1 please indicate how important each factor is in determining your working relationships with the county Extension agent.

In Column 2 please indicate how much each factor effects your working relationships with the county Extension agent.

	Column 1					Column 2				
	IMPORTANCE TO YOU					AFFECT ON RELATIONSHIP				
	Not at All	Very Little	Some	Not Much	Very Much	Very Negative	Slightly Negative	Neutral	Slightly Positive	Very Positive
Personality of the Extension agent.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>					
Similarity of our age.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>					
Mutual respect of efforts.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>					
Views passed down from county and state administrators.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>					
Belief that 4-H and FFA are always in competition with each other.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>					
Frequency of interaction.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>					
The success of the Extension agent.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>					

[CLICK TO CONTINUE](#)

## Cooperative Perceptions Questionnaire

### Part D, Activities and Factors

PROGRESS: 

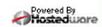
#### DIRECTIONS:

The items in this section are activities or factors that may or may not influence your working relationship with the county Extension agent. Each question has two parts: the first column asks you to indicate what you believe the current situation to be; the second column asks you to indicate what you believe the ideal situation should be. Please indicate your opinion by choosing the response that most closely corresponds to how you feel.

	What is.			What should be.		
	Not Important	Neutral	Very Important	Not Important	Neutral	Very Important
Consulting each other's special abilities and knowledge in problem situations.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Having the Extension agent be a guest presenter in a class or at FFA meetings.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Planning events so they are not in conflict or competing with one another.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Willingness to serve a portion or all of the county.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Coordinating the efforts for training similar competitive teams. (i.e. Livestock Judging, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Similarity or differences in our age.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Similarity of program goals.	<input checked="" type="radio"/>	<input type="radio"/>				
Variation in total years experience.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tenure at present location.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Compatibility of personality.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Initiative in contacting one another.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Degree of personal friendship.	<input checked="" type="radio"/>	<input type="radio"/>				
Differences of program structure. (4-H & FFA)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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## Cooperative Perceptions Questionnaire

### Part E

#### DIRECTIONS:

For this section, please indicate the response that most accurately describes you.

**What is the highest degree that you hold?**

- Bachelors Degree
- Masters Degree
- Doctorate

**How many years have you worked as a secondary agriculture teacher?**

- Less than 5 years
- 5 to 10 years
- 11 to 15 years
- 16 to 20 years
- More than 20 years

**How long have you been employed at your current location?**

- Less than 5 years
- 5 to 10 years
- 11 to 15 years
- 16 to 20 years
- More than 20 years

**Have you ever been employed as an Extension faculty or staff member?**

- Yes
- No

**What is your current age?**

- Under 25 years
- 25 to 30 years
- 31 to 35 years
- 36 to 40 years
- 41 to 45 years
- 46 to 50 years
- more than 50 years

**Do you live in the county in which you work?**

- Yes
- No

**What is your gender?**

- Male
- Female

**Please indicate which youth organization(s) you were a member of during your childhood.**  
Choose all that apply.

- 4-H
- FFA

**Are you aware of any written agreements in Missouri that suggest or require cooperation between secondary agriculture teachers and Extension agents?**

- Yes
- No

**Please feel free to make any additional comments you might want to share.**

PROGRESS: 

[CLICK TO CONTINUE](#)

[Finish Later](#)

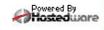
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## Cooperative Perceptions Questionnaire

**Thank You!**

The test survey is now complete, you may close this browser.

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APPENDIX R

AGRICULTURE TEACHER PILOT E-MAIL INVITATION

Dear \_\_\_\_\_ :

I am writing to ask your help in a study of the perceptions of cooperation between secondary agriculture teachers and Extension agents. Your expertise in the field of agricultural education allows you to provide insight that could prove extremely valuable to me.

Below is a link to an online questionnaire which consists of two sections. The first section addresses situations, activities, and factors which may or may not influence your working relationship with Extension agents. The second section gathers basic demographic information. The entire questionnaire will take approximately 15 minutes to complete. I ask that you respond to each question openly and honestly **by Friday, February 29th**.

Your answers are completely confidential and will be released only as summaries in which no individual's answers can be identified. Once you have completed the online questionnaire, your name will be deleted from the mailing list and never connected to your responses in any way. This survey is voluntary. However, you can help me very much by taking a few minutes to share your experiences and opinions about cooperation with Extension agents.

Survey URL: <http://www.hostedsurvey.com/takesurvey.asp?c=Cooper1641382AGEDPilot&rc=AEP1>

Participation in this study is voluntary. Should you choose not to participate in this study, simply reply to this e-mail and type "Not Participating" in the subject line. Rest assured that your refusal to participate in this study will not affect your relationship with any University or Extension program, or personnel.

Should you have any questions regarding this study, please do not hesitate to contact me via e-mail at [brmckim@mizzou.edu](mailto:brmckim@mizzou.edu) or by phone (307) 760-5941.

Thank you in advance for your participation! I look forward to receiving your response **by February 29th**. Have a great day.

Sincerely,

Billy McKim  
Department of Agricultural Education  
University of Missouri

This email was sent to [dlentz@adrian.k12.mo.us](mailto:dlentz@adrian.k12.mo.us) by [brmckim@mizzou.edu](mailto:brmckim@mizzou.edu).

If you have questions about this email or do not wish to receive additional emails, please reply or contact Billy McKim at [brmckim@mizzou.edu](mailto:brmckim@mizzou.edu).

APPENDIX S

KANSAS EXTENSION PILOT QUESTIONNAIRE



## Cooperative Perceptions Questionnaire

Please take a few minutes to participate in this study of cooperation between secondary agriculture teachers and county Extension faculty and staff. This questionnaire should take approximately 10-15 minutes to complete the questionnaire. Your input is very important to us, as the information you provide is very valuable. Be assured that the responses that you provide will remain confidential. Only summarized data will be reported, so the identity of each individual participant will be protected.

**For clarification:**

Any reference to "**agriculture teacher**" is made in reference to the public school agricultural education teacher, vocational agriculture (vo-ag) teacher, or FFA advisor that you are most closely associated with.

If you need assistance or have questions while taking completing this questionnaire, please contact:

Billy McKim  
[bmckim@mizzou.edu](mailto:bmckim@mizzou.edu)

[CLICK TO BEGIN](#)

## Cooperative Perceptions Questionnaire

### Part A, Scenario 1

#### DIRECTIONS:

This section provides 2 scenarios for you to read and consider the likelihood of each response. Please consider each possible response and indicate how likely you would be to choose each response.

#### Scenario 1:

*The sale order of the Junior Livestock Auction at the county fair is under review by the fair board. The fair board has decided to review the sale order policy because the sale prices are higher at the beginning of the auction when most of the buyers are present and have the most money to spend. You know that the prices at the beginning of the sale are much higher, but it has been a long time tradition that 4-H members are first in the sale order, followed by FFA members. The fair board has asked for your input.*

#### How likely is it that you will support each of the following options?

	Not Likely				Very Likely
Change the sale order and allow FFA members to go first.	<input type="radio"/>				
The sale order should alternate each year, which would allow 4-H members sell their animals first in even years and let FFA members sell their animals first in odd years.	<input type="radio"/>				
The sale order should be integrated so that 4-H and FFA members do not sell their animals at different times. Have the sale order alternate 4-H member, FFA member, 4-H member, FFA member and so on. This would prevent having to change the sale order each year.	<input type="radio"/>				
Keep the sale order as it has been for many years, with 4-H members selling their animals first.	<input type="radio"/>				

#### Scenario 2:

*The high school agriculture teacher has received a donation of a nearby 20 acre farm. Prior to being donated to the high school agricultural education program, the farm was vacant for a year. The barn is in good condition, but it needs a coat of paint, the fences around the pasture need mending, and some of the boards on the corrals need to be replaced. The agriculture teacher and her FFA members do not have the tools or equipment to repair the farm so she has approached you. Between the Extension office and your volunteers you have all of the necessary tools and equipment, and you have enough 4-H members and volunteers with the experience necessary to safely use them.*

#### The decision is up to you, how likely is it that you will support each of the following options?

	Not Likely	-	-	-	Very Likely
You, your 4-H members, and your volunteers agree to help the agriculture teacher.	<input type="radio"/>				
You agree to loan the necessary tools and equipment to the agriculture teacher, but you, your 4-H members, and your volunteers are not interested in helping with the labor.	<input type="radio"/>				
You agree to help the agriculture teacher if she is willing to let you and your 4-H members use the farm on occasion for agricultural demonstrations.	<input type="radio"/>				
Suggest to the agriculture teacher that this would probably <u>NOT</u> be a good idea.	<input type="radio"/>				

CLICK TO CONTINUE

## Cooperative Perceptions Questionnaire

### Part B, Activities

PROGRESS:

The items in this section are activities that may or may not be carried out in your working relationships with the high school agriculture teacher.

#### DIRECTIONS:

In Column 1 please indicate the frequency which you currently carry out each of the activities in your working relationships with the high school agriculture teacher.

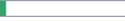
In Column 2 please indicate your opinion of the frequency that you would like to carry out the activity in your working relationships with the high school agriculture teacher.

	Column 1	Column 2
	How often <u>do you</u> do this?	How often <u>should you</u> do this?
	Never Rarely Occasionally Frequently Always	Never Rarely Occasionally Frequently Always
Discuss community needs pertaining to education in agriculture.	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
Identify common educational objectives of Extension and high school agriculture programs.	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
Serve as consultants to each other's advisory committees.	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
Coordinate efforts of similar goals related to youth.	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
Share responsibility for publicity concerning educational programs in agriculture within the county.	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
Consult each other's special abilities and knowledge in problem situations.	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
	Never Rarely Occasionally Frequently Always	Never Rarely Occasionally Frequently Always
Exchange or forward e-mail messages which might be beneficial to the other's program.	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
Coordinate efforts for training similar competitive teams. (i.e. floriculture, meats judging, etc.)	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
Conduct joint demonstrations, workshops, or county field days.	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
Discuss space and facilities available for conducting educational programs in agriculture.	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
Discuss fundraising activities.	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
Discuss advancements in instructional materials available for teaching educational programs in agriculture.	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>

CLICK TO CONTINUE

## Cooperative Perceptions Questionnaire

### Part C, Factors

PROGRESS: 

The items in this section are factors which may or may not influence your working relationship with the high school agriculture teacher.

#### DIRECTIONS:

In Column 1 please indicate how important each factor is in determining your working relationships with the high school agriculture teacher.

In Column 2 please indicate how much each factor effects your working relationship with the high school agriculture teacher.

	Column 1					Column 2				
	IMPORTANCE TO YOU					AFFECT ON RELATIONSHIP				
	Not at All	Very Little	Some	Not Much	Very Much	Very Negative	Slightly Negative	Neutral	Slightly Positive	Very Positive
Personality of the agriculture teacher.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>					
Similarity of our age.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>					
Mutual respect of efforts.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>					
Views passed down from county and state administrators.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>					
Belief that 4-H and FFA are always in competition with each other.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>					
Frequency of interaction.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>					
The success of the agriculture teacher.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>					

[CLICK TO CONTINUE](#)

## Cooperative Perceptions Questionnaire

### Part D, Activities and Factors

PROGRESS: 

#### DIRECTIONS:

The items in this section are activities or factors that may or may not influence your working relationship with the high school agriculture teacher. Each question has two parts: the first column asks you to indicate what you believe the current situation to be; the second column asks you to indicate what you believe the ideal situation should be. Please indicate your opinion by choosing the response that most closely corresponds to how you feel.

	What is.					What should be.				
	Not Important	-	Neutral	-	Very Important	Not Important	-	Neutral	-	Very Important
Consulting each other's special abilities and knowledge in problem situations.	<input type="radio"/>		<input type="radio"/>		<input type="radio"/>	<input type="radio"/>		<input type="radio"/>		<input type="radio"/>
Having the agriculture teacher be a guest presenter in an Extension presentation or at 4-H meetings.	<input type="radio"/>		<input type="radio"/>		<input type="radio"/>	<input type="radio"/>		<input type="radio"/>		<input type="radio"/>
Planning events so they are not in conflict or competing with one another.	<input type="radio"/>		<input type="radio"/>		<input type="radio"/>	<input type="radio"/>		<input type="radio"/>		<input type="radio"/>
Willingness to serve a portion or all of the county.	<input type="radio"/>		<input type="radio"/>		<input type="radio"/>	<input type="radio"/>		<input type="radio"/>		<input type="radio"/>
Coordinating the efforts for training similar competitive teams. (i.e. Livestock Judging, etc.)	<input type="radio"/>		<input type="radio"/>		<input type="radio"/>	<input type="radio"/>		<input type="radio"/>		<input type="radio"/>
Similarity or differences in our age.	<input type="radio"/>		<input type="radio"/>		<input type="radio"/>	<input type="radio"/>		<input type="radio"/>		<input type="radio"/>
Similarity of program goals.	<input checked="" type="radio"/>		<input type="radio"/>		<input type="radio"/>	<input type="radio"/>		<input type="radio"/>		<input type="radio"/>
Variation in total years experience.	<input type="radio"/>		<input type="radio"/>		<input type="radio"/>	<input type="radio"/>		<input type="radio"/>		<input type="radio"/>
Tenure at present location.	<input type="radio"/>		<input type="radio"/>		<input type="radio"/>	<input type="radio"/>		<input type="radio"/>		<input type="radio"/>
Compatibility of personality.	<input type="radio"/>		<input type="radio"/>		<input type="radio"/>	<input type="radio"/>		<input type="radio"/>		<input type="radio"/>
Initiative in contacting one another.	<input type="radio"/>		<input type="radio"/>		<input type="radio"/>	<input type="radio"/>		<input type="radio"/>		<input type="radio"/>
Degree of personal friendship.	<input type="radio"/>		<input type="radio"/>		<input type="radio"/>	<input type="radio"/>		<input type="radio"/>		<input type="radio"/>
Differences of program structure. (4-H & FFA)	<input type="radio"/>		<input type="radio"/>		<input type="radio"/>	<input type="radio"/>		<input type="radio"/>		<input type="radio"/>

CLICK TO CONTINUE

## Cooperative Perceptions Questionnaire

### Part E

#### DIRECTIONS:

For this section, please indicate the response that most accurately describes you.

#### What is the highest degree that you hold?

- High School Diploma
- Associates Degree
- Bachelors Degree
- Masters Degree
- Doctorate

#### How many years have you worked as Extension faculty or staff member?

- Less than 5 years
- 5 to 10 years
- 11 to 15 years
- 16 to 20 years
- More than 20 years

#### How long have you been employed at your current location?

- Less than 5 years
- 5 to 10 years
- 11 to 15 years
- 16 to 20 years
- More than 20 years

#### Have you ever been employed as a public high school agriculture teacher?

- Yes
- No

#### What is your current age?

- Under 25 years
- 25 to 30 years
- 31 to 35 years
- 36 to 40 years
- 41 to 45 years
- 46 to 50 years
- more than 50 years

#### Do you live in the county in which you work?

- Yes
- No

#### What is your gender?

- Male
- Female

#### Please indicate which youth organization(s) you were a member of during your childhood. Choose all that apply.

- 4-H
- FFA

#### Are you aware of any written agreements in Kansas that suggest or require cooperation between secondary agriculture teachers and Extension agents?

- Yes
- No

Please feel free to make any additional comments you might want to share.

PROGRESS: 

[CLICK TO CONTINUE](#)



## Cooperative Perceptions Questionnaire

**Thank You!**

The test survey is now complete, you may close this browser.

[CLICK TO FINISH](#)

APPENDIX T

KANSAS EXTENSION PILOT E-MAIL INVITATION

Subject: Extension Cooperation

Dear \_\_\_\_\_ :

I am writing to ask your help in a study of the perceptions of cooperation between high school agricultural teachers and Extension faculty and staff. A mutual acquaintance, Rod Buchele, recommended that I contact you for your valuable insight. Your expertise in the field of Extension work allows you to provide insight that could prove extremely valuable to me.

Below is a link to an online questionnaire which consists of two sections. The first section addresses situations, activities, and factors which may or may not influence your working relationship with high school agriculture teachers. The second section gathers basic demographic information. The entire questionnaire will take approximately 15 minutes to complete. I ask that you respond to each question openly and honestly **by Friday, February 29th**.

Your responses are completely confidential and will be released only as summaries in which no individual's answers can be identified. Once you have completed the online questionnaire, your name will be deleted from the mailing list and never connected to your answers in any way. This survey is voluntary. However, you can help me very much by taking a few minutes to share your experiences and opinions about cooperation with high school agriculture teachers.

Survey URL: <http://www.hostedsurvey.com/takesurvey.asp?c=Cooper16413822KansasEXT&rc=KEX1>

Participation in this study is voluntary. Should you choose not to participate in this study, simply reply to this e-mail and type "Not Participating" in the subject line. Rest assured that your refusal to participate in this study will not affect your relationship with any University or Extension program, or personnel.

Should you have any questions regarding this study, please do not hesitate to contact me via e-mail at [brmckim@mizzou.edu](mailto:brmckim@mizzou.edu) or by phone (307) 760-5941.

Thank you in advance for your participation! I look forward to receiving your response **by February 29th**. Have a great day.

Sincerely,

Billy McKim  
Department of Agricultural Education  
University of Missouri

APPENDIX U

AGRICULTURE TEACHER E-MAIL INVITATION

Subject: Missouri Agricultural Education

Dear :

In the next few days you will receive in the mail a request to fill out a brief questionnaire for an important research project being conducted in Missouri. It concerns the perceptions of cooperation of secondary agriculture teachers and county Extension agents in Missouri.

We are writing in advance because we have found that many people like to know ahead of time that they will be contacted. This study is an important; your input will be used to determine what could enhance the working relationships between secondary agriculture teachers, and county Extension agents in Missouri.

We will be enclosing a small token of appreciation with the questionnaire as our way of saying thanks.

For your convenience, we will provide an electronic version of the questionnaire as an alternative the paper version you will receive in the mail. If you would prefer to complete the questionnaire online, simply reply to this message and type "online version" in the message. We will then gladly send you a personalized link.

If you have any questions regarding this study, please contact any of us by phone or e-mail which are listed below.

Thank you for your time and consideration. It's only with the generous help of people like you that our research can be successful.

Sincerely,

**Ben Gallup**  
State 4-H Youth Development Specialist  
University of Missouri Extension  
gallupb@missouri.edu  
(573) 882-3835

**Billy McKim**  
Department of Agricultural Education  
University of Missouri  
brmckim@mizzou.edu  
(307) 760-5941

**Robert Torres**  
Professor  
Department of Agricultural Education  
University of Missouri  
torresr@missouri.edu  
(573) 884-7376

This email was sent to ngray36@hotmail.com by missouri\_ag\_education@missouricooperation.org.

If you have questions about this email or do not wish to receive additional emails, please contact Billy McKim at (307) 760-5941 or by e-mail at brmckim@mizzou.edu.

APPENDIX V

AGRICULTURE TEACHER NONRESPONDENT COVER LETTER

<<DATE>>

<<NAME>>

<<SCHOOL>>

<<Street Address>>

<<Town, MO Zip Code>>

Dear <<NAME>>:

About three weeks ago we sent you a questionnaire that asked about your thoughts on cooperation between secondary agriculture teachers and county Extension agents. To the best of our knowledge, it has not been returned.

The comments of your fellow agriculture teachers who have already responded have described their experiences, both good and bad, and how they affect cooperative working relationships. Your input is extremely valuable and will be used to enhance the working relationships between secondary agriculture teachers and county Extension agents in Missouri.

We are writing again because your thoughts are very important. Although we have sent questionnaires to agriculture teachers throughout the state, it's only by hearing from everyone that we can be sure the results are accurate. We have enclosed an additional copy of the questionnaire in case you did not receive the original or it was misplaced. Please take a few minutes to complete the questionnaire; we ask that you respond to each question openly and honestly by **Friday, April 11th**. If you would like to complete the questionnaire online, please contact Billy McKim at [brmckim@mizzou.edu](mailto:brmckim@mizzou.edu) and you will be forwarded a personalized link via e-mail.

Your answers are completely confidential and will be released only as summaries in which no individual's answers can be identified. Once you have completed the enclosed questionnaire and returned it in the postage paid, self addressed envelope, your name will be deleted from the mailing list and never connected to your answers in any way. Participation in this study is voluntary; should you choose not to participate in this study, please return the questionnaire in the postage paid, self addressed envelope so that we do not send you a follow up questionnaire. Rest assured that your refusal to participate in this study will not affect your relationship with the University of Missouri; it will not result in any penalty or loss of benefits to which you might otherwise be entitled.

Should you have any questions regarding this study, please do not hesitate to contact any of the individuals listed below. You may also contact the University of Missouri Campus IRB Office at (573) 882-9585 for further information concerning human participation in research studies.

Thank you in advance for your participation! We look forward to receiving your response by **Friday, April 11th**.

Sincerely,

Ben Gallup  
State 4-H Youth Development Specialist  
University of Missouri Extension  
[gallupb@missouri.edu](mailto:gallupb@missouri.edu)  
(573) 882-3835

Robert M. Torres, Ph.D.  
Professor  
Department of Agricultural Education  
University of Missouri  
[torresr@missouri.edu](mailto:torresr@missouri.edu)  
(573) 884-7376

Billy McKim  
Department of Agricultural Education  
University of Missouri  
[brmckim@mizzou.edu](mailto:brmckim@mizzou.edu)  
(307) 760-5941

University of Missouri, Lincoln University, U.S. Department of Agriculture and Local Extension Councils Cooperating

EQUAL OPPORTUNITY/ADA INSTITUTIONS

APPENDIX W

AGRICULTURE TEACHER E-MAIL REMINDER

Subject: Ag Education Cooperation

Hello :

About three weeks ago we sent you a questionnaire that asked about your thoughts on cooperation between secondary agriculture teachers and county Extension agents. To the best of our knowledge, it has not been returned.

We realize this week is **very** hectic and you will most likely be taking your students to State FFA Convention; however, we ask that you take 10 minutes out of your busy day and complete this questionnaire.

The comments of your fellow agriculture teachers who have already responded have described their experiences, both good and bad, and how they affect cooperative working relationships.

**Please click on the link below to complete the questionnaire online today.**

Survey

URL: <http://www.hostedsurvey.com/takesurvey.asp?c=Cooper1641382AGED&rc=AE>

[10](#)

We are writing again because your thoughts are very important. Although we have sent questionnaires to agriculture teachers throughout the state, it's only by hearing from everyone that we can be sure the results are accurate.

Sincerely,

Billy McKim

Department of Agricultural Education

University of Missouri

[brmckim@mizzou.edu](mailto:brmckim@mizzou.edu)

(307) 760-5941

This email was sent to [ngray36@hotmail.com](mailto:ngray36@hotmail.com) by [Missouri\\_Ag\\_Education@missouricooperation.org](mailto:Missouri_Ag_Education@missouricooperation.org).

If you have questions about this email or do not wish to receive additional emails, please contact Billy McKim at [brmckim@mizzou.edu](mailto:brmckim@mizzou.edu)



APPENDIX X

EXTENSION E-MAIL PRENOTICE

Subject: Extension Faculty and Staff

Dear \_\_\_\_\_ :

In the next few days you will receive in the mail a request to fill out a brief questionnaire for an important research project being conducted by University of Missouri Extension in cooperation with University of Missouri Agricultural Education. It concerns the perceptions of cooperation of county Extension faculty and staff, and high school agriculture teachers in Missouri.

We are writing in advance because we have found that many people like to know ahead of time that they will be contacted. This study is an important; your input will be used to determine what could enhance the working relationships between county Extension faculty and staff, and high school agriculture teachers in Missouri.

We will be enclosing a small token of appreciation with the questionnaire as our way of saying thanks.

For your convenience, we will provide an electronic version of the questionnaire as an alternative the paper version you will receive in the mail. If you would prefer to complete the questionnaire online, simply reply to this message and type "online version" in the message. We will then gladly send you a personalized link.

If you have any questions regarding this study, please contact any of us by phone or e-mail which are listed below.

Thank you for your time and consideration. It's only with the generous help of people like you that our research can be successful.

Sincerely,

**Ben Gallup**  
State 4-H Youth Development Specialist  
University of Missouri Extension  
gallupb@missouri.edu  
(573) 882-3835

**Billy McKim**  
Department of Agricultural Education  
University of Missouri  
brmckim@mizzou.edu  
(307) 760-5941

**Robert Torres**  
Professor  
Department of Agricultural Education  
University of Missouri  
torresr@missouri.edu  
(573) 884-7376

This email was sent to allenbrandj@missouri.edu by Missouri\_Extension@missouricooperation.org.

If you have questions about this email or do not wish to receive additional emails, please contact Billy McKim at (307) 760-5941 or at brmckim@mizzou.edu.

APPENDIX Y

EXTENSION FOLLOW UP E-MAIL

Subject: Missouri Extension

Dear :

Recently you received a packet in the mail asking for your help with a study regarding cooperation between county 4-H Extension faculty and staff, and high school agriculture teachers in Missouri. For your convenience, we are providing an online, electronic version of this questionnaire.

This study is part of an effort to learn what activities, factors, and situations are perceived as being conducive to cooperative working relationships. Your input will be used to enhance the working relationships between county 4-H Extension faculty and staff, and high school agriculture teachers in Missouri.

If you have already completed the questionnaire and returned it, please accept our apology and appreciation for your participation. If you have not completed the questionnaire and would like to complete the questionnaire online, please find and click on the link to the electronic version of the questionnaire below.

Survey URL: <http://www.hostedsurvey.com/takesurvey.asp?c=Cooper1641382?EXT&rc=EXT1>

If you have not opened the packet you received in the mail, **please open it!** We have enclosed a small token of appreciation as a way of saying thanks for your help.

Regardless of which version of the questionnaire you choose to complete (online or paper), your answers are completely confidential and will be released only as summaries in which no individual's answers can be identified. If you would prefer to complete the paper questionnaire, please do so by Friday, March 21<sup>st</sup> and return it in the postage paid, self addressed envelope. Your name will be deleted from the mailing list and never connected to your answers in any way.

Participation in this study is voluntary; however, you can help us very much by taking a few minutes to share your experiences and opinions about cooperation with high school agriculture teachers. Should you choose not to participate in this study, please return the paper questionnaire in the postage paid, self addressed envelope so that we do not send you a follow up questionnaire.

Should you have any questions regarding this study, please do not hesitate to contact any of the individuals listed below.

Thank you in advance for your participation! We look forward to receiving your response by **Friday, March 21st**. Have a great day.

Sincerely,

Ben Gallup  
State 4-H Youth Development Specialist  
University of Missouri Extension  
gallupb@missouri.edu  
(573) 882-3835

Billy McKim  
Department of Agricultural Education  
University of Missouri  
brmckim@mizzou.edu  
(307) 760-5941

Robert Torres  
Professor  
Department of Agricultural Education  
University of Missouri  
torresr@missouri.edu  
(573) 884-7376

This email was sent to allenbrandj@missouri.edu by Missouri\_Extension@MissouriCooperation.org.

If you have questions about this email or do not wish to receive additional emails, please contact Billy McKim at brmckim@mizzou.edu

APPENDIX Z

EXTENSION NONRESPONDENT COVER LETTER

April 7, 2008

<<NAME>>  
<<Street Address>>  
<<Town, MO Zip Code>>

Dear <<NAME>>:

About three weeks ago we sent you a questionnaire that asked about your thoughts on cooperation between county Extension faculty and staff, and public high school agriculture teachers. To the best of our knowledge, it has not been returned.

The comments of your fellow Extension faculty and staff members who have already responded have described their experiences, both good and bad, and how they affect cooperative working relationships. Your input is extremely valuable and will be used to enhance the working relationships between county youth development faculty and staff, and high school agriculture teachers in Missouri.

We are writing again because of the importance that your questionnaire has for helping to get accurate results. Although we have sent questionnaires to every 4-H youth development faculty and staff member in the state, it's only by hearing from everyone that we can be sure the results are accurate. We have enclosed an additional copy of the questionnaire in case you did not receive the original or in case it was misplaced. Please take a few minutes to complete the questionnaire; we ask that you respond to each question openly and honestly by **Friday, April 11th**.

Your answers are completely confidential and will be released only as summaries in which no individual's answers can be identified. Once you have completed the enclosed questionnaire and returned it in the postage paid, self addressed envelope, your name will be deleted from the mailing list and never connected to your answers in any way. Participation in this study is voluntary; should you choose not to participate in this study, please return the questionnaire in the postage paid, self addressed envelope so that we do not send you a follow up questionnaire. Rest assured that your refusal to participate in this study will not affect your relationship with the University of Missouri; it will not result in any penalty or loss of benefits to which you might otherwise be entitled.

Should you have any questions regarding this study, please do not hesitate to contact any of the individuals listed below. You may also contact the University of Missouri Campus IRB Office at (573) 882-9585 for further information concerning human participation in research studies.

Thank you in advance for your participation! We look forward to receiving your response by **Friday, April 11th**.

Sincerely,

Ben Gallup  
Sate 4-H Youth Development Specialist  
University of Missouri Extension  
gallupb@missouri.edu  
(573) 882-3835

Robert M. Torres, Ph.D.  
Professor  
Department of Agricultural Education  
University of Missouri  
torresr@missouri.edu  
(573) 884-7376

Billy McKim  
Department of Agricultural Education  
University of Missouri  
brmckim@mizzou.edu  
(307) 760-5941

APPENDIX AA

EXTENSION E-MAIL REMINDER

Subject: Extension Cooperation

Hello :

About three weeks ago we sent you a questionnaire that asked about your thoughts on cooperation between county Extension 4-H youth development faculty and staff, and high school agriculture teachers. To the best of our knowledge, it has not been returned.

The comments of your fellow Extension faculty and staff members who have already responded have described their experiences, both good and bad, and how they affect cooperative working relationships.

If you have already completed the questionnaire and returned it, please accept our sincere thanks. If you have not completed the questionnaire, please click on the link below to complete the questionnaire today.

Survey

URL: <http://www.hostedsurvey.com/takesurvey.asp?c=Cooper16413822EXT&rc=EXT1>

We are writing again because your thoughts are very important. Although we have sent questionnaires to all of the county Extension 4-H youth development faculty and staff in the state, it's only by hearing from everyone that we can be sure the results are accurate.

Sincerely,

Billy McKim

Department of Agricultural Education

University of Missouri

[brmckim@mizzou.edu](mailto:brmckim@mizzou.edu)

(307) 760-5941

Ben Gallup

State 4-H Youth Development Specialist

University of Missouri Extension

[gallupb@missouri.edu](mailto:gallupb@missouri.edu)

(573) 882-3835

Robert Torres

Professor

Department of Agricultural Education

University of Missouri

[torresr@missouri.edu](mailto:torresr@missouri.edu)

(573) 884-7376

This email was sent to allenbrandj@missouri.edu by Missouri\_Extension@MissouriCooperation.org.

If you have questions about this email or do not wish to receive additional emails, please reply or contact Billy McKim at [brmckim@mizzou.edu](mailto:brmckim@mizzou.edu).

APPENDIX AB

FREQUENCY AND PERCENT TABLES

*Secondary Agriculture Teacher's Perceived Importance of Factors of Cooperation (n = 140)*

Factor	1		2		3		4		5	
	<i>f</i>	%								
Mutual respect of efforts	1	0.70	3	2.10	19	13.60	43	30.70	74	52.90
Personality of the Extension faculty or staff member	5	3.60	3	2.10	30	21.40	47	33.60	55	39.30
Success of the Extension faculty or staff member	10	7.10	5	3.60	55	39.30	42	30.00	28	20.00
Frequency of Interaction	7	5.00	11	7.90	64	45.70	47	33.60	11	7.90
Views passed down from county or state administrators	13	9.30	16	11.40	69	49.30	31	22.10	11	7.90
Similarity of age	56	40.00	28	20.00	43	30.70	10	7.1	3	2.10
Belief that 4-H and FFA are always in competition with one another	67	47.90	31	22.10	34	24.30	6	4.30	2	1.4

*Note.* 1 = Not at All; 3 = Some; 5 = Very Much

*4-H Youth Development Personnel's Perceived Importance of Factors of Cooperation (n = 74)*

Factor	1		2		3		4		5	
	<i>f</i>	%								
Mutual respect of efforts	0	0.00	1	1.40	8	10.80	19	25.70	46	62.20
Personality of the Extension faculty or staff member	4	5.40	5	6.80	25	33.80	23	31.10	17	23.00
Success of the agriculture teacher	6	8.20	6	8.20	22	30.10	24	32.90	15	20.50
Frequency of interaction	1	1.40	7	9.50	34	45.90	23	31.10	9	12.20
Views passed down from county or state administrators	16	21.90	9	12.30	25	34.20	13	17.80	10	13.70
Similarity of age	52	70.30	7	9.50	9	12.20	4	5.40	2	2.70
Belief that 4-H and FFA are always in competition with one another	41	55.40	13	17.60	16	21.60	1	1.40	3	4.10

*Note.* 1 = Not at All; 3 = Some; 5 = Very Much

*Secondary Agriculture Teacher's Perceived Level of Participation in Activities (n = 140)*

Activity	1		2		3		4		5	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
Coordinate efforts toward similar goals related to youth	31	22.10	28	20.00	37	26.40	34	24.30	10	7.10
Exchange or forward e-mail messages which might be beneficial to the other's program	36	25.50	29	20.60	40	28.40	24	17.00	12	8.50
Consult each other's special abilities and knowledge in problem situations	36	25.50	33	23.40	32	22.70	32	22.70	8	5.70
Discuss community needs pertaining to agriculture	33	23.60	42	30.0	41	29.30	19	13.60	5	3.60
Share responsibility for publicity concerning educational programs in agriculture in the county	45	32.10	38	27.10	29	20.70	19	13.60	9	6.40
Conduct joint demonstrations, workshops, or county field days	45	31.90	47	33.30	32	22.70	12	8.50	5	3.50
Identify common educational objectives of Extension and high school agriculture programs	43	30.70	54	38.60	25	17.90	14	10.00	4	2.90
Discuss space and facilities available for conducting education programs in agriculture	56	39.70	33	23.40	37	26.20	10	7.10	5	3.50
Coordinate efforts for training similar competitive teams	60	42.60	40	28.40	19	13.50	15	10.60	7	5.00

*Secondary Agriculture Teacher's Perceived Level of Participation in Activities (continued)*

Activity	1		2		3		4		5	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
Discuss advancements in instructional materials available for teaching educational programs in agriculture	61	43.30	37	26.20	25	17.70	16	11.30	2	1.40
Serve as consultants to each other's advisory committee	72	51.80	22	15.80	30	21.60	8	5.80	7	5.00
Discuss fundraising activities	92	65.20	30	21.30	12	8.50	7	5.00	0	0.00

*Note.* 1 = Never; 2 = Rarely; 3 = Occasionally; 4 = Frequently; 5 = Always

*4-H Youth Development Personnel's Perceived Level of Participation in Activities (n = 140)*

Activity	1		2		3		4		5	
	<i>f</i>	%								
Coordinate efforts toward similar goals related to youth	13	18.10	15	20.80	14	19.40	24	33.30	6	8.30
Exchange or forward e-mail messages which might be beneficial to the other's program	15	20.80	10	13.90	19	26.40	17	23.60	11	15.30
Consult each other's special abilities and knowledge in problem situations	10	13.70	18	24.70	19	26.00	15	20.5	11	15.10
Discuss community needs pertaining to agriculture	20	28.29	14	19.70	27	38.00	9	12.70	1	1.40
Share responsibility for publicity concerning educational programs in agriculture in the county	22	30.60	15	20.80	14	19.40	17	23.60	4	5.60
Conduct joint demonstrations, workshops, or county field days	29	39.70	15	20.5	14	19.20	12	16.40	3	4.10
Identify common educational objectives of Extension and high school agriculture programs	19	26.40	21	29.20	18	25.00	11	15.30	3	4.20
Discuss space and facilities available for conducting education programs in agriculture	19	26.40	23	31.90	14	19.40	12	16.70	4	5.60
Coordinate efforts for training similar competitive teams	36	49.30	9	12.30	11	15.10	11	15.10	6	8.2

*4-H Youth Development Personnel's Perceived Level of Participation in Activities (continued)*

Activity	1		2		3		4		5	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
Discuss advancements in instructional materials available for teaching educational programs in agriculture	35	47.90	19	26.00	13	17.80	4	5.50	2	2.70
Serve as consultants to each other's advisory committee	31	43.10	11	15.30	15	20.80	12	16.70	3	4.20
Discuss fundraising activities	33	45.20	20	27.40	11	15.10	6	8.20	3	4.10

*Note.* 1 = Never; 2 = Rarely; 3 = Occasionally; 4 = Frequently; 5 = Always