CAREER SATISFACTION OF TEXAS SCHOOL-BASED FEMALE AGRICULTURE MECHANICS TEACHERS: AN EXAMINATION OF INFLUENTIAL FACTORS

by

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DEDICATION

I dedicate my thesis work to my family and many friends. A special feeling of gratitude to my loving parents, Tammy and Darryl Geiken, whose words of encouragement and pushed me through. My brother, Brandon, for whom I have always tried to set a good example.

I also dedicate this dissertation to my many friends who have supported me throughout the process. I will always appreciate all they have done, especially to Alejandro Tovar for the many hours of proofreading and Gabrielle Marcella for never turning her back in my time of needed encouragement.

I dedicate this work and give many special thanks to those unmentioned. Everyone has been a great cheerleader in helping accomplish this goal.

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LIST OF ABBREVIATIONS

Abbreviation **Description**

1. CDE...Career Development Event
2. LDE..Leadership Development Event
3. ATMS .... Agricultural Technology and Mechanical Systems

ABSTRACT

The purpose of this quantitative, non-experimental descriptive study is to assess the job satisfaction of female agricultural mechanics teachers in the state of Texas. Job satisfaction of agriculture teachers is an important issue due to high teacher turnover and low retention rate, which are linked to the teachers' job satisfaction rating (Padilla-Velez, 1993). Female teachers are currently only staying in the agricultural education field for 6.49 years and this trend is perceived to be related back to their job satisfaction (Castillo, Conklin, & Cano, 1999). This study focuses on why teachers choose to enter the field of agricultural education, why they choose to stay, and if they are satisfied teaching agricultural mechanics courses at the secondary level.

The target population of this study consisted of all female school-based agricultural science teachers in Texas, who at the time of the study, taught agricultural mechanics curriculum (n = 50). This group was contacted seven times using the modified Tailored Design Method (Dillman, Smyth, & Christian, 2014). The initial contact was an e-mail pre-notice. Next, there were five e-mail invitations for participants to complete an online data collection instrument. Finally, a mailed survey was sent to all non-respondents to give them one final opportunity to complete the questionnaire (n = 32). This final process yielded a response rate of 78% (n = 39) for the study.

CHAPTER I

INTRODUCTION

This chapter begins with a discussion of the background and setting that provided the problem statement for the research study. The purpose and objectives of the study are presented along with the theoretical framework from which the study is based. Finally, definitions of terms, basic assumptions, limitations, and significance of the problem are also provided.

Background and Setting

Teacher Shortages

Agriculture education at the secondary school level has experienced teacher shortages since the 1960's and this shortage of teachers is starting affect negatively the education profession (Team AgEd, 2006; Wolf, 2011). Job satisfaction of agriculture teachers is an important issue due to teacher turnover and retention rates. Researchers have linked retention rates to the teachers' job satisfaction rating (Padilla-Velez, 1993). Over the last couple of years, enrollment of agriculture students in colleges and universities has declined (Shresffia, Suvedi, & Foster, 2011). Agriculture education is experiencing a decrease in the number of graduates entering the profession, while at the same time, a large number of agriculture teachers are leaving the profession early in their careers (Wolf, 2011). Throughout the nation, the ratio of students to agriculture educators, or chapter advisors, is 55 to 1 (Team AgEd, 2006). Wolf (2011) stated that by the year 2015, Team AgEd wants to create "approximately 2000 new high school agricultural education programs— therefore many more teachers will be needed" (p. 163).

The Team AgEd report from 2006, stated that agriculture educators consisted of 70% male and only 30% female. Only two years later in 2008, Rocca and Washburn found that the incoming female agriculture science teachers had increased from previous years to over 50%. With more female agricultural educators entering the field administration needs to understand the challenges these teachers are facing when entering a perceived male dominated field (Rocca & Washburn, 2008). Foster (2003) found that these new female agricultural educators felt the greatest barrier was gaining “acceptance by peers and other males in the industry” (p. 26).

Another factor affecting retention rates is work experiences. Teacher work experiences have profound effects on an individual employee on whether she returns the next year or not (Lawler, 1977). The amount of time agricultural science teachers spend on their professional activities, especially after regular school hours, has a profound effect on their job satisfaction (Caughlin, Lawrence, Gartin, & Templeton, 1987; Odell, Cochran, Lawrence, & Gartin, 1990; Straquadine, 1985). The teachers who possess a greater sense of career satisfaction are likely to have a better quality of life including physical and mental health and better cooperation with co-workers and supervisors (Cranny, Smith, & Stone, 1992).

Career Satisfaction

The decreasing number of educators entering the agriculture education has created a need to investigate the job satisfaction in the field (Wolf, 2011). Incoming agriculture educators are steadily decreasing, while at the same time, many agriculture educators leave the agricultural education profession early in their career. As a result, many high school students have no agricultural educators at their high school (Wolf, 2011). The turnover rate for agricultural education teachers impacts the agricultural education students more so than other high school students because they are in the agricultural education program for up to four years, whereas with other courses, such as English and mathematics, students have a different teacher every year (Castillo & Cano, 1999).

Teacher Stress

Another factor affecting teacher retention and career satisfaction is stress. Teacher stress is brought on from demands of administrators, colleagues, students' parents, and lack of recognition. Many teachers become dissatisfied from their work because of the stressors faced daily. With all the demands on the teachers there is also some personal satisfaction they gain from their work (Klassen & Chiu, 2010). Job satisfaction is gained from everyday classroom activities, such as watching the students making progress, support from colleagues, and the school climate (Cockburn & Haydn, 2004; Klassen & Chiu, 2010). If the teachers are shown support or progress from students with a good school environment constantly, the teachers are more likely to remain the agricultural teaching field (Hunt & Carroll, 2002). This study focuses on why teachers choose to enter the field of agricultural education, why they choose to stay, and if they are satisfied teaching agricultural mechanics courses at the secondary level.

Theoretical Framework

Herzberg's Motivator-Hygiene Theory serves as the guiding framework for this study. Developed by Herzberg, Mausner, and Snyderman in 1959, the theory states that every job has factors that lead to satisfaction or dissatisfaction (Castillo & Cano, 1999; Herzberg, 1968). Job satisfaction (motivator) factors include achievement, recognition, work itself, responsibilities, advancement, and growth (Cano & Castillo, 2004; Herzberg, 1968). When workers experience these factors, they are motivated. Conversely, job dissatisfying (hygiene) factors include policies, supervision, relationship with supervisor, work conditions, salary, relationship with peers, personal life, relationship with subordinates, status, and security (Castillo & Cano, 1999; Herzberg, 1986). When workers experience these factors, they are *hygiene*, a term coined by Herzberg, Mausner, and Snyderman to mean *unmotivating*.

Several studies have outlined ways to decrease the agriculture education teacher turnover rate and increase the job satisfaction factors (Castillo & Cano, 2004; Padilla-Velez, 1993; Wolf, 2011). Klassen and Chiu have stated that female teachers report higher levels of workload and classroom stress (2010). Many teachers in a 1999 study reported that the principals and school board were uninformed about the female agricultural educators' working conditions (Castillo & Cano, 1999). With female working conditions and stress levels going unrecognized by the administration, female agricultural education teachers only stay an average of 6.49 years (Castillo, Conklin, & Cano, 1999). Teacher turnover rate in agriculture education greatly affects the students involved in the Future Farmers of America (FFA) chapter activities, because they participate in these agriculture education programs for up to four years (Castillo & Cano, 1999). If these job satisfaction factors are not increased, many teachers will continue to leave the profession and the students could be left at their school with no agricultural education teacher.

Statement of the Problem

Understanding the career satisfaction of female Texas school-based agricultural mechanics teachers is an important component in the retention rate of agriculture science teachers. Agriculture education has been a male dominated field for many years and has often prevented women from entering the profession (Foster, 2001). Today, there are more women agriculture teachers entering the workforce, but many are leaving after approximately 6 years (Castillo, Conklin, & Cano, 1999). Foster (2003) states that Region 2 of the National Association of Agricultural Educators (NAAE) which includes, Arkansas, Colorado, Kansas, Louisiana, New Mexico, Oklahoma, and Texas, is only made up of 7.64% female agriculture teachers and out of the entire United States (N = 579) only 39.6% teach agriculture mechanics courses. Foster (2003) also noted that the main barriers for women entering the field were the acceptance of their peers and other males in the profession, balancing family and career responsibilities, and acceptance by the administration. Due to the current lack of research on female Texas school-based agricultural mechanics teachers, the researcher determined that this study was warranted. Therefore, the study sought to answer the following research questions:

1. What is the level of career satisfaction of female Texas school-based agricultural mechanics teachers?
2. What level of support do these female Texas school-based agricultural mechanics teachers receive from their program, administration, and parents, when teaching these specialized courses?

Purpose of the Study

The purpose of this quantitative, non-experimental descriptive study was to assess the job satisfaction levels of female agricultural mechanics teachers in the state of Texas.

Research Objectives

The objectives for the study included:

1. Determine the personal (level of education, range of salary, family situation, children, type of educational certifications, additional degrees in process, and ethnicity), professional (hours worked per week, years of teaching experience, and years intended to teach) and program (number of agricultural science teachers, number of students enrolled, number of agricultural mechanics courses taught in 2013-2014 school year, number of Leadership Development Event (LDE) teams trained, number of Career Development Event (CDE) teams trained, Tractor Tech CDE team trained, Agricultural Technology and Mechanical Systems CDE team trained, industry certifications offered, program budget, laboratory size, laboratory condition, tool age, and tool condition) demographic characteristics of Texas school-based female agricultural mechanics teachers.
2. Determine the perceptions of Texas school-based female agricultural educators' reasons for teaching agricultural mechanics courses.
3. Determine the career satisfaction level of Texas school-based female agricultural mechanics teachers based upon the following areas: administrative support, parent support, relationship with teaching partner, supervising FFA activities, ability to watch students grow and succeed, colleagues, and contributing to student success.
4. Determine the level of school administrative and parental program support for curriculum/courses, Future Farmers of America (FFA), professional development, and personal and co-worker relationships.

5. Determine if a correlation exists between job satisfaction levels versus salary, hours worked, administration support, parent support, and teaching partner relationship.

Definition of Terms

Agricultural laboratories - This includes mechanics laboratories, greenhouses, livestock facilities, land laboratories, and aquaculture laboratories, as well as many others (Shoulders & Myers, 2012).

Agricultural mechanics teachers - The teachers who teach any part of the agricultural mechanics curriculum and/or courses.

Career Development Event (CDE) – "Career Development Events serve as an opportunity for agricultural education students to apply their knowledge and skills of a variety of curriculum and career-related topics as a competitive event" (Franklin & Armbruster, 2012, p. 95; Smith & Kahler, 1987); These events are conducted to "help students develop the abilities to think critically, communicate clearly, and perform effectively in a competitive job market." (CDE, 2014, p. 1).

Interpersonal Relations - "Relationships involving superiors, subordinates, and peers" (Cano & Castillo, 2004, p. 66); "pertaining to the relations between persons" (Interpersonal, 2014).

Job Satisfaction - “a pleasurable positive emotional state resulting in the appraisal of one’s job or job experiences” (Castillo & Cano, 1999, p. 68; Locke, 1976); “the extent to which a person's hopes, desires, and expectations about the employment he is engaged in are fulfilled” (Job Satisfaction, 2014, p. 1).

Policy and Administration - “Events in which some or all aspects of the organization were related to job satisfaction” (Cano & Castillo, 2004, p. 66).

Possibility of Growth - “Whether a change is status was possible, irrespective of the fact that the change could be upward or downward in status” (Cano & Castillo, 2004, p. 66).

Recognition - “Acts of notice, praise, or blame supplied by one or more superior, peer, colleague, management person, client, and/or the general public” (Cano & Castillo, 2004, p. 66).

Responsibility - “Satisfaction derived from being given control of personal work or the work of others and/or new job responsibilities” (Cano & Castillo, 2004, p. 66).

Salary - “All sequences of events which compensation play a major role” (Cano & Castillo, 2004, p. 66).

Supervised Agriculture Experience (SAE) - "Students with an SAE learn by doing. With help from their agricultural teachers, students develop an SAE project based on one or more SAE categories: Entrepreneurship, Placement, Research and Experimentation and Exploratory" (SAE, 2014, p. 1).

Supervision - "The supervisor's willingness or unwillingness to delegate responsibility and/or willingness to teach subordinates" (Cano & Castillo, 2004, p. 66).

Work Itself - "The actual job performance related to job satisfaction" (Cano & Castillo, 2004, p. 66).

Working Condition - "Physical working conditions, facilities, and quality of work as related to job satisfaction" (Cano & Castillo, 2004, p. 66).

Limitations of the Study

The following limitations were associated with this study:

1. The study is limited to the population of female Texas school-based agricultural teachers who teach any part of the agricultural mechanics curriculum.
2. This study was conducted over the summer months of 2014, which limited the participant response rate.
3. *Ex-post-facto*, due to the time frame of this study with teachers, a post hoc analysis was conducted to determine the reliability of the study.

4. This study had a population of only 50 female agricultural mechanics teachers in Texas, where there are a total of 1,670 agricultural science teachers in the state. Therefore, caution should be taken when generalizing the findings to the entire population.

Basic Assumptions

The following assumptions were made when conducting this study:

1. The respondents were honest and truthful with their response and participation;
2. The frame generated for this study was representative of all female Texas school-based agricultural teachers who teach any part of the agricultural mechanics curriculum;
3. The instrument accurately measured the factors that influence female Texas school-based agricultural mechanics teachers;
4. The researcher adequately controlled for error when collecting data.

Significance of the Problem

Many studies have been conducted investigating levels of job satisfaction, demographics, and career satisfaction of agricultural science teachers by gender (Castillo & Cano, 1999; Castillo & Cano, 2004; Castillo, Conklin, & Cano, 1999; Cano & Miller, 1992; Gilman, Peake, & Parr, 2012; Newcomb, Betts, & Cano, 1986). However, no studies have been conducted on specifically female agricultural mechanic teachers. This study was conducted to add to the knowledge of agricultural education about female agricultural mechanics teachers. The knowledge gained from this study will help future female agricultural mechanics teachers be better prepared for the factors that teachers consider when choosing to remain or leave the teaching field.

CHAPTER II

REVIEW OF LITERATURE

Chapter two is a review of literature related to the history of agriculture education and women in the agricultural mechanics education field. The review is organized into eight sections: History of U.S. Agricultural Science and Agriculture Education, Female Teachers, Female Career and Technology Teachers, Career Satisfaction of Agricultural Teachers, Career Satisfaction of Agricultural Mechanics Teachers, Theoretical Framework, and Summary. This chapter includes published articles older than 10 years due to the fact that these articles are of historical significance and help shape the need for the study.

History of U. S. Agricultural Education

Today agriculture education is different than it was in the 1800s. In the late 1800s, farmers were concerned about their crops and the fertilizer that they were using (Hillison, 1996). These farmers wanted scientific research done on their fertilizers that put set standards on their "artificial manure" that they purchased (Hillison, 1996, p. 8). This act by the farmers is said to have started the movement of agricultural science (Hillison, 1996). Agriculture careers have been steadily increasing over the years due to the increase in the population, thus a need for more agricultural products (Smith & Baggett, 2012). According to McCalla (1998), there will be an additional 1.8 billion people in the world to feed and the world's population will exceed 8 billion people by the year 2025. With more people in the world there will be more to feed, less land to farm, and more consumption of the limited natural resources (Lu-Yi, Ji-Zho, & Liu-Hong, 2014). Renewable resources are becoming more popular in today's society as communities start to look into the future of the world. As more people are starting to move from rural to urban areas, fewer children are being exposed to agriculture (Fraze, Rutherford, Wingenbach, & Wolfskill, 2011). The lack of knowledge about agriculture among the population is a growing concern every year (Mabie & Baker, 1996). Even though the U.S. is becoming more involved in agriculture extension, there is still a noticeable disconnection to agriculture. Carol D'Amico, the Assistant Secretary for Vocational and Adult Education at the U.S. Department of Education, stated that "some schools still treat vocational education as a job-training program with no academic component; we discourage investment in these programs" (Coeyman, 2003, p. 1). Agriculture is a vital resource in society, which makes it important for everyone to know what agriculture consists of (Coeyman, 2003).

The first form of vocational education began in the American colonies when the colonists learned how to cultivate crops from the local Native Americans in 1733 (Blassingame, 1999). During this period, universities taught mostly Latin and religious subjects. When the colonists found maize and tobacco as their two vital resources, many moved westward after the Louisiana Purchase for more land (Blassingame, 1999). Teaching others how to farm quickly became necessary for their survival in the new world (Cochrane, 1993). Expanding citizens' knowledge on how to best plant and grow crops was A. C. Trues' mission for our country. As a result, he created experiment stations where one would show others how to properly care for their plants or animals, such as gaining better yields and curing animal diseases (Lass, 1988). Teaching farming techniques became to be known as vocational education, or the teaching another how to perform a specific task, such as blacksmithing or farming (Rashtriya, 2008).

While agriculture and farming continued growing over the years, the U.S. government took a big step to make agriculture education available to everyone. Congress in 1862 passed the Morill Act that granted federal land to each state that established universities if they offered programs in agriculture, engineering, or home economics (Land-grant Colleges & Universities, 2013). With this act, agriculture and mechanic art studies were available at low costs to farmers (Duemer, 2007). Those who worked on farms could now learn from someone with a formal education and did not solely rely on trial and error. With agriculture being recognized as a vital part of the economy, universities were now being established to study agriculture, with funding by the U. S. Congress passed by the Hatch Act of 1887. This piece of legislation provided federal aid for research on agriculture and made the Department of Agriculture part of the cabinet (Weeks, 1989). When the Civil War ended on June 6, 1865, the federal government (American Civil War ends, 1993-2013) created the *separate but equal clause* that required all agriculture colleges create or integrate African-Americans into their school system. After the *separate but equal clause* passed, African-Americans were still not benefiting from the new access to higher education (Johnson, 2014). The Morrill Act of 1890 stated that all states now had to demonstrate that their colleges did not discriminate against people of different races (Johnson, 2014). If they could not prove discrimination was not present at their existing universities, the U. S. granted the land to the African-American people to establish their own mechanical arts universities (Johnson, 2014; Rasmussen, 2010).

Even though these new agricultural and mechanical universities were low cost and funded by the government, attendance was low at these specialized universities all over the U. S. (Marcus, 1986). Many farmers investigated this situation and believed either that the college personnel had made the schools for themselves or that they lacked the technical understanding of the difficulties in which farmers faced. Many professors felt overwhelmed because they had no specific lessons to teach and had to go to farmers' meetings, teach courses, and learn what they did not already know. Feeling pressure from the farmers, many teachers did not last long because the lack of knowledge about what needed to be taught. Even though there was much confusion on what exactly the teachers should be teaching students, vocational education courses remained popular. The Smith-Hughes Act of 1917 was passed in order to provide federal funds directly to states that continued to support vocational education courses and established strict guidelines for operating high school vocational programs (Moore, 1988).

After the initiation of the Smith-Hughes Act of 1917, agricultural education was finally recognized for its value on hands-on learning (Herren, 1996). As the popularity of hands-on learning grew, agricultural clubs were established in public high schools in order to promote agricultural education (Gilman, 2007). In 1928, the Future Farmers of America (FFA) was created in order to bring students, teachers, and agribusinesses together to support agricultural education in high schools (Heren, 1996). This organization set up a three circle model that included "three essential ingredients for agricultural education" (Gilman, 2007, p. 7). These three ingredients were classroom instruction, supervised agricultural experiences, and FFA. The agricultural educators used this model to build high school educational programs in public high schools throughout the United States, Guam, and Puerto Rico (National FFA Organization, 2014).

Wong (2004) stated, “the teachers hired today are the teachers for the next generation,” which still rings true today (p. 41). When the agricultural and mechanical universities were first introduced, many teachers had no standards on what to teach. In the beginning of agriculture education, teachers were hired to teach young boys to be a skilled set of farmers, although this did not last long with the passing of the Vocational Education Act of 1963 (Stump, 2009).

As ten committee members, consisting of dedicated individuals from the agricultural profession who had a long history in discussions surrounding national content standards, sat and discussed the content standards for agriculture education, they believed that “the standards listed within a particular pathway should not be viewed as necessary for preparing students for specific careers. Instead, they should be considered as common standards that pertain to all careers in a pathway” (Pentony, 2009, p. 9). The idea of public speaking and leadership abilities was included in the skills taught in agriculture classes. The committee members proposed what they called the Agriculture, Food, and Natural Resource (AFNR) cluster. Seven pathways of agriculture that the teachers taught consisted of Agribusiness Systems, Animal Systems, Environmental Service System, Natural Resource Systems, Plant Systems, and Power, Structural, and Technical Systems (Pentony, 2009). These federally defined career clusters are still in place; however, the State Board of Education in Texas revised the clusters and made the Texas Essential Knowledge and Skills (TEKS), which became effective in the 2003-2004 school year (Miles, 2013).

Female Teachers

Previous researchers found that employees' decisions about whether they will continue or quit their jobs are affected by feelings of job satisfaction (Cano & Miller, 1992; Lawler, 1977). Klassen and Chiu (2010) have stated that female teachers reported higher levels of workload and classroom stress compared to their male counterparts. Unlike their male colleagues, female agricultural science teachers shoulder twice as many responsibilities for their family and household (Murray, Flowers, Croom, & Wilson, 2011).

Female teachers stated that their salary did not affect their job satisfaction, because teaching is a rewarding career (Cano & Castillo, 2004; Cano & Miller, 1992; Castillo & Cano, 1999; Castillo, Conklin, & Cano; 1999; Cockburn & Haydn, 2004; Liu & Ramsey, 2008). Planning and preparation were the main factors in females teachers' decision to leave the profession (Liu & Ramsey, 2008). Female teachers who stay are more satisfied with school administration, student interactions, and professional development.

Female Career and Technology Teachers

In 2009, Texas reported the highest number of agricultural education positions open at 1,798 (Kantrovich, 2010). In 2013, the United States Department of Labor listed agricultural education as a non-traditional job for women with only 19% of females working in the field. Female agriculture teachers comprised only 27% of the secondary agricultural education field in 2006 (Kantrovich, 2007). Additionally in 2009, males continued to outnumber females by a 2:1 ratio in the U. S. (Kantrovich, 2010). However, the national FFA organization has reported that 47% of its members are females (National FFA Organization, 2014).

Male teachers were significantly older than the female teachers and had an average of 10.13 years of teaching experience, while female teachers had an average of only 4.76 years (Gilman, 2007). Male teachers are more likely to stay in their current position (3.35 years) as compared to the female agricultural teachers (1.88 years) (Gilman, 2007). When male teachers were dissatisfied, they were "most dissatisfied with the policy and administration while females were most dissatisfied with their salary and supervision" (Gilman, 2007, p. 24). Furthermore, previous studies have determined that female agriculture teachers have a higher likelihood of leaving the profession than their male counterparts (Kelsey, 2006; King, Rucker, & Duncan, 2013; Thompson, 1986).

Career Satisfaction of Agricultural Teachers

Since agricultural education was introduced into the school curriculum, agricultural educators have worked in many extra hours to ensure students' success (Delnero & Weeks, 2000). Nationally, there continues to be a deficit of qualified agriculture teachers and continues to grow each year (Lay & Washburn, 2013). Agricultural educators often find themselves dissatisfied with their current occupation for many different reasons (Gilman, 2007). Dissatisfaction factors contribute to agricultural science teachers leaving the profession each year. These factors consist of lack of administrative support, lack of collegial support, lack of parental support, and long working hours (Billingsly & Cross, 1991; Boone, 2003; King, Rucker, & Duncan, 2013; Moore & Camp, 1979). Moore and Camp (1979) found that agricultural education teachers in Georgia worked an average of 57 hours per week. Lockwood (1976) found that agricultural teacher responsibilities have grown to a point where there are more activities than time to do them.

Previous studies have focused on career satisfaction and found that agricultural science educators are at risk of leaving the profession early in their careers (Health-Camp & Camp, 1990; Kelsey, 2006; King, Rucker, & Duncan, 2013; Myers, Dyer, & Washburn, 2005). The agricultural education profession is said to "devour its young due to the heavy workload, high stress level, and excessive job expectations" (Murray, Flowers, Croom, & Wilson, 2011, p. 107). The demands of the agricultural education field drive many teachers to leave the profession in order to find personal and professional satisfaction (Murray, Flowers, Croom, & Wilson, 2011).

In a study to determine why vocational agriculture teacher leave the profession, Moore and Camp (1979) found the main reason agricultural education teacher left the profession was due to the long working hours, teaching students in their classes who should not be in the agricultural program, and receiving little administrative support. Beginning agricultural educators face an increased amount of pressure to increase student performance and certifications, with a reduced level of support from administration (Durr, 2008; Lambert, Henry, & Tummons, 2011; Strauss, 2002). In order to meet all these needs the beginning agricultural teachers typically spend over forty-five hours working every week during the school year (Joerger & Boettcher, 2000; Lambert, Henry, & Tummons, 2011; Lambert, Torres, & Tummons, 2009). Beginning teachers many times are required to move to unfamiliar communities in order to fulfill their first year of teaching (Langley, Martin, & Kitchel, 2014). Much research has found that if the teachers feel unconnected from the community where they live and work, it can lead to negative effects, including personal stress and a decrease in career satisfaction (Kennedy, Cameron, Greene, 2012; Speller & Twigger-Ross, 2009; Zhang & Goodson, 2011).

Career Satisfaction of Agricultural Mechanics Teachers

Agricultural mechanics teachers teach many subjects in a laboratory setting. These subjects can include, but are not limited to, safety in the laboratory, concrete and masonry, electricity, environmental and structures, gas metal arc welding, gas tungsten arc welding metal fabrication, oxy acetylene cutting and welding, plumbing, soldering, and soil and water conservation. Connors and Mundt (2001) found that on average, universities require 128 course hours for graduation, but only 45 of those were dedicated to any type of technical content. In a 1992 study conducted by Cano and Miller, 64% of the Ohio agricultural mechanics teachers possessed only a high school diploma. These teachers were hired from the industry with significantly less teaching experience when compared to other subjects in the agricultural education field (Cano & Miller, 1992).

Agricultural mechanics courses are some of the most important components in the curriculum and the most popular components to the agricultural education field (Burris, Robinson, & Terry, 2005; Kotrlik & Drueckhammer, 1987). In a study by Walker, Garton, and Kitchel (2004), many agricultural science teacher stated they did not enjoy agricultural mechanics laboratory instruction, in which the researcher perceived it to be because of the lack of knowledge in the subject area. Beginning agricultural mechanics teachers realize the importance of the instruction of these mechanical skills, but do lack the confidence in their ability to teach these skills (Blackburn, Robinson, & Field, 2015). Since these courses continuously are the most popular courses in the agricultural education programs there have been little studies conducted on the career satisfaction of these specific teachers.

Theoretical Framework

Herzberg's Motivator-Hygiene Theory serves as the theoretical framework for this study. Herzberg, Mausner, and Snyderman developed this theory in 1959. It states that every job has factors that lead to satisfaction or dissatisfaction of every activity (Castillo, Conklin, & Cano, 1999). Job satisfaction (motivator) factors include achievement, recognition, work itself, responsibilities, advancement, and growth (Herzberg, 1968; Cano & Castillo, 2004). Job dissatisfying (hygiene) factors include policies, supervision, relationship with supervisor, work conditions, salary, relationship with peers, personal life, relationship with subordinates, status, and security (Castillo & Cano, 1999; Herzberg, 1968). This motivator-hygiene theory is also referred to as the two-factor theory and has been widely used to understand the relationship between job satisfaction and dissatisfaction to human motivation (Floor & Cano, 2011; Robertson & Smith, 1985).

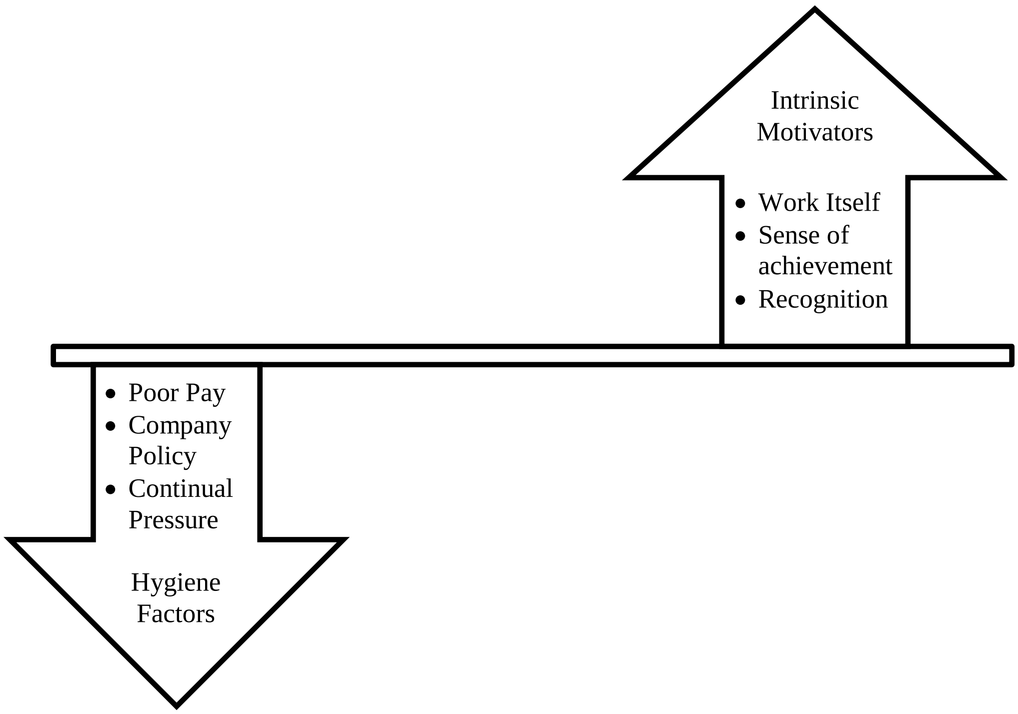

Figure 1. Herzberg's Two-Factor Theory (Herzberg, 1968; Herzberg, Mausner, & Snyderman, 1959; Wicks & Linder, 2003).

The Herzberg's Two-Factor theory has been criticized even though it has been recognized for evaluating job satisfaction. One criticism claims that several hygiene factors or job dissatisfaction factors (i.e. salary, working conditions, and co-worker relationships) can increase job satisfaction (Byrd, Anderson, & Paulsen, 2015).

This proposed research study is significant because no studies have attempted to understand the perspectives of female teachers who teach the agricultural mechanics courses. Castillo and Cano (1999) reported an increase in the number of female agricultural teachers, but at the same time, these teachers are leaving the profession "at a faster rate than the male teachers" (p. 74). Castillo and Cano (1992) reported that female agricultural teachers had only an average of 6.49 years of teaching experience before leaving. The turnover rate of these teachers is of greatest concern because it can be associated with unfavorable working conditions (Padilla-Vellez, 1993).

Much of the literature has stated that in order to decrease the agriculture education teacher turnover rate, job satisfaction factors must be increased (Castillo & Cano, 2004; Padilla-Velez, 1993; Wolf, 2011). Turnover rates impact agricultural organizations by: "(1) Increasing costs related to recruiting, selecting, and training new employees; (2) Reducing the morale of employees who remain with the organization; (3) Reducing relationships among employees; (4) Projecting an unfavorable image to those who remain informed about the organization; (5) Interrupting daily activities; and (6) diminishing the opportunity for the organization to grow" (Castillo & Cano, 1999, p. 68). Teacher turnover rate in agriculture education greatly affects the students involved in the chapter activities because the students are in these agriculture education programs for up to four years (Castillo & Cano, 1999). If these job satisfaction factors are not increased, many teachers will continue leaving the profession and the number of students could decrease with no agricultural education teacher.

Summary

The National Commission on Teaching and America's Future stated in 1996 that "highly qualified teacher are the most important component of a child's education (Lambert, Henry, & Tummons, 2011, p. 50). However, agricultural education has been faced teacher shortages for many years and being highly qualified puts additional teachers who may be qualified out of the classroom (Camp, Broyles, & Skelton, 2002; Connors, 1998; Kantrovich, 2007; Lambert, Henry, & Tummons, 2011). Crucial issues face the field of agricultural education today, such as job satisfaction, burnout, and retention rates (Delnero & Weeks, 2000). Wicks and Linder (2003) found that agricultural education professionals have perceived that they are not being fairly compensated, and when professionals perceive their compensation is unfair, job satisfaction and performance are at risk.

This study follows the theoretical framework of the Motivator-Hygiene Theory to understand the female agricultural mechanics teachers' working conditions in order to manipulate the dissatisfaction factors and enhance the satisfaction of the teachers. This study was significant because little is known about female agricultural mechanics teachers. The women in the agricultural field were once the minority and are rapidly becoming the majority of our Texas agricultural education workforce. Understanding how female teachers feel about their jobs is the key to retaining female teachers in the classroom teaching.

CHAPTER III

METHODOLOGY

This chapter explains the procedures and methods used to collect, measure, and analyze the data. The research design, frame, and sampling are addressed. Additionally, instrumentation, including validity and reliability, are discussed. Finally, a summary of the data analysis for each research question is presented.

Purpose of the Study

This quantitative, non-experimental descriptive study assessed the career satisfaction levels of school-based, female agricultural mechanics teachers in the state of Texas.

Research Objectives

The objectives for the study include:

1. Determine the personal (level of education, range of salary, family situation, number of children, type of educational certifications, additional degrees in process, and ethnicity), professional (hours worked per week, years of teaching experience, and years intended to teach) and program (number of agricultural science teachers in the program, number of students enrolled, number of agricultural mechanics courses taught in 2013-2014 school year, number of Leadership Development Events (LDE) teams trained, number of Career Development Events (CDE) teams trained, Tractor Tech CDE team trained, Agricultural Technology and Mechanical Systems CDE team trained, industry certifications offered, program budget, laboratory size, laboratory condition, tool age, and tool condition) demographic characteristics of Texas school-based female agricultural mechanics teachers.

2. Determine the perceptions of Texas school-based female agricultural educators' reasons for teaching agricultural mechanics courses.
3. Determine the career satisfaction level of Texas school-based female agriculture mechanics teachers based upon: administrative support, parental support, relationships with teaching partners, supervising FFA activities, colleagues, and contributing to student success.
4. Determine the level of school administrative and parental program support for curriculum / courses, FFA, teacher professional development, and personal and co-worker relationships.
5. Determine if a correlation exists between job satisfaction levels versus salary, hours worked, administration support, parent support, and teaching partner relationship.

Research Design

This research study followed a quantitative, non-experimental descriptive design. Descriptive survey research portrays the characteristics of a population or group (Cano, 2012). Data were collected following the criteria established by Dillman, Smyth, and Christian (2014). Following the literature on research design, a tailored, electronic approach to data collection was used to gather information necessary to achieve the purpose and objectives of the study (Dillman, Smith, & Christian, 2014). This study employed the use of an online survey instrument to gather information regarding the career satisfaction of female school-based agricultural mechanics teachers in Texas. Internet survey response rates are often relatively low; therefore, including mail self-administered surveys with a token cash incentive was used to improve the survey response rate (Manfreda, Bosnjak, Berzelak, Haas, & Vehovar, 2008; Millar & Dillman, 2011). After sending out the survey five times via the Qualtrics electronic survey system, the survey was mailed a final time with a new $2 bill as the cash incentive.

Correlational research is when the researcher observes what goes on in the world without interfering with it (Field, 2013). Correlations were used to investigate potential relationships between variables (Gall, Gall, & Borg, 2003). The researcher sought to determine if a correlation existed between job satisfaction level versus salary, hours worked, administration support, parent support, and teaching partner relationships. In addition, the researcher examined several independent variables of interest, including: salary, hours worked, administration support, parent support, and teaching partner relationships.

Descriptive research has two primary concerns that must be addressed, internal and external validity (Onwuegbuzi, 2000). Internal validity ensures that the data or findings are true, and if replicated with the same population, the same results would be received (Onwuegbuzi, 2000). The survey has external validity if the survey can be generalized over the entire population (Onwuegbuzi, 2000). Furthermore, the factors that influence external validity include sampling error, selection error, frame error, and non-response error.

Population and Sampling

The target population of this study consisted of all female school-based agricultural mechanics teachers in Texas, who at the time of the study, taught agricultural mechanics curriculum (n = 50). The frame for this study was obtained from the 2013-2014 Texas FFA Area directories, published on 10 different Texas FFA Area websites.

To arrive at the target population, all Texas school-based agricultural science teachers (*N* = 1,670) were surveyed to determine if they taught any part of the agricultural mechanics curriculum, including the Principles of Agriculture, Food, and Natural Resources course (course number 130.2). Of those who responded, 50 (6%) of the agriculture teachers indicated that they were female and taught some part of the agricultural mechanics curriculum, including the Principles to Agriculture, Food, and Natural Resources, Agricultural Power Systems, Agricultural Facilities Design and Fabrication, and Agricultural Mechanics and Metal Technologies courses. These 50 female teachers formed the population frame for this research study.

A census of the population was used for three reasons. First, all teachers were accessible because of the availability of their school e-mail address from the 2013-2014 Texas FFA Area Directories. Second, by distributing the instrument to teachers online and by mail, there was little cost. Finally, the number of subjects in the population was manageable. This group was contacted seven times using the modified Tailored Design Method (Dillman, Smyth, & Christian, 2014). The initial contact was an e-mail pre-notice. Next, there were five e-mail invitations for participants to complete an online data collection instrument. Finally, a mailed survey was sent to all non-respondents to give them a final opportunity to complete the questionnaire and to account for non-response error. This process yielded a final response rate of 78% ($n = 39$).

To address any potential frame error and ensure frame accuracy, the list of subjects was examined by the researcher for (frame) errors of omissions and duplicate names (selection error). Names of the educators, school location, school addresses, school phone numbers, and e-mail addresses were reviewed to ensure that the information was correct.

Instrumentation

Data was collected though a web-based questionnaire and a mailed questionnaire to those initial non-respondents. A web-link to the instrument (Appendix A), entitled Career Satisfaction of Texas School-Based Female Agricultural Mechanics Teachers Assessment, was distributed to all subjects to obtain information that influenced the career satisfaction and career retention of Texas school-based female agricultural mechanics teachers. The utilization of a web-based instrument offers advantages such as a timeline for the study, ease of data collection and analysis, and a reduced expense. The mailed questionnaire entitled Career Satisfaction of Female Texas School-Based Agricultural Mechanics Teachers (Appendix B), was created and sent after the web-based survey. Questionnaires were mailed only to those non-respondents in order to gain a higher response rate, gain additional data, and to account for non-response error in the population. Once the questionnaires were received they are entered into IBM SPSS Statistics Version 21 in order to analyze the data.

Part A of the electronic and mailed questionnaire consisted of three questions that sought to determine the career satisfaction of the Texas school-based female agricultural mechanics teachers in Texas. The development of Question one was based upon the work of Brayfield and Roth (1951) and consisted of nineteen statements. The Brayfield-Roth index of job satisfaction was chosen for use in this study because it has been determined to be both a reliable and valid index of overall job satisfaction (Warner, 1973). The Brayfield-Roth index of job satisfaction response scale for each factor was: 1 = Strongly

Agree, 2 = Agree, 3 = Undecided, 4 = Disagree, 5 = Strongly Disagree. The second open-ended question in this section asked the teachers what aspects of being an agriculture science teacher were the most satisfying. The researcher asked this question to gain insight into the daily life of the agricultural educators. The final question in this section contained a five-point, Likert-type scale that offered subjects the chance to provide different information about factors that might contribute to their satisfaction or dissatisfaction regarding school life. This response scale for each factor was: 1 = No Satisfaction, 2 = Little Satisfaction, 3 = Some Satisfaction, 4 = Moderate Satisfaction, 5 = Great Satisfaction.

Part B of each questionnaire was developed by the researcher to determine the reason in which teachers stay or leave the agriculture science education career field and consisted of six questions. The first question in this section used a five-point, Likert-type scale and listed 22 factors that influence, or do not influence, a teacher to teach agricultural science education. The response scale for each factor was: 1 = No Influence, 2 = Little Influence, 3 = Some Influence, 4 = Moderate Influence, 5 = Great Influence. The second and third questions in this section attempted to determine how much support the agricultural educators were received from parents and school administration. These questions also used a five-point, Likert-type scale with a response scale of: 1 = No Support at all, 2 = Very Little Support, 3 = Some Support, 4 = Lots of Support, 5 = Extreme Support. The final three questions in the section were open-ended and attempted to determine: 1. What motivates the teachers to continue teaching?, 2. Why they would want to stop teaching?, and 3. What motivated them to start teaching agricultural mechanics?

Part C and D of the instrument consisted of 33 questions collected information on program (i.e. number of agricultural science teachers in the program, number of students enrolled in the program, number of agricultural mechanics courses taught in the 2013-2014 school year, number of LDE teams trained, number of CDE teams trained, Tractor Tech CDE team trained, Agricultural Technology Mechanical Systems CDE team trained, industry certifications offered, program budget, laboratory size, laboratory condition, tool age, and tool condition), professional (i.e. hours worked per week, years of teaching experience, and years intended to teach), personal (i.e. level of education, range of salary, family situation, number of children, type of educational certifications, additional degrees in progress, and ethnicity), and demographic information of the respondents and the school-based agricultural education program in which they taught. The questions in these sections consisted of open-ended and multiple choice answers.

Accounting for Measurement Error

When conducting any type of research, the researcher must make every effort to reduce any error that may occur. Measurement error, however, can never be completely eliminated. By addressing both random and systematic type error, the researcher can minimize the possibility of any error. In this study, steps were taken to control systematic error by addressing validity and reliability.

Validity of the Instrument

Validity is "the most important characteristic a test" can have when measuring quantities research (Gay & Airasian, 2000, p. 169). Validity depends on the construction of the instrument to ensure that the instrument measures what the researchers are attempting to measure (Patton, 2002). For this study, face and content validity was used to determine the validity of the Career Satisfaction of Texas Female School-Based Agricultural Mechanics Teachers Assessment questionnaire.

Face validity was established by individuals with experience in instrument development and agricultural mechanics curriculum. Face validity tries to determine if the survey accurately answers the questions the researcher is asking. Determining face validity is important because the respondents are more likely to complete a survey if it appears to be meaningful (Ary, Jacobs, & Razavieh, 2002). Content validity suggests that the instrument measures what it intends to measure. In essence, face and content validity is the assumption that the instrument measured what it was intended to measure.

This descriptive study used a panel of experts (see Appendix C) (*N* = 6), including agricultural education teachers and graduate students who assessed the instrument for face and content validity. The Brayfield-Roth index of job satisfaction indicated a high level of criterion validity at .92 (Warner, 1973).

Pilot Testing

Pilot testing is often used to determine the reliability of an instrument. “Pilot studies are often deemed essential when a new survey questionnaire or new implementation procedures are to be used for a survey” (Dillman, Smyth, & Christian, 2014, p. 343). This study sought to uncover many inefficient or ineffective questions and procedures that would not have been caught if it was not for the pilot test. Although a pilot study is recommended, conducting pilot tests is not perfect. The researcher could not conduct a pilot test due to the minimal size of the frame (*n* = 50). Instead of conducting the pilot test, the researcher ran post-hoc reliability tests (Cronbach’s Alpha

Coefficient) which determined a good reliability of the survey after it has already been taken by the frame.

Reliability of the Instrument

The post-hoc reliability was calculated using the IBM Statistical Package for the Social Sciences (SPSS) statistics version 21. Post-Hoc reliability "analysis is used to measure the consistency of a measure" (Field, 2013, p. 715). This reliability test uses Cronbach's alpha coefficient to determine if any questions are unreliable (.7 or lower) and should be deleted. Cronbach's alpha coefficient was used to assess the reliability of the instrument. Cronbach's alpha values indicate what has good and bad reliability in the survey. Kline (1999) stated that the generally accepted value for good reliability is .8 or higher (Field, 2013). In previous studies the Brayfield-Roth index of job satisfaction was proven to have good reliability (Cronbach's alpha = .87) (Bowen & Radhakrishna, 1990).

Table 1 displays how each construct was determined to be reliable and can be used to assess a respondent's opinion on certain areas of inquiry. These constructs were reliable since they all had a Cronbach's alpha coefficient level of .8 level or higher. Each construct can be included in the results since the constructs were deemed reliable.

Table 1
Post-Hoc Reliability of the Career Satisfaction of Texas Female School-Based Agricultural Mechanics Teachers Survey (n = 39*)*

Construct	Level of Influence
Career Satisfaction	.87
Career Retention	.91
Parent Support	.86
Administrative Support	.91

Institutional Approval

After the data collection instrument was developed, but prior to implementation of the data collection process, the researcher submitted a proposed plan outlining the data collection process to the Texas State University Institutional Review Board (IRB). The data collection process began after receiving approval from IRB, project number EXP2014P950488R, and following requirement and specifications set forth in the approval notice.

Data Collection

A modified version of the Dillman, Smyth, and Christian (2014) Tailored Design Method for Internet Surveys was utilized to guide the data collection process of this study. This method is mostly used in conjunction with mailed surveys and includes up to five potential points of contact: first contact – a pre-notice letter, second contact – the instrument is mailed out, third contact – a postcard thank you/reminder, fourth contact - the first replacement instrument, and fifth contact – the final contact that may include a different mode of contact (Dillman, Smyth, & Christian, 2014). In order to deliver this instrument via the Internet, the five contacts were modified. For this study, subjects were contacted up to five potential times through e-mail from the researcher. Responses from participants were coded for follow up in order to gain a higher response rate. E-mail messages were personalized in accordance with Dillman, Smyth, and Christian's (2014) recommendation that stated "personalization is important for achieving response" (p. 363). The researcher followed these recommendations and contacted the respondents five times throughout the study.

The first contact with the respondents was an e-mail message sent three days prior to the beginning of the data collection period on June 18, 2014. In this e-mail an overview of the research was provided and subjects were asked to participate in the study. Subjects were informed that the survey would be given via web-based questionnaire and it would be accessible immediate using a uniform resource locator (URL) link provided in the next message. The e-mail also provided contact information for those involved in the study and explained that participation in the study was voluntary, in accordance with the Texas State University IRB policies.

The second contact occurred on June 20, 2014. In this e-mail message, subjects were provided a link to the web-based questionnaire, which included a detailed cover letter explaining the importance of their participation in this study. Dillman, Smyth, and Christian (2014) stated that "the utilization of multiple contact modes will improve response rate" (p. 417). Therefore, a third contact mode was made on August 5, 2014. This break between contact points was needed because of the schedule for high schools. The month of June, most agriculture education teachers have their final classes and do not meet at the school or check their school e-mail until the next semester of high school has begun in the fall. The first week of August is when most schools hold their in-service meetings for teachers, when the teachers are at the school, but the students do not attend. This was the next contact point the researcher could contact our teachers after contacting them in June. In the third e-mail contact it contained a URL link to a replacement web-based questionnaire that was sent to the non-respondents. This contact also included the detailed cover letter, explaining the importance of a response and indicated that the person's completed questionnaire had not yet been received and urged the recipient to respond. However, the third contact in this study was written in such a way to "convey a sense of importance" and "jog memories and rearrange priorities" (Dillman, Smyth, & Christian, 2014, p. 179).

The fourth point of contact was on August 8, 2014, three days after our third contact. Members of the population who had not yet responded were contacted via e-mail. This contact was similar to the third point of contact, which included the URL link to the web-based survey and the detailed cover letter, explaining the importance of a response and indicated that the person's completed questionnaire had not yet been received and urged the recipient to respond.

On August 12, 2014, the final fifth contact was made with the non-responding subjects. In this contact, a cover letter explaining the importance of their participation in the study and a 12-page paper survey was mailed to their corresponding high school. Also included in this mailed survey was a $2 token of appreciation. The money was added to the mailed survey in hopes that it would "encourage respondents to reciprocate by completing the survey" (Dillman, Smyth, & Christian, 2014, p. 368). All postage was pre-paid to and from the recipient for first class delivery to help ensure that the respondents would return the completed surveys.

The follow-up option provided by Qualtrics™, and additional e-mail was sent to respondents who finished the instrument thanking them for their participation. Additional instrument featured allowed the respondents to begin the instrument from where they last left off instead of requiring them to start over after each follow up e-mail was sent.

As previously explained, a financial incentive was offered to encourage teacher participation. Non-respondents from the e-mail portion of the survey were given a new $2 bill with their final mailed survey. This incentive aligned with Dillman, Smyth, and Christian's (2014) suggestion of providing an incentive with the instrument for increased participation. Finally, 39 (78%) Texas school-based female agricultural mechanics educators provided usable responses for this study.

Data Analysis

The data was analyzed using the IBM Statistical Package for the Social Sciences® (SPSS) 21.0 for Windows and Microsoft Office Excel®. Data analysis methods were selected as a result of determining the scales of measurement for the variables.

Research Objective One

The first research objective examined the personal (sex, level of education, range of salary, family situation, number of children, type of educational certification, additional degrees in process, and ethnicity), professional (hours worked per week; years of teaching experience, and years intended to teach), programmatic (number of agricultural science teachers, number of students enrolled, number of agricultural mechanics courses taught in 2013-2014 school year, number of LDE teams trained, number of CDE teams trained, industry certifications offered, program budget, laboratory size, laboratory condition, tool age, and tool condition), and demographic characteristics of Texas school-based female agricultural mechanics teachers. This research objective used descriptive statistics to describe the data associated with this research objective. Frequency percentages, means, and standard deviations were used to adequately describe the data. Measures of central tendency and variability (Mean, Median, Mode, Range, Frequency, and Percentages), in relation to the demographics, were also calculated.

Research Objective Two

Research objective two examined the perceptions of Texas school-based female agricultural educators' reasons for teaching agricultural mechanics courses. This research question used descriptive statistics to describe the data. Frequencies and percentages were used to describe the data. The researcher also calculated the measures of central tendency in relation to 22 factors that influence career retention. Results of the influence of each factor were analyzed with the following scale: 0.0 - 1.0 = No Influence, 1.1 – 2.0 = Little Influence, 2.1 - 3.0 = Some Influence, 3.1 – 4.0 = Moderate Influence, 4.1 - 5.0 = Great Influence.

Research Objective Three

The third research objective examined the career satisfaction level of Texas school-based female agriculture mechanics teachers based upon the following issues: administrative support, parent support, relationship with teaching partner, supervision of FFA activities, ability to watch students grow and succeed, colleagues, and contributions to student success. This research objective utilized the Brayfield and Roth index of job satisfaction. This research question used descriptive statistics to describe the data. Frequencies and percentages were used to describe the data. The researcher also calculated the measures of central tendency in relation to 19 factors that influence career satisfaction. Results of the influence of each factor were analyzed with the following scale: 0.0 - 1.0 = Strongly Agree, 1.1 – 2.0 = Agree, 2.1 - 3.0 = Undecided, 3.1 – 4.0 = Disagree, 4.1 - 5.0 = Strongly Disagree.

Research Objective Four

Research objective four focused on level of school administrative and parental program support for curriculum/courses, FFA, professional development, and personal, co-worker relationships. This research question used descriptive statistics to describe the data. Frequencies and percentages were used to describe the data. The researcher also calculated the measures of central tendency (Mean, Median, Mode, Range, Frequency, and Percentages) in relation to the factors that influence the support for the program. Results of the influence from each factor were analyzed with the following scale: 0.0 - 1.0 = No Support at all, 1.1 – 2.0 = Very Little Support, 2.1 - 3.0 = Some Support, 3.1 – 4.0 = Lots of Support, 4.1 - 5.0 = Extreme Support.

Research Objective Five

Research objective five determined if a correlation existed between job satisfaction levels versus salary, hours worked, administration support, parent support, and teaching partner relationship. Correlation coefficients were calculated to assess the strength of the relationship that existed among selected demographic characteristics. Correlation coefficients were analyzed using Pearson's correlation coefficients (*r*) which must lie between -1 and +1 (Field, 2013). Using Pearson's correlation coefficient +1 indicates that there is a perfect positive relationship, 0 indicates no linear relationship, and -1 indicates a perfect negative relationship. Each correlation coefficient can also measure the size of the effect where "±.1 represents a small effect, ±.3 is a medium effect, and ±.5 is a large effect" (Fields, 2013, p. 270).

CHAPTER IV

FINDINGS

Chapter four is a report of the findings in this study. A description of the results of the data analysis is reported for each research question.

Purpose of the Study

The purpose of this quantitative, non-experimental descriptive study was to assess the job satisfaction levels of female agricultural mechanics teachers in the state of Texas.

Research Objectives

The objectives for the study include:

1. Determine the personal (level of education, range of salary, family situation, children, type of educational certifications, additional degrees in process, and ethnicity), professional (hours worked per week; years of teaching experience, and years intended to teach), program (number of agricultural science teachers, number of students enrolled, number of agricultural mechanics courses taught in 2013-2014 school year, number of Leadership Development Events (LDE) teams trained, number of Career Development Events (CDE) teams trained, Tractor Tech CDE team trained, Agricultural Technology and Mechanical Systems CDE team trained, industry certifications offered, program budget, laboratory size, laboratory condition, tool age, and tool condition), and demographic characteristics of Texas school-based female agricultural mechanics teachers.
2. Determine the perceptions of Texas school-based female agricultural educators' reasons for teaching agricultural mechanics courses.

3. Determine the career satisfaction level of Texas school-based female agricultural mechanics teachers based upon: administrative support, parent support, relationship with teaching partner, supervising FFA activities, ability to watch students grow and succeed, and colleague relationships.
4. Determine the level of school administrative and parental program support for curriculum/courses, FFA, professional development, and personal and co-worker relationships.
5. Determine if a correlation exists between job satisfaction levels versus salary, hours worked, administration support, parent support, and teaching partner relationship.

Results

Findings Related to Research Objective One

The first research objective sought to determine the personal (level of education, range of salary, family situation, number of children, type of educational certifications, additional degrees in process, and ethnicity), professional (hours worked per week, years of teaching experience, and years intended to teach), program (number of agricultural science teachers, number of students enrolled, number of agricultural mechanics courses taught in 2013-2014 school year, number of LDE teams trained, number of CDE teams trained, Tractor Tech CDE team trained, Agricultural Technology and Mechanical Systems CDE team trained, industry certifications offered, program budget, laboratory size, laboratory condition, tool age, and tool condition) and demographic characteristics of Texas school-based female agricultural mechanics teachers.

Twenty- one of the female agricultural mechanics teachers stated they did not possess more than a bachelor's degree (*f* = 21; 53.8%), followed by those that possess a master's degree (*f* = 14; 35.9%). The teachers did not hold any specialist degrees and only one teacher (2.6%) held a degree other than a bachelor's, master's, or specialist. Three teachers did not respond to this question. A summary of these data is displayed in Figure 2.

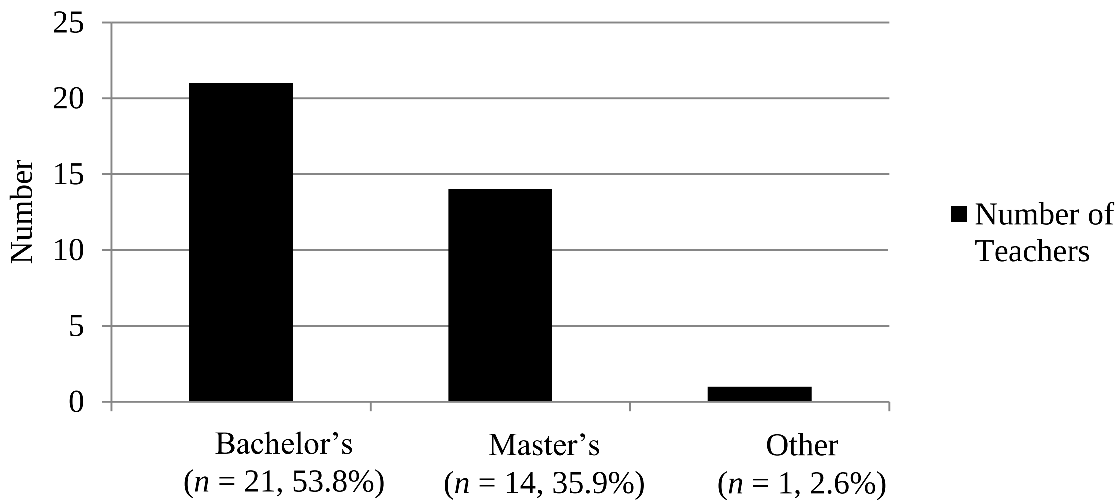

Figure 2. Average Level of Education of Female Texas Agricultural Mechanics Teachers (*n* = 36).

Although not all 39 female agricultural mechanics teachers (*n* = 36) chose to answer how much their salary was, they were consistent in how much they made per year. Of the 36 female agricultural mechanics teachers who answered this question 41% made between $36,000 – $45,000 and the next highest salary (17.9%) being $51,000 – $55,000. A summary of the data is displayed in Table 2.

Table 2
Salary Ranges of Female Texas School-Based Agricultural Mechanics Teachers (n = 36).

Salary Ranges	*n*	%
30,000 – 35,000	4	10.3%
36,000 – 40,000	8	20.5%
41,000 – 45,000	8	20.5%
46,000 – 50,000	2	05.1%
51,000 – 55,000	7	17.9%
56,000 – 60,000	1	02.6%
61,000 – 65,000	2	05.1%
66,000 – 70,000	1	02.6%
76,000 – 80,000	1	02.6%
86,000 – 90,000	1	02.6%
91,000 – 95,000	1	02.6%

Thirty-six teachers answered the two questions about their family situation. The majority (n = 21; 53.8%) of female teachers are married. The second most female agricultural mechanics teachers have never been married (n = 8; 20.5%). The mean family situations was 2.78, median was 3.0, mode was 3 (divorced and engaged), and had a standard deviation of 1.416. A summary of the data is displayed in Figure 3.

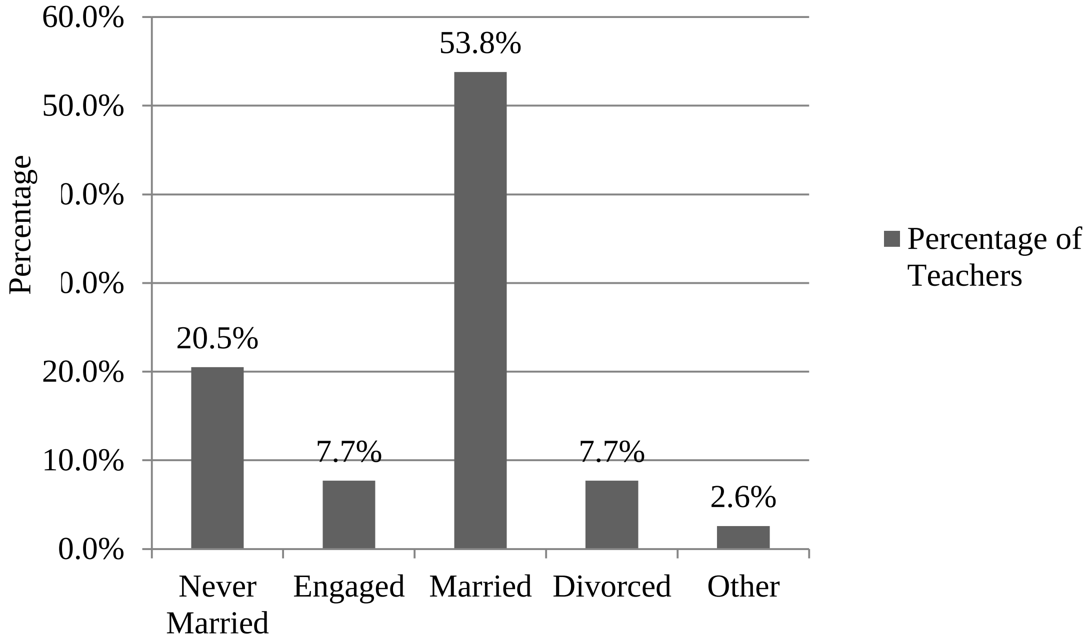

Figure 3. Average Marital Status of the Female Texas Agricultural Mechanics Teachers (*n* = 36).

Of those 36 teachers who answered these personal questions, the majority (56.4%) had no children (*n* = 22). Of those who had children (*n* = 14; 35.9%) most had two (*n* = 7; 17.9%). A summary of the data is represented in Figure 4 and 5.

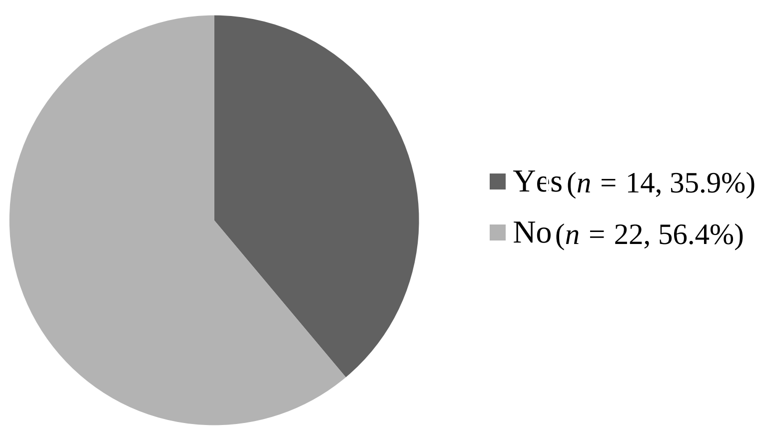

Figure 4. Children of the Female School-Based Texas Agricultural Mechanics Teachers (*n* = 36).

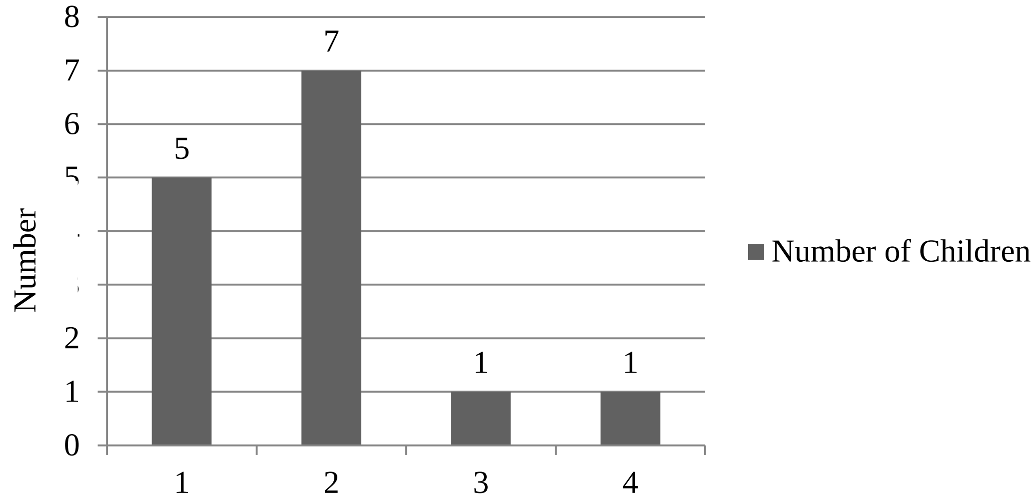

Figure 5. Average Number of Children the Female School-Based Texas Agricultural Mechanics Teachers have.

The majority of the 36 female Texas school-based agricultural mechanics teachers became certified by possessing their certification with their bachelor's degree (*n* = 28; 71.5%). The average female school-based Texas agricultural mechanics teacher were not pursuing any additional degrees in the 2013-2014 academic school year. If any teachers were pursuing any additional degrees, they were not for a specific subject. All those who were pursuing a different degree had no common degree other than pursuing their master's (*n* = 6; 85.7%). A summary of the data is presented in Figure 6, 7, and 8.

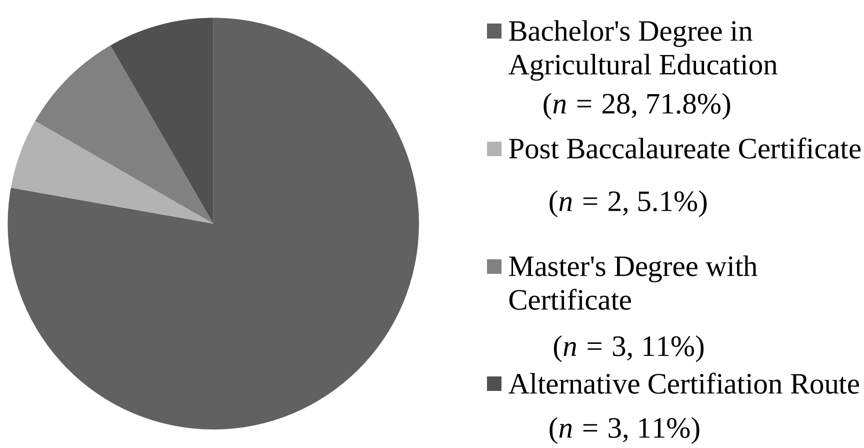

Figure 6. Type of Teaching Certificates Possessed by the Female School-Based Texas Agricultural Mechanics Teachers in Texas (*n* = 36).

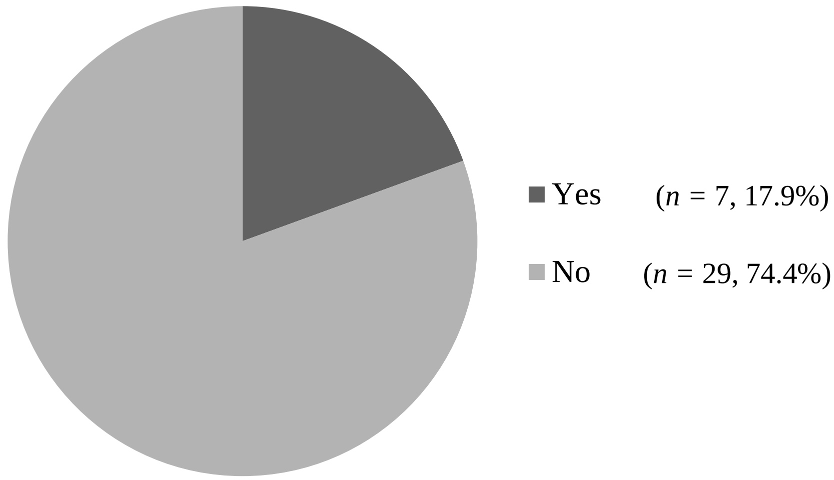

Figure 7. Texas Female School-Based Agricultural Mechanics Teachers Pursuit of Additional Degree (n = 36).

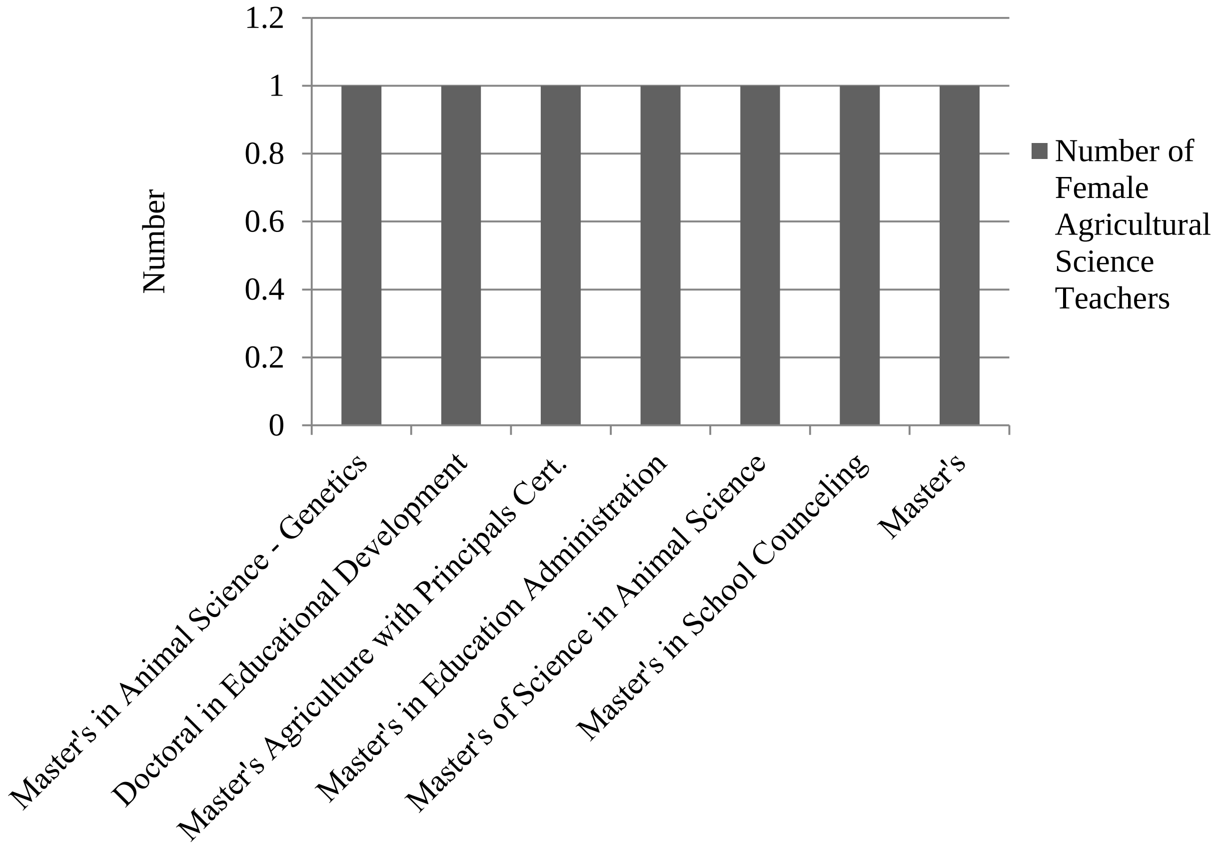

Figure 8. Additional Degrees in Process by the Texas Female Agricultural Mechanics Teachers (n = 7).

Of those 36 female school-based Texas agricultural mechanics teachers who answered the personal questions, the majority (*n* = 34; 87.2%). Only two female teachers stated that they were not of the white race. A summary of the data are represented in Figure 9.

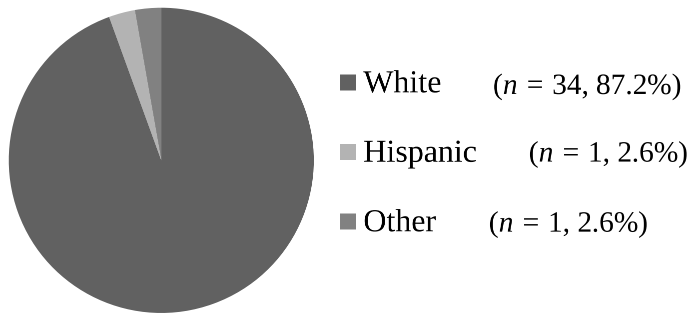

Figure 9. Average Ethnicity of the Female School-Based Agricultural Mechanics Teachers in Texas (*n* = 36).

The mean number of hours worked per week as a school-based agricultural mechanics teachers is 59.8 hours per week (*Mdn* = 60; Mode = 60; Variance = 148.7; *SD* = 12.2; Range = 59). On average, Texas school-based agricultural mechanics teachers had 7.3 years of teaching experience (*Mdn* = 4; Mode = 2; Variance = 72.3; *SD* = 8.5; Range = 36). The female Texas school-based agricultural mechanics teachers have an average of 21.9 years intending on teaching (*Mdn* = 20; Mode = 20; Variance = 152.6; *SD* = 12.4; Range = 40). A summary of the data is displayed in Table 3.

Table 3

Professional Program Demographic Characteristics of Texas School-Based Agricultural Mechanics Teachers (n = 36)

	Central Tendency			Variability		
Characteristics	*M*	*Mdn*	Mode	Variance	*SD*	Range
Hours worked Per Week	59.8	60	60	148.7	12.2	59
Years of Teaching	7.3	4	2	72.3	8.5	36
Years intended to Teach	21.9	20	20	152.6	12.4	40

The average female agricultural mechanics teacher has only one teaching partner or is her school's only agricultural science instructor (*n* = 28; 71.8%; *M* = 1.95; *Mdn* = 2; Mode = 1 & 2; *SD* = .89; Variance = .81). The data is presented in Figure 10.

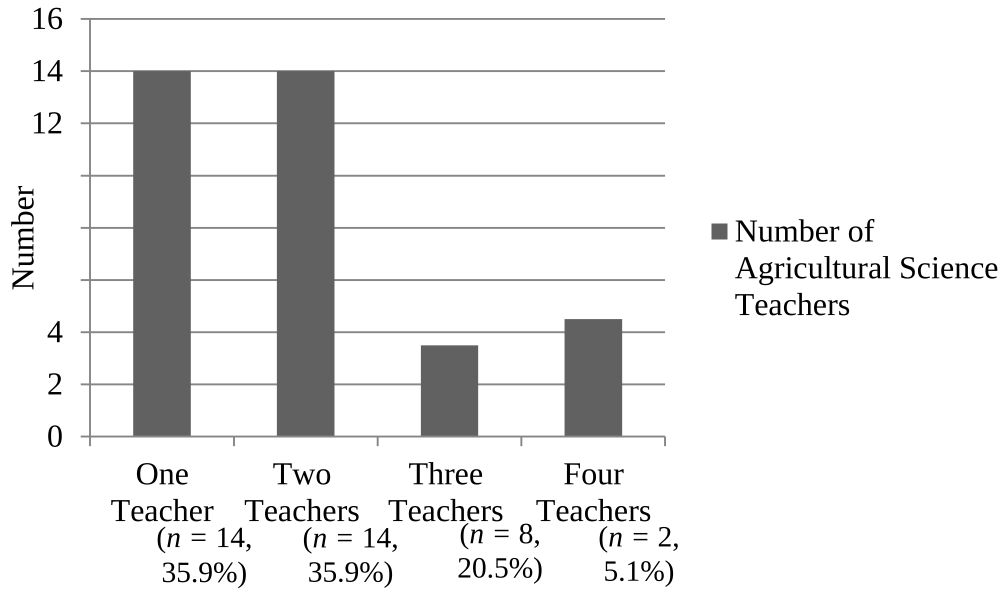

Figure 10. The Number of Agricultural Teachers in the Departments with the Female Agricultural Mechanics Teachers (*n* = 38).

The 36 female agricultural mechanics teachers have an average of 173 students enrolled in their local program. The minimum number of students enrolled in the local program was 13 students with the maximum number of students enrolled were 600. The data are presented in Table 4.

Table 4
Number of Students Enrolled in the Local Program of the School- Based Agricultural Mechanics Teachers (n = 36)

	Central Tendency			Variability		
Number	*M*	*Mdn*	Mode	Variance	*SD*	Range
Number of Students Enrolled in the Local Program	173	140	200	133,315.3	115.4	587

The agricultural mechanics teachers can teach a variety of courses. The female Texas school-based agricultural mechanics teachers teach in both the high school (*n* = 37; 94.9%) and junior high school (*n* = 4; 10.3%) setting. Of these 38 female agricultural mechanics teachers who answered this question, 33.3% only taught one mechanical course (*n* = 13) but taught up to seven courses (*M* = 2.63; *Mdn* = 2; Mode = 1; *SD* = 1.7; Variance = 2.9; Range = 6). Only one agricultural mechanics teacher did not answer these questions. The data are shown in Figure 11.

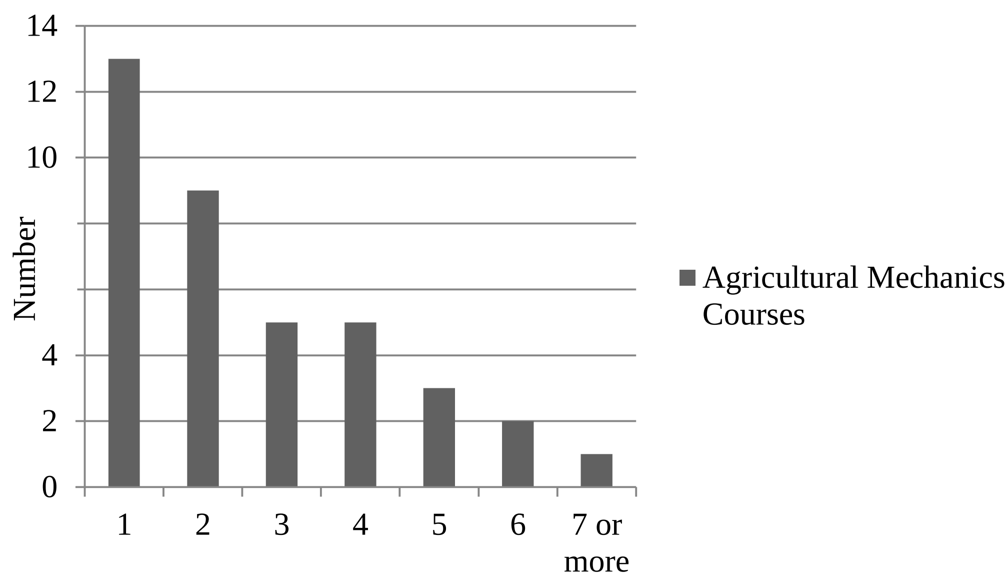

Figure 11. The Number of Agricultural Mechanics Courses Taught by the Agricultural Science Teachers (*n* = 38).

In addition to teaching agricultural mechanics skills, the teachers are required teach various LDE and CDE teams. Of the 37 agricultural mechanics teachers who answered this question, the majority of the teachers taught five or more LDE teams (*M* = 3.5; *Mdn* = 4; Mode = 5; *SD* = 1.4; Range = 4; Variance = 1.9). The data for LDE teams data are presented in Figure 12. The same 37 agricultural mechanics teachers stated that the majority coached four CDE teams (*M* = 3.5; *Mdn* = 4; Mode = 5; *SD* = 1.4; Range = 4; Variance = 1.9). The data for coaching CDE teams data are presented in Figure 13.

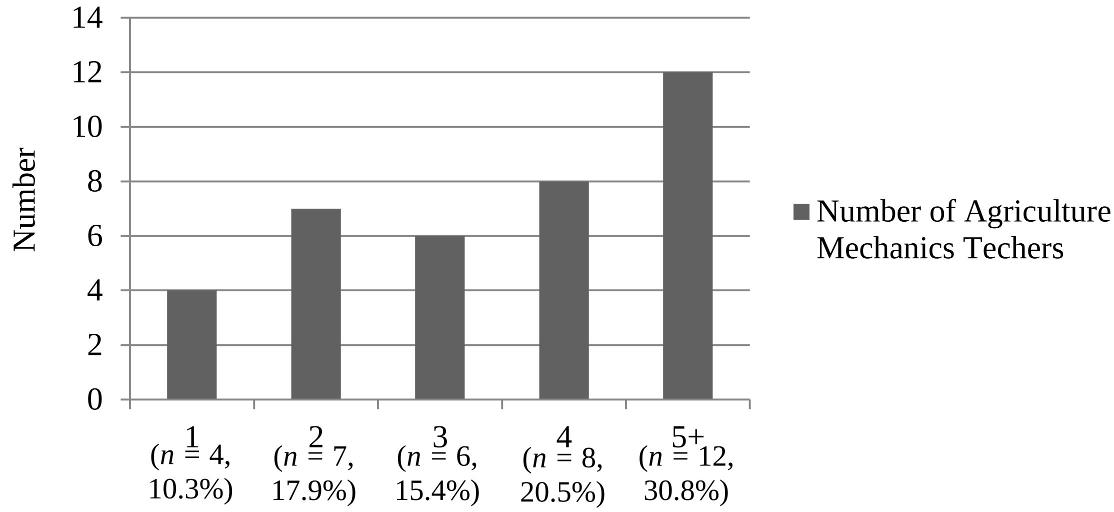

Figure 12. The Number of LDE Teams Coached by the Agricultural Mechanics Teachers in the 2013-2014 Academic School Year (*n* = 37).

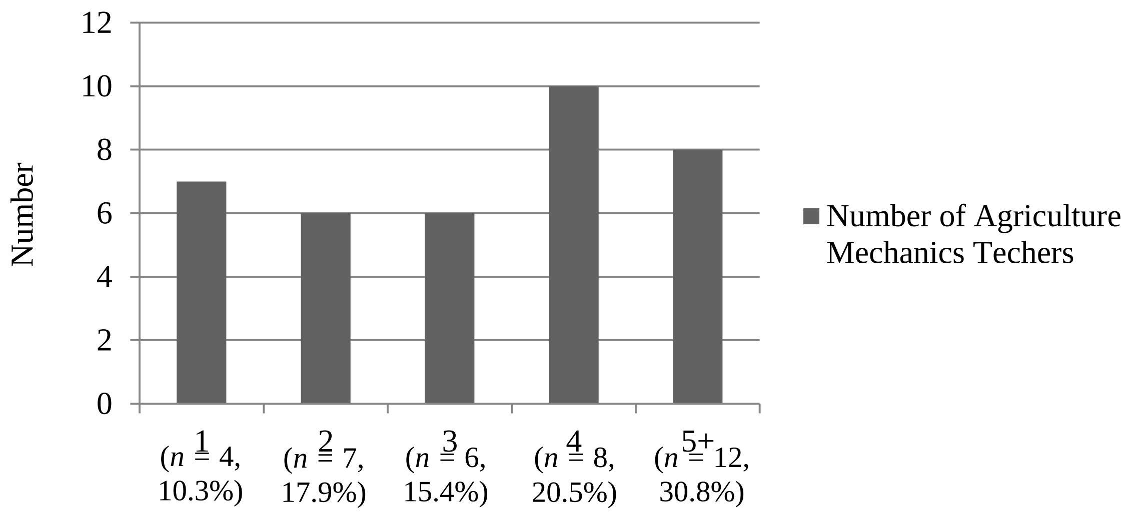

Figure 13. The Number of CDE Teams Coached by the Agricultural Mechanics Teachers in the 2013-2014 Academic School Year (*n* = 37).

As an agricultural mechanics instructor, there are two CDE teams that are related to the material taught in the curriculum, the Tractor Tech CDE team and the Agricultural

Technology and Mechanical Systems CDE. Although these teams are related to their content being taught in their classroom, the teachers stated the majority did not coach either the Tractor Tech (n = 37; 94.9%) or the Agricultural Technology and Mechanical Systems (n = 36; 92.3%) CDE. Figures 14 and 15 represent these data gathered from the survey.

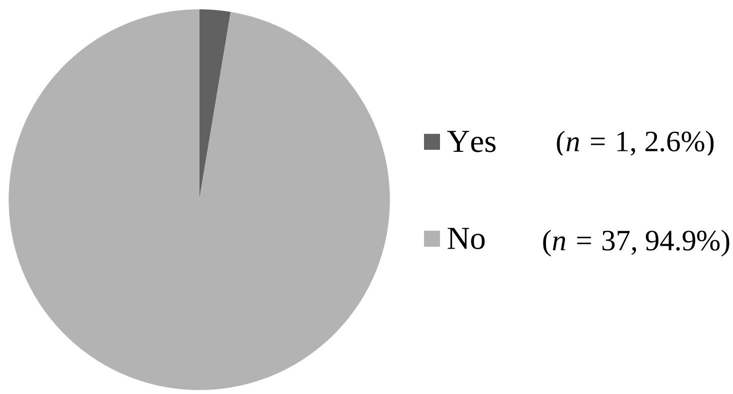

Figure 14. The Agricultural Mechanics Teachers that Trained a Tractor Tech CDE Team (n = 38).

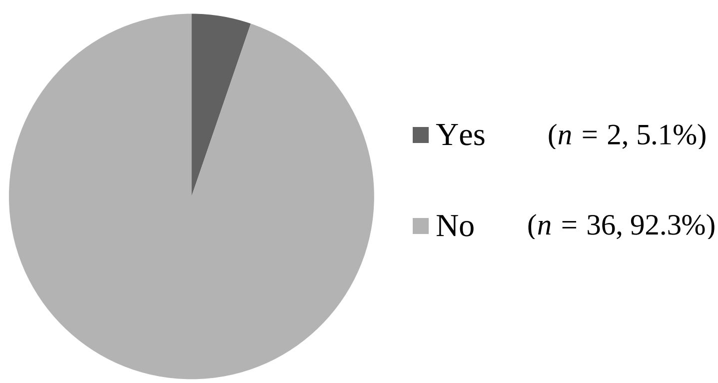

Figure 15. The Agricultural Mechanics Teachers that Trained an Agricultural Technology and Mechanical Systems CDE Team (n = 38).

Certifications are becoming more necessary today for any high school graduate entering the work force or even college. The agriculture field offers different certifications the students can acquire during their high school career. The majority of female agricultural mechanics teachers stated that they did offer their students the chance to obtain the certifications (*n* = 21; 53.6%). A summary of these data is presented in Figure 16.

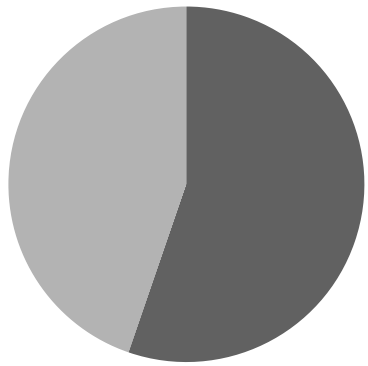

Figure 16. Certifications Offered by the Agricultural Mechanics Teachers (*n* = 38).

Many different certifications can be offered through the agricultural science classroom. The most common certification offered in the various school districts is the OSHA (Occupational Health and Safety) certification (*n* =7; 36.8%). The American Welding Society (AWS) (*n* = 6; 31.5%), Texas State Florists' Association (TSFA) (*n* = 3; 15.8%), National Center for Construction Education (NCCER) (*n* = 5; 26.3%), Texas Parks and Wildlife Departments Hunter Education Program (*n* = 2; 10.5%), Master Gardner (*n* = 1; 5.3%), Texas Cattle Feeders Association (*n* = 1; 5.3%), and Vet Technician (*n* = 1; 5.3%) were also present at the different school districts but were not a prevalent as the OSHA certification. The data in Figure 17 display which certifications are offered and their prevalence at the school. The percentages in this figure do not add up to only 100% because each school district can have more than one certification offered. Only 19 female agricultural science teachers stated that they offered any certifications.

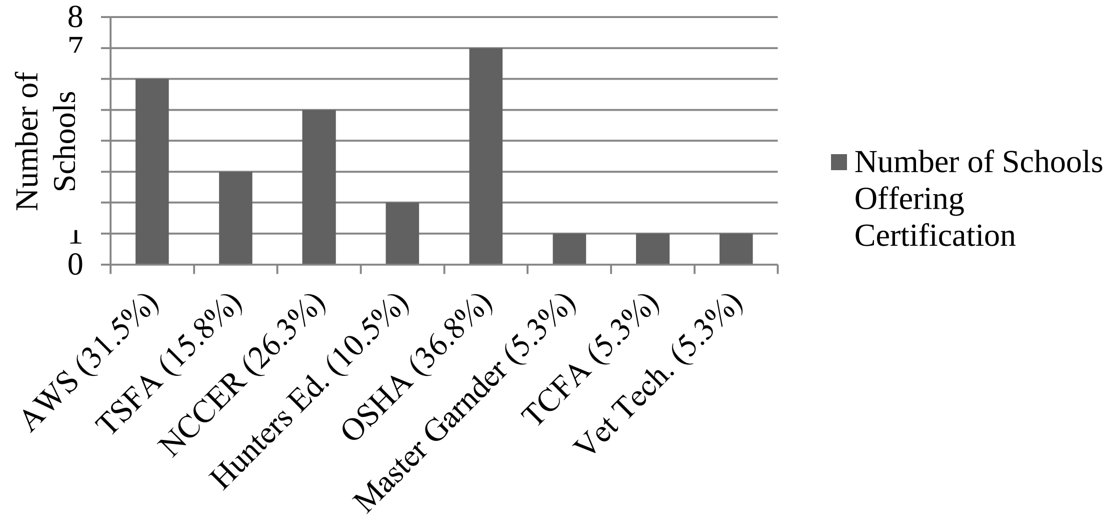

Figure 17. Types of Certifications Offered by the Female Agricultural Mechanics Teachers' School District (*n* = 26).

Agricultural mechanics courses can become expensive fast, with all the materials required to teach the content correctly. Therefore, knowing the budget is essential to knowing which parts of the curriculum these agricultural mechanics teachers can teach and how. The 37 agricultural mechanics teachers had an average overall budget for the agricultural education program of $6,289.60. The same teachers had a mean overall budget for their agricultural mechanics program of $4,377.80. In order to understand their budget more, the researcher described their spending habits. She found that the mean overall budget for personal protection equipment (PPE) (i.e. safety glasses, gloves, ear protection, etc.) was $1,457.30. The average overall budget for consumables (i.e. welding rods, fasteners, lumber, etc.) was $1,836.50. The mean overall budget for replacing tools and equipment for the agricultural mechanics teachers was $1,871.20. A summary of this data is presented in Table 5.

Table 5

Overall Budget ($) for Various Agricultural Mechanics Laboratory Equipment (n = 37)

	Central Tendency			Variability		
Number	*M*	*Mdn*	Mode	Variance	*SD*	Range
Overall budget for the agricultural education program	6289.60	3000.00	0	170793879.20	13068.80	75,000.00
Overall budget for the agricultural mechanics program	4377.80	1000.00	0	149591052.80	12230.70	75,000.00
Overall budget for personal protection equipment (PPE) (i.e. safety glasses, gloves, ear protection, etc.)	1457.30	500.00	0	3836382.10	1958.70	6,000.00
Overall budget for consumables (i.e. welding rods, fasteners, lumber, etc.)	1836.50	1000.00	0	4422622.10	2103.00	6,000.00
Overall budget for replacing tools and equipment	1871.20	1000.00	0	4918516.70	2217.80	7,500.00

Square footage of an agricultural mechanics laboratory can make a big difference in the amount of time spent in the laboratory and student safety. The agricultural mechanics teachers were asked to state the approximate square footage of their laboratory, and if they had two, the researcher asked them to add the two together to get one total square footage. The average square footage of a female agricultural mechanics teachers laboratory was stated to be 2,651.20 square feet (*M* = 2,651.2; *Mdn* = 1600; Mode = 1,600; Range = 10,768; Variance = 8,227,350.4; *SD* = 2,868.3). The laboratory square footage data are presented in Table 6.

Table 6
Average Square Footage of the Agricultural Mechanics Laboratory (n = 37)

Square Footage	*n*	%
32	1	2.6
50	1	2.6
400	1	2.6
500	1	2.6
600	1	2.6
750	1	2.6
800	1	2.6
900	2	5.1
956	1	2.6
1,000	1	2.6
1,200	1	2.6
1,440	1	2.6
1,500	1	2.6
1,600	3	7.8
2,000	1	2.6
2,400	1	2.6
3,000	2	5.1
3,500	1	2.6
4,000	2	5.1
5,000	2	5.1
9,550	1	2.6
10,000	1	2.6
10,800	1	2.6

Along with size and budge of the agricultural mechanics laboratory and program, the age can also affect the productivity of the students learning in the laboratory. The researcher asked the agricultural mechanics teachers to identify the approximate age of their laboratory and if they had two laboratories, they were to identify the age of the oldest laboratory. The average agricultural mechanics laboratory was older than 16+ years of age (*n* = 21; 53.8%). The various laboratory ages were four laboratories, 0-4 years old (10.3%); nine laboratories, 5 - 10 years old (23.1%); and two laboratories, 11 - 15 years old (5.1%). A summary of the data is presented in Figure 18.

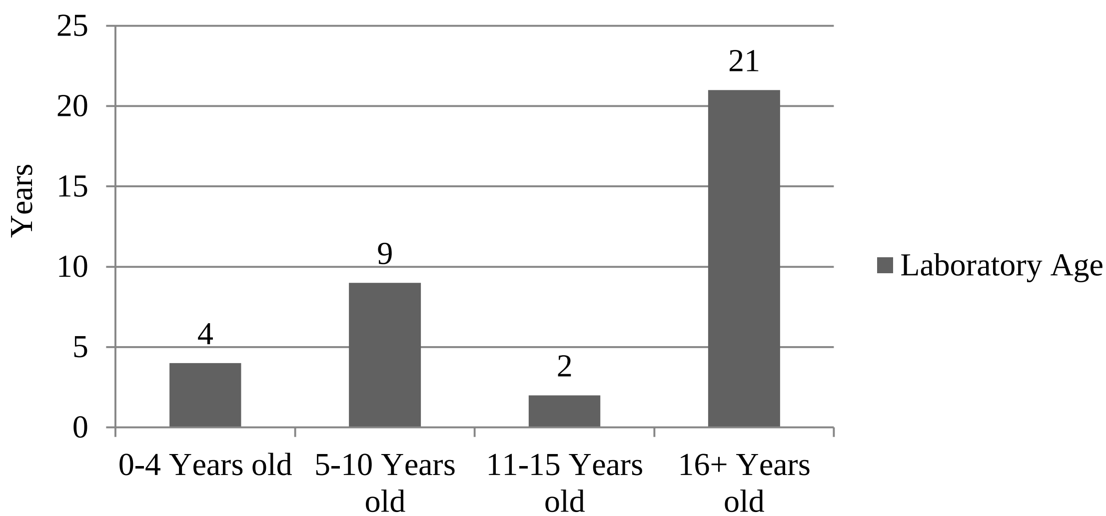

Figure 18. The Average Age of the Agricultural Mechanics Laboratory (*n* = 36).

Laboratory conditions can also affect the productivity of the students in the laboratory. The average condition of these female agricultural mechanics laboratories was in need of major repair (*n* = 10; 25.6%). The laboratories varied. Some were new and others needed major repair. Three laboratories were new (7.7%), eight were somewhat new (20.5%), six were older but functional (15.4%), eight were needed minor repair (20.5%), and one requiring major repairs (2.6%). A summary of the findings is presented in Figure 19.

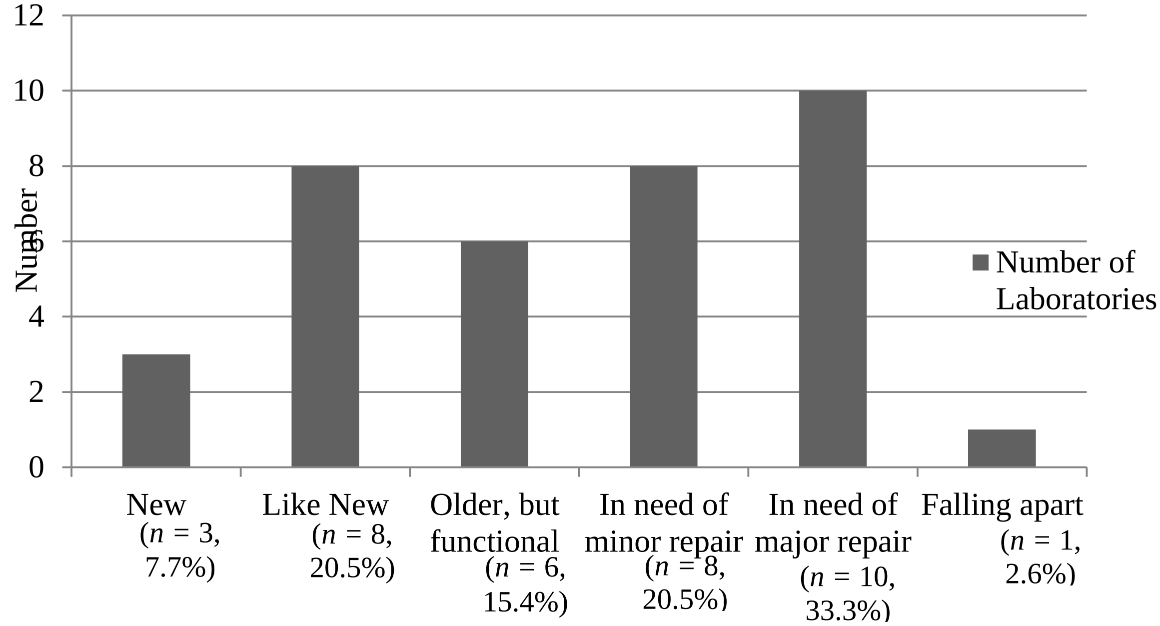

Figure 19. Average Agricultural Mechanics Laboratory Condition (*n* = 36).

Thirty six agricultural mechanics teachers answered the questions about their laboratory tools age. The average hand tools were 1 - 4 years old (*n* = 16; 41%), and handheld power tools were between the ages of 0 - 4 years old (*n* = 16; 41%). Stationary power tools, however, were between the age of 5 - 10 years old (*n* = 12; 30.8%). The data on tool age are presented in Figure 20.

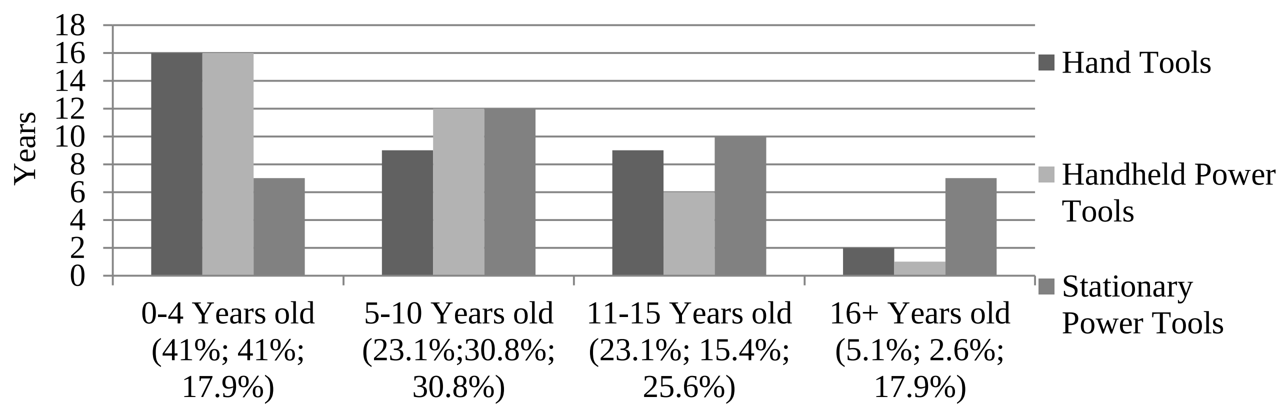

Figure 20. Approximate Age of the Tools Used in the Agricultural Mechanics Laboratory (*n* = 36).

Although the 36 agricultural mechanics teachers stated that their hand tools and handheld power tools were between the ages of 0 and 4 years old, they stated that all tools were older but functional. Hand tools (*n* = 19; 48.7%) rated the highest on older but functional, although this type was rated one of the youngest tools in the previous question.

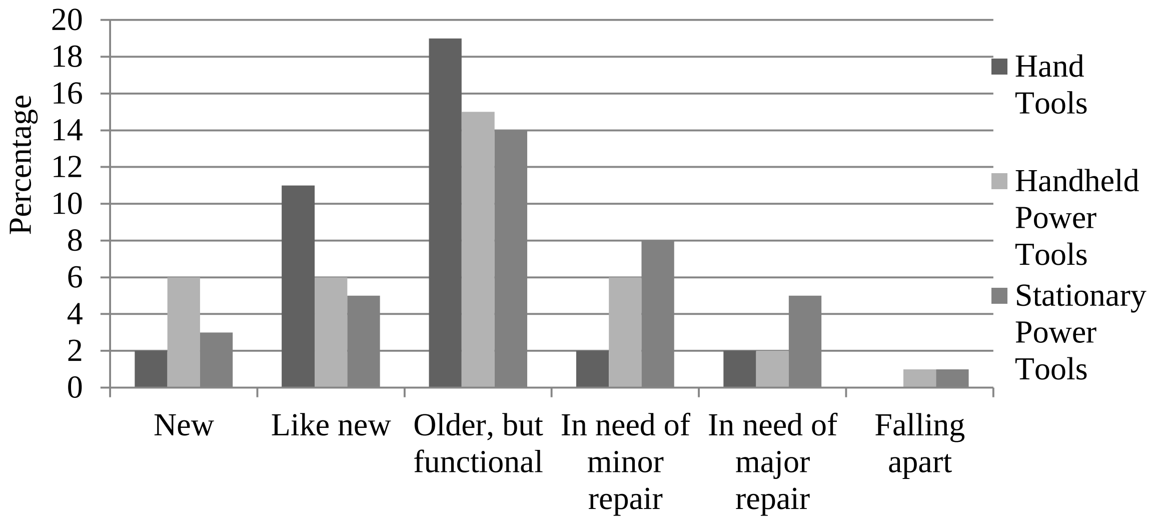

Figure 21. Approximate Condition of the Agricultural Mechanics Laboratory Tools (*n* = 36).

In summary, the most common Texas female agricultural mechanic teacher was of white ethinicity and possessed her bachelor's degree in agricultural education as her highest degree. She makes between $36,000 and $45,000 and is married with no children. The female teachers who have children have two and are not older than 4 years of age. She is not currently pursuing any additional degrees in the 2013-2014 academic school year.

These female Texas school-based agricultural mechanics teachers work on average 59.8 hours per week. They have approximately 7.3 years of experience and expect to teach another 21.9 years before they retire. The female agricultural mechanics teachers work in a 1 - 2 teacher department with an average of 173 students enrolled in their local program. The teachers have many responsibilities including, teaching five or more different LDE teams and four different CDE teams, none of which are related to the agricultural mechanics curriculum. Along with teaching these LDE and CDE teams, the majority of teachers must also offer certifications. The most common certification offered to the students is the Occupational Safety and Health Administration (OSHA) training.

The average agricultural program has a budget of $6,289.60. The researcher also determined their spending habits in the agricultural mechanics program. The teachers spent $4,377.80 of their overall budget. These teachers spent $1,457.30 on their PPE, $1,836.50 on consumables, and $1,871.20 on their tools and equipment. The laboratories are approximately 2,651.20 square feet and 16+ years old. The majority of the agricultural mechanics teachers stated that their laboratories were in need of major repair. The tools used in these agricultural mechanics laboratories had average age of 0 - 4 (hand tools and handheld power tools) and 5 - 10 (stationary power tools) but were stated to be older but functional.

Findings Related to Research Objective Two

Research objective two was designed to determine the perceptions of Texas school-based female agricultural educators' reasons for teaching agricultural mechanics courses. This research question used descriptive statistics to describe the data. Frequencies and percentages were used to describe the data. The researcher also calculated the measures of central tendency in relation to 22 factors that influence career retention. Results of the influence of each factor were analyzed with the following scale:

0.0 - 1.0 = No Influence, 1.1 – 2.0 = Little Influence, 2.1 - 3.0 = Some Influence, 3.1 – 4.0 = Moderate Influence, 4.1 - 5.0 = Great Influence.

The 39 agricultural mechanics teachers surveyed stated that there were many factors that had a great influence on making them stay in their job. The factors were student relationships (64.0%), administrative relationships (33.3%), the role as a teacher (56.4%), the role as an FFA advisor (74.4%), the courses taught / curriculum (38.5%), resources (30.8%), their children (41.0%), hours worked (25.6%), the teaching partner relationship (28.2%), and parent support for the agricultural education / FFA program (33.3%). Three factors that had no influence on the teachers' decision to stay or leave their jobs. These were their spouses' job (33.3%), tenure (25.6%), and marital status (38.5%). Table 7 displays the data about the teachers' reasons for staying as an agricultural mechanics teacher.

Table 7

Career Retention of the Female Texas School-Based Agricultural Mechanics Teachers (n = 39)

Factors Effecting Career Retention	1		2		3		4		5	
	n	%	*n*	%	*n*	%	*n*	%	*n*	%
Administrative Relationships	4	10.3	3	10.3	9	23.1	10	25.6	13	33.3
Benefits	6	15.4	8	20.5	8	20.5	9	23.1	8	20.5
Budget	6	15.4	6	15.4	10	25.6	9	23.1	8	20.5
Children	13	33.3	5	12.8	2	5.1	3	7.7	16	41.0
Community Support for Ag Ed / FFA	4	10.3	0	0	8	20.5	16	41.0	11	28.2
Courses Taught / Curriculum	2	5.1	3	7.7	12	30.8	7	17.9	15	38.5
Geographic Locations	2	5.1	4	10.3	11	28.2	12	30.8	10	25.6
Hours Worked	8	20.5	4	10.3	8	20.5	9	23.1	10	25.6
Marital Status	15	38.5	3	7.7	7	17.9	3	7.7	11	28.2
Parent Support for Ag Ed / FFA	4	10.3	5	12.8	7	17.9	10	25.6	13	33.3
Relationship with other teachers in the school	1	2.6	4	10.3	15	38.5	10	35.6	9	23.1
Resources	4	10.3	8	20.5	8	20.5	7	17.9	12	30.8
Role as a Teacher	1	2.6	0	0	6	15.4	10	25.6	22	56.4
Role as an FFA Advisor	0	0	0	0	5	12.8	5	12.8	29	74.4
Salary	6	15.4	5	12.8	12	30.8	7	17.9	9	23.1
School District	3	7.7	2	5.1	9	23	10	25.6	6	15.4
School Staff Relationships	1	2.6	2	5.1	13	33.3	14	35.9	9	23.1
Spouses Job	13	33.3	4	10.3	7	17.9	5	12.8	10	25.6
Student Relationships	0	0	1	2.6	4	10.3	9	23.1	25	64.1
Teacher Support for Ag Ed / FFA	1	2.6	3	7.7	10	25.6	16	41.0	9	23.1
Teaching Partner Relationship	10	25.6	4	10.3	6	15.4	7	17.9	11	28.2
Tenure	2	5.1	3	7.7	12	30.8	7	17.9	15	38.5

Note. Scale: 1 = No Influence; 2 = Little Influence; 3 = Some Influence; 4 = Moderate Influence; 5 = Great Influence.

Table 8 displays the central tendency and variability of the career retention factors of the agricultural mechanics teachers. Student relationships were determined to have the greatest effect on the teachers' decision to stay in the profession (*M* = 4.49). The teachers' marital status was determined to have the least effect on the teachers' decision to stay or leave their profession (*M* = 2.79).

Table 8
Career Retention Factors of Agricultural Mechanics Teachers (n = 39).

	Central Tendency			Variability		
Factor	*M*	*Mdn*	Mode	Variance	*SD*	Range
Role as an FFA Advisor	4.62	5	5	0.506	0.711	2
Student Relationships	4.49	5	5	0.625	0.790	3
Role as a Teacher	4.33	5	5	0.860	0.927	4
Community Support for Ag Ed/FFA	3.77	4	4	1.393	1.180	4
Courses Taught / Curriculum	3.77	4	5	1.445	1.202	4
Teacher Support for Ag Ed/FFA	3.74	4	4	0.985	0.993	4
School Staff Relationships	3.72	4	4	0.945	0.972	4
Administrative Relationships	3.64	4	5	1.710	1.308	4
School District	3.64	4	4	1.236	1.112	4
Geographic Location	3.62	4	4	1.296	1.138	4
Parent Support for Ag Ed/FFA	3.59	4	5	1.827	1.352	4
Relationship with other Teachers in the School	3.56	3	3	1.094	1.046	4
Resources	3.38	3	5	1.927	1.388	4
Hours Worked	3.23	3	5	2.182	1.477	4
Salary	3.21	3	3	1.852	1.361	4
Budget	3.18	3	3	1.835	1.355	4
Benefits	3.13	3	4	1.904	1.380	4
Teaching Partner Relationship	3.13	3	5	2.550	1.597	4
Children	3.10	3	5	3.252	1.803	4
Tenure	2.95	3	1	2.050	1.432	4
Spouses Job	2.87	3	1	2.641	1.625	4
Marital Status	2.79	3	5	2.852	1.689	4

Note. Scale: 1 = No Influence; 2 = Little Influence; 3 = Some Influence; 4 = Moderate Influence; 5 = Great Influence.

Findings Related to Research Objective Three

The third research objective was designed to determine the career satisfaction level of Texas school-based female agriculture mechanics teachers based upon the following area: administrative support, parent support, relationship with teaching partner, supervising FFA activities, ability to watch students grow and succeed, colleagues, and contribution to student success. This research question used descriptive statistics to describe the data. Frequencies and percentages were used to describe the data. The researcher also calculated the measures of central tendency in relation to 19 factors that influence career satisfaction. Results of the influence of each factor were analyzed with the following scale: 0.0 - 1.0 = Strongly Agree, 1.1 – 2.0 = Agree, 2.1 - 3.0 = Undecided, 3.1 – 4.0 = Disagree, 4.1 - 5.0 = Strongly Disagree.

The agricultural mechanics teachers were given 19 statements from the Brayfield and Ross index of job satisfaction to rate on a scale from strongly agreed to strongly disagree. The teachers only strongly agreed with one statement: my job is usually interesting enough to keep me from getting bored. However, the female agricultural mechanics teacher strongly disagreed on three statements: I feel that my job is no more interesting than others I could get (n = 11, 30.6%), my job is pretty uninteresting (n = 17, 47.0%), and I am disappointed that I ever took this job (n = 17, 47.2%). The agricultural mechanics teachers' career satisfaction level is displayed below in Tables 9 and 10.

Table 9

Career Satisfaction of the Female Texas School-Based Agricultural Mechanics Teachers (n = 39)

	1		2		3		4		5	
Factors	*n*	%	*n*	%	*n*	%	*n*	%	*n*	%
There are some conditions concerning my job that could be improved	9	25.0	25	69.4	1	2.8	1	2.8	0	0.0
My job is like a hobby to me	4	11.1	14	38.9	6	16.7	8	22.2	4	11.1
My job is usually interesting enough to keep me from getting bored	18	50.0	16	44.4	1	2.5	1	2.8	0	0.0
It seems that my friends are more interested in their jobs	1	2.8	2	5.6	7	19.4	19	52.8	7	19.4
I consider my job rather unpleasant	0	0.0	1	2.8	5	13.9	19	52.8	11	30.6
I enjoy my work more than my leisure time	1	2.80	5	13.9	13	36.1	12	33.3	5	13.9
I am often bored with my job	0	0.0	1	2.8	4	11.1	17	47.2	14	38.9
I feel fairly well satisfied with my present job	7	19.4	20	55.6	7	19.4	2	5.6	0	0.0
Most of the time I have to force myself to go to work	0	0.0	2	5.6	6	16.7	19	52.8	9	25.0
I am satisfied with my job for the time being	5	13.9	24	66.7	1	2.8	6	16.7	0	0.0
I feel that my job is no more interesting than others I could get	3	8.3	10	27.8	5	13.9	11	30.6	7	19.4
I definitely dislike my job	1	2.8	0	0.0	2	5.6	10	27.8	23	63.9
I feel that I am happier in my work than most other people	9	25.0	19	52.8	4	11.1	3	8.3	1	2.8
Most days I am enthusiastic about my work	9	25.0	24	66.7	1	2.8	2	5.6	0	0.0
Each day of work seems like it will never end	1	2.8	6	16.7	2	5.6	25	69.4	2	5.6
I like my job better than the average worker does	11	30.6	19	52.8	5	13.9	1	2.8	0	0.0
My job is pretty uninteresting	1	2.8	2	5.6	1	2.8	17	47.0	15	41.7
I find real enjoyment in my work	8	22.2	26	72.2	2	5.6	0	0.0	0	0.0
I am disappointed that I ever took this job	0	0	1	2.8	3	8.3	15	41.7	17	47.2

Note. Scale = 1 = Strongly Agree; 2 = Agree; 3 = Undecided; 4 = Disagree; 5 = Strongly Agree.

Table 10

Career Retention Factors of Agricultural Mechanics Teachers (n = 39)

	Central Tendency			Variability		
Factor	*M*	*Mdn*	Mode	Variance	*SD*	Range
Role as an FFA Advisor	4.62	5	5	0.506	0.711	2
Student Relationships	4.49	5	5	0.625	0.790	3
Role as a Teacher	4.33	5	5	0.860	0.927	4
Community Support for Ag Ed/FFA	3.77	4	4	1.393	1.180	4
Courses Taught / Curriculum	3.77	4	5	1.445	1.202	4
Teacher Support for Ag Ed/FFA	3.74	4	4	0.985	0.993	4
School Staff Relationships	3.72	4	4	0.945	0.972	4
Administrative Relationships	3.64	4	5	1.710	1.308	4
School District	3.64	4	4	1.236	1.112	4
Geographic Location	3.62	4	4	1.296	1.138	4
Parent Support for Ag Ed/FFA	3.59	4	5	1.827	1.352	4
Relationship with other Teachers in the School	3.56	3	3	1.094	1.046	4
Resources	3.38	3	5	1.927	1.388	4
Hours Worked	3.23	3	5	2.182	1.477	4
Salary	3.21	3	3	1.852	1.361	4
Budget	3.18	3	3	1.835	1.355	4
Benefits	3.13	3	4	1.904	1.380	4
Teaching Partner Relationship	3.13	3	5	2.550	1.597	4
Children	3.10	3	5	3.252	1.803	4
Tenure	2.95	3	1	2.050	1.432	4
Spouses' Job	2.87	3	1	2.641	1.625	4
Marital Status	2.79	3	1	2.852	1.689	4

Note. Scale = 1 = Strongly Agree; 2 = Agree; 3 = Undecided; 4 = Disagree; 5 = Strongly Agree.

Findings Related to Research Objective Four

Research objective four was designed to determine the level of school administrative and parental program support for curriculum/courses, FFA, professional development, and personal and co-worker relationships. This research question used descriptive statistics to describe the data. Frequencies and percentages were used to describe the data. The researcher also calculated the measures of central tendency (Mean, Median, Mode, Range, Frequency, and Percentages) in relation to the factors that influence the support for the program. Results of the influence from each factor were analyzed with the following scale: 0.0 - 1.0 = No Support at all, 1.1 – 2.0 = Very Little Support, 2.1 - 3.0 = Some Support, 3.1 – 4.0 = Lots of Support, 4.1 - 5.0 = Extreme Support.

The female Texas agricultural mechanics teachers stated that they received only some support from parents on any part of the agricultural mechanics job aspects. The parents supported the FFA most with a mean of 3.67 and supported the curriculum / courses they teach the least with a mean of 2.85. The average teacher did not receive extreme support or no support at all parents. All parental support data are displayed in Table 11 and 12.

Table 11

Parent Support of the Female Texas School-Based Agricultural Mechanics Teachers (n = 36)

	1		2		3		4		5	
Factors	*n*	%	*n*	%	*n*	%	*n*	%	*n*	%
Curriculum / Course	7	19.4	5	13.9	15	41.7	5	13.9	4	11.1
FFA	0	0	5	13.9	11	30.6	11	30.6	9	25.0
Professional Development	5	13.9	4	19.4	10	27.8	5	13.9	9	25.0
Personal	2	5.6	9	25.0	10	27.8	10	27.8	5	13.9
Co-worker	6	16.7	6	16.7	9	25.0	8	22.2	7	19.4

Note. Scale: 1 = No Support at All; 2 = Very Little Support; 3 = Some Support; 4 = Lots of Support; 5 = Extreme Support.

Table 12

Parent Support of the Female Texas School-Based Agricultural Mechanics Teachers (n = 36)

	Central Tendency			Variability		
Factors	*M*	*Mdn*	Mode	Variance	*SD*	Range
FFA	3.67	4	4	.965	.982	3
Personal	3.15	3	3	1.239	1.113	4
Professional Development	3.13	3	3	1.904	1.380	4
Co-worker	3.10	3	3	1.779	1.334	4
Curriculum / Course	2.85	3	3	1.397	1.2	4

Note. Scale: 1 = No Support at All; 2 = Very Little Support; 3 = Some Support; 4 = Lots of Support; 5 = Extreme Support.

The Texas agricultural mechanics teachers stated that they received only some support from administration on any part of the agricultural mechanics job aspects except on their personal factors where they received lots of support. The administration supported the teachers' professional development factors most with a mean of 3.51 and supported their curriculum / courses they teach the least with a mean of 3.16. All parental support data are displayed in Table 13 and 14.

Table 13
Administrative Support of the Female Texas School-Based Agricultural Mechanics Teachers (n = 36)

	1		2		3		4		5	
Factor	*n*	%	*n*	%	*n*	%	*n*	%	*n*	%
Curriculum / Course	4	11.1	4	11.1	14	38.9	8	22.2	4	11.1
FFA	0	0.0	4	11.1	17	47.2	8	22.2	5	13.9
Professional Development	2	5.6	5	13.9	11	30.6	8	22.2	8	22.2
Personal	4	11.1	6	16.7	8	22.2	11	30.6	5	13.9
Co-worker	3	8.3	5	13.9	11	30.6	9	25.0	6	16.7

Note. Scale: 1 = No Support at All; 2 = Very Little Support; 3 = Some Support; 4 = Lots of Support; 5 = Extreme Support.

Table 14
Administrative Support of the Female Texas School-Based Agricultural Mechanics Teachers (n = 36)

	Central Tendency			Variability		
Factor	*M*	*Mdn*	Mode	Variance	*SD*	Range
Professional Development	3.51	3	3	1.423	1.193	4
FFA	3.46	3	3	.811	.900	3
Co-worker	3.32	3	3	1.392	1.180	4
Personal	3.27	3	4	1.536	1.239	4
Curriculum / Course	3.16	3	3	1.306	1.143	4

Note. Scale: 1 = No Support at All; 2 = Very Little Support; 3 = Some Support; 4 = Lots of Support; 5 = Extreme Support.

Findings Related to Research Objective Five

Research objective five examined the correlation between job satisfaction levels versus salary, hours worked, administration support, parent support, and teaching partner relationship. Correlation coefficients is calculated to assess the strength of the relationship that existed among selected demographic characteristics. Correlation coefficients were analyzed using Pearson's correlation coefficients (*r*) which must lie between -1 and +1 (Field, 2013). Using Pearson's correlation coefficient +1 indicates that there is a perfect positive relationship, 0 indicates no linear relationship, and -1 indicates a perfect negative relationship.

The correlation between job satisfaction versus salary, hours worked per week, administration support, parent support, and teaching partner relationship is displayed in Table 15. Pearson's and bivariate correlations were used to calculate the correlation coefficient, represented by the term r, which is reported as both magnitude and direction. Davis (1971) was used in order to determine the magnitude of the correlations. The findings indicate a low relationship between the teachers' job satisfaction and their salary (r = .148). However, hours worked per week (r = .922) and teaching partner relationship (r = .712) had a very high correlation to the teachers' job satisfaction. Administration support (r = .438) and parent support (r = .464) only had a moderate correlation to the teachers jobs satisfaction. All correlations related to the job satisfaction of teacher had a positive relationship.

Table 15

Bivariate Correlation between Job Satisfaction and Various Demographics (n = 36)

Characteristic	*r*	Magnitude
Hours Worked Per Week	.92	Very High
Teaching Partner Relationship	.71	Very High
Parent Support	.46	Moderate
Administration Support	.44	Moderate
Salary	.15	Low

CHAPTER V

SUMMARY, CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS

Chapter five contains the summary, conclusions, implications, and recommendations for each research objective found within this study. Recommendations for future research are also offered by the researcher.

Purpose of Study

The purpose of this quantitative, non-experimental descriptive study is to assess the career satisfaction levels of school-based, female agricultural mechanics teachers in the state of Texas.

Research Objectives

The objectives for the study include:

1. Determine the personal (level of education, range of salary, family situation, number of children, type of educational certifications, additional degrees in process, and ethnicity), professional (hours worked per week, years of teaching experience, and years intended to teach), program (number of agricultural science teachers in the program, number of students enrolled, number of agricultural mechanics courses taught in 2013-2014 school year, number of Leadership Development Events (LDE) teams trained, number of Career Development Events (CDE) teams trained, Tractor Tech CDE team trained, Agricultural Technology Mechanical Systems (ATMS) CDE team trained, industry certifications offered, program budget, laboratory size, laboratory condition, tool age, and tool condition), and demographic characteristics of Texas school-based female agricultural mechanics teachers.

2. Determine the perceptions of Texas school-based female agricultural educators' reasons for teaching agricultural mechanics courses.
3. Determine the career satisfaction level of Texas school-based female agriculture mechanics teachers based upon: administrative support, parent support, relationships with teaching partners, supervising FFA activities, colleagues, and contributing to student success.
4. Determine the level of school administrative and parental program support for curriculum / courses, FFA, teacher professional development, and personal and co-worker relationships.
5. Determine if a correlation exists between job satisfaction levels versus salary, hours worked, administration support, parent support, and teaching partner relationship.

Limitations of the Study

The following limitations were associated with this study:

1. The study is limited to the population of female Texas school-based agricultural teachers who teach any part of the agricultural mechanics curriculum.
2. This study was conducted over the summer months of 2014 that limited the teacher response rate.
3. *Ex-post-facto*, due to the time frame of this study with teachers a post hoc analysis was conducted to determine the reliability of the study.
4. This study had a population of only 50 female agricultural mechanics teachers in Texas, where there are a total of 1,670 agricultural science teachers in the state.

Therefore, caution should be taken when generalizing the findings to the entire population.

Research Design

This research study was a quantitative, non-experimental descriptive study. Following the literature on research design, a tailored, electronic approach to data collection was used to gather information necessary to achieve the purpose and objectives of the study (Dillman, Smyth, & Christian, 2014). This study employed the use of an online and mailed survey instruments to gather information regarding the career satisfaction of Texas female school-based agricultural mechanics teachers. After sending out the survey five times via the Qualtrics™ electronic survey system, the survey was mailed a final time with a new $2 bill as the cash incentive to improve response rate.

Correlations were used to investigate potential relationships between variables (Gall, Gall, & Borg, 2003). The researcher sought to determine if a correlation existed between job satisfaction level versus salary, hours worked, administration support, parent support, and teaching partner relationships. These independent variables of interest included: salary, hours worked, administration support, parent support, and teaching partner relationships.

All descriptive research has two primary concerns that must be addressed, internal and external validity (Onwuegbuzi, 2000). Internal validity ensures that the data or findings are true, and if replicated with the same population, the same results would be received (Onwuegbuzi). The survey has external validity if the survey can be generalized over the entire population (Onwuegbuzi). Furthermore, the factors that influence external validity include sampling error, selection error, frame error, and non-response error (Onwuegbuzi).

Population and Sampling

The target population of this study consisted of all female school-based agricultural mechanics teachers in Texas, who at the time of the study, taught agricultural mechanics curriculum (*n* = 50). The frame for this study was obtained from the 2013-2014 Texas FFA Area directories, published on 10 different Texas FFA Area websites. To arrive at the target population, all Texas school-based agricultural science teachers (*N* = 1,670) were surveyed to determine if they taught any part of the agricultural mechanics curriculum, including the Principles of Agriculture, Food, and Natural Resources course (course number 130.2). Of those who responded, 50 (3%) of the agriculture teachers indicated that they were female and taught some part of the agricultural mechanics curriculum, including the Principles to Agriculture, Food, and Natural Resources course.

A census of the population was used for three reasons. First, all teachers were accessible because of the availability of their school e-mail address from the 2013-2014 Texas FFA Area Directories. Second, by distributing the instrument to teachers online and by mail, there was little cost. Finally, the number of subjects in the population was manageable. This group was contacted up to seven times using the modified Tailored Design Method (Dillman, Smyth, & Christian, 2014). The initial contact was an e-mail pre-notice. Next, there were up to five e-mail invitations for participants to complete an online data collection instrument. Finally, a mailed survey was sent to all non-respondents to give them one final opportunity to complete the questionnaire and to account for non-response error. This process yielded a final response rate of 78% (n = 39).

To address any potential frame errors and ensure frame accuracy, the list of subjects was examined by the researcher for (frame) errors of omissions and duplicate names (selection error). Names of the educators, school location, school addresses, school phone numbers, and e-mail addresses were reviewed to ensure that the information was correct.

Instrumentation

Data were collected though a web-based questionnaire and a mailed questionnaire to those initial non-respondents. A web-link to the instrument (Appendix A) was distributed to all subjects to obtain information that influenced the career satisfaction and career retention of Texas school-based female agricultural mechanics teachers. The web-based instrument was utilized due to the advantages it offers such as: timeline for the study, ease of data collection and analysis, and a reduced expense. The mailed questionnaire (Appendix B) was created and sent after the web-based survey. Mailed questionnaires were only sent to those non-respondents in order to gain a higher response rate, gain additional data, and to account for non-response error in the population. Once the questionnaires were received they were entered into IBM SPSS Statistics Version 21 in order to analyze the data.

Part A of the electronic and mailed questionnaire consisted of three questions that sought to determine the career satisfaction of the Texas school-based female agricultural mechanics teachers. Question one was developed in part based upon the work by Brayfield and Roth (1951) and consisted of nineteen statements. The Brayfield-Roth index of job satisfaction response scale for each factor was: 1 = Strongly Agree, 2 = Agree, 3 = Undecided, 4 = Disagree, 5 = Strongly Disagree. The second open-ended question in this section asked the teachers what aspects of being an agriculture science teacher give them the most pleasure. The final question in this section contained a five-point, Likert-type scale that provided the researcher information about factors that might contribute to the teachers' satisfaction or dissatisfaction regarding school life. This response scale for each factor was: 1 = No Satisfaction, 2 = Little Satisfaction, 3 = Some Satisfaction, 4 = Moderate Satisfaction, 5 = Great Satisfaction.

Part B of each questionnaire was developed by the researchers to determine the reason in which teachers stay or leave the agriculture science education career field and consisted of six questions. The first question in this section used a five-point, Likert-type scale and listed 22 factors that influenced, or do not influence, a teacher to teach agricultural science education. The response scale for each factor was: 1 = No Influence, 2 = Little Influence, 3 = Some Influence, 4 = Moderate Influence, 5 = Great Influence. The second and third questions in this section attempted to determine how much support the agricultural educators were given from parents and school administration. These questions also used a five-point, Likert-type scale with a response scale of: 1 = No Support at all, 2 = Very Little Support, 3 = Some Support, 4 = Lots of Support, 5 = Extreme Support. The final three questions in the section were open-ended and attempted to determine: (1) What motivates the teachers to continue teaching?, (2) Why they would want to stop teaching?, and (3) What motivated them to start teaching agricultural mechanics?

Part C and D of the instrument consisted of 33 questions designed to collect information on program, professional, and personal demographic information of the respondents and the school-based agricultural education program in which they taught at. The questions in these sections consisted of open-ended and multiple choice answers.

Validity of the Instrument

Validity is "the most important characteristic a test" can have when measuring quantities research (Gay & Airasian, 2000, p. 169). Validity depends on the construction of the instrument to ensure that the instrument measures what the researchers are attempting to measure (Patton, 2002). For this study, face and content validity was used to determine the validity of the Career Satisfaction of Texas Female School-Based Agricultural Mechanics Teachers Assessment questionnaire.

Determining face validity is important because the respondents are more likely to complete a survey if it appears to be meaningful (Ary, Jacobs, & Razavieh, 2002). Content validity suggests that the instrument measures what it intends to measure. In essence, face and content validity is the assumption that the instrument measured what it was intended to measure.

This descriptive study used a panel of experts (see Appendix C) (N = 6), including agricultural education teachers and graduate students that assessed the instrument for face and content validity. The Brayfield-Roth index of job satisfaction indicated a high level of criterion validity at .92 (Warner, 1973).

Reliability of the Instrument

Post-hoc reliability is calculated using the IBM Statistical Package for the Social Sciences (SPSS) statistics version 21. Post-Hoc reliability "analysis is used to measure the consistency of a measure" (Field, 2013, p.715). This reliability test uses Cronbach's alpha coefficient to determine if any questions are unreliable (.7 or lower) and should be deleted. Cronbach's alpha coefficient was used to assess the reliability of the instrument. Cronbach's alpha values indicate what has good and bad reliability in our survey. Kline (1999) stated that the generally accepted value for good reliability is .8 or higher (Field, 2013). In previous studies, the Brayfield-Roth index of job satisfaction was proven to have good reliability Cronbach's alpha = .87 (Bowen & Radhakrishna, 1990). These constructs were reliable since they all had a Cronbach's Alpha Coefficient level of .8 level or higher. Each construct can be included in the results since the constructs were deemed reliable.

Data Collection

A modified version of the Dillman, Smyth, & Christian (2014) Tailored Design Method for Internet surveys was utilized to guide the data collection process of this study. For this study, subjects were contacted up to five potential times through electronic mail from the researcher. The first contact with the respondents was an e-mail message sent three days prior to the beginning of the data collection period on June 18, 2014. The second contact occurred on June 20, 2014. In this e-mail message, subjects were provided a link to the web-based questionnaire, which included a detailed cover letter explaining the importance of their participation in this study. A third contact mode was made on August 5, 2014. August 8, 2014 was our fourth point of contact, members of the population who had not yet responded were contacted via e-mail. On August 12, 2014 the final fifth contact was made with the non-responding subjects. In this contact, a cover letter explaining the importance of their participation in the study and a 12-page paper survey was mailed to their corresponding high school. Also included in this mailed survey was a $2 token of appreciation. Finally, 39 (78%) Texas school-based female agricultural mechanics educators provided usable responses for this study.

Data Analysis

The data was analyzed using the IBM Statistical Package for the Social Sciences® (SPSS) 21.0 for Windows and Microsoft Office Excel®. The data was analyzed using alpha level of .05 *a priori*. Data analysis methods were selected as a result of determining the scales of measurement for the variables.

Research Objective One

The first research objective was designed to determine the personal (sex, level of education, range of salary, family situation, number of children, type of educational certifications, additional degrees in process, and ethnicity), professional (hours worked per week; years of teaching experience, and years intended to teach) and program (number of agricultural science teachers, number of students enrolled, number of agricultural mechanics courses taught in 2013-2014 school year, number of LDE teams trained, number of CDE teams trained, industry certifications offered, program budget, laboratory size, laboratory condition, tool age, and tool condition) demographic characteristics of Texas school-based female agricultural mechanics teachers. This research objective used descriptive statistics to describe the data associated with this research objective. Frequency percentages, means, and standard deviations were used to adequately describe the data. Measures of central tendency and variability (Mean, Median, Mode, Range, Frequency, and Percentages), were also calculated in relation to the demographics.

Research Objective Two

Research objective two was designed to determine the perceptions of Texas school-based female agricultural educators' reasons for teaching agricultural mechanics courses. This research question used descriptive statistics to describe the data. Frequencies and percentages were used to describe the data. The researcher also calculated the measures of central tendency in relation to 22 factors that influence career retention. Results of the influence of each factor were analyzed with the following scale: 0.0 - 1.0 = No Influence, 1.1 – 2.0 = Little Influence, 2.1 - 3.0 = Some Influence, 3.1 – 4.0 = Moderate Influence, 4.1 - 5.0 = Great Influence.

Research Objective Three

The third research objective was designed to determine the career satisfaction level of Texas school-based female agriculture mechanics teachers based upon: administrative support, parent support, relationship with teaching partner, supervising FFA activities, being able to watch students grow and succeed, colleagues, and contributing to student success. This research question used descriptive statistics to describe the data. Frequencies and percentages were used to describe the data. The researcher also calculated the measures of central tendency in relation to 19 factors that influence career satisfaction. Results of the influence of each factor were analyzed with the following scale: 0.0 - 1.0 = Strongly Agree, 1.1 – 2.0 = Agree, 2.1 - 3.0 = Undecided, 3.1 – 4.0 = Disagree, 4.1 - 5.0 = Strongly Disagree.

Research Objective Four

Research objective four was designed to determine the level of school administrative and parental program support for curriculum/courses, FFA, professional development, personal, and co-worker relationships. This research question used descriptive statistics to describe the data. Frequencies and percentages were used to describe the data. The researcher also calculated the measures of central tendency (Mean, Median, Mode, Range, Frequency, and Percentages) in relation to the factors that influence the support for the program. Results of the influence from each factor were analyzed with the following scale: 0.0 - 1.0 = No Support at all, 1.1 – 2.0 = Very Little Support, 2.1 - 3.0 = Some Support, 3.1 – 4.0 = Lots of Support, 4.1 - 5.0 = Extreme Support.

Research Objective Five

Research objective five was developed to determine if a correlation existed between job satisfaction levels versus salary, hours worked, administration support, parent support, and teaching partner relationship. Correlation coefficients were calculated to assess the strength of the relationship that existed among selected demographic characteristics. Correlation coefficients were analyzed using Pearson's correlation coefficients (r) which must lie between -1 and +1 (Field, 2013). Using Pearson's correlation coefficient +1 indicates that there is a perfect positive relationship, 0 indicates no linear relationship, and -1 indicates a perfect negative relationship. Each correlation coefficient can also measure the size of the effect where "±.1 represents a small effect, ±.3 is a medium effect, and ±.5 is a large effect" (Fields, 2013, p. 270).

Summary of the Findings

Research Objective One

The most common Texas female agricultural mechanic teacher is of white ethnicity and possesses her Bachelor's degree in agricultural education as her highest degree. She makes between $36,000 and $45,000 and is married with no children. Those female teachers that do have children have two and those children are not older than 4 years of age. She is not currently pursuing any additional degrees in the 2013-2014 academic school year.

These female Texas school-based agricultural mechanics teachers worked on average 59.8 hours per week. They have around 7.3 years of experience and expect to teach another 21.9 years before they retire. These female agricultural mechanics teachers worked in a 1 - 2 teacher agricultural education department with an average of 173 students enrolled in their local program. These teachers have many responsibilities including coaching on average 12 different LDE teams and 4 different CDE teams, none of which are related to the agricultural mechanics curriculum. Along with teaching these LDE and CDE teams, the majority of teachers must also offer industry certifications. The most common certification offered to the students is the Occupational Safety and Health Administration (OSHA) training.

The average agricultural program has a budget of $6,289.60. The researcher also determined their spending habits in the agricultural mechanics program in which they spent $4,377.80 of their overall budget. These teachers spent $1,457.30 on their PPE, $1,836.50 on consumables, an $1,871.20 on their tools and equipment. These laboratories are approximately 2,651.20 square feet and 16+ years old. The majority of the agricultural mechanics teachers stated that their laboratories were in need of major repair. The tools used in these agricultural mechanics laboratories had average age of 0 - 4 (hand tools and handheld power tools) and 5 - 10 (stationary power tools) but were stated to be older but functional.

Research Objective Two

The 39 agricultural mechanics teachers surveyed stated that there were many factors that had a great influence on making the teachers stay in their job. These factors included: student relationships (64.0%), administrative relationships (33.3%), their role as a teacher (56.4%), their role as an FFA advisor (74.4%), the courses taught / curriculum (38.5%), resources (30.8%), their children (41%), hours worked (25.6%), their teaching partner relationship (28.2%), and parent support for the agricultural education / FFA program (33.3%). There were three factors that had no influence on the teachers' decision to stay or leave their jobs: spouses' job (33.3%), tenure (25.6%), and marital status (38.5%). Student relationships were determined to have the greatest effect on the teachers decision to stay in the profession (M = 4.49). The teachers marital status was determined to have the least effect on the teachers decision to stay or leave their profession (M = 2.79).

Research Objective Three

The agricultural mechanics teachers were given 19 statements in which they could rate if they strongly agreed to strongly disagreed on a scale. The teachers only strongly agreed with one statement- *My job is usually interesting enough to keep me from getting bore*d. However, the female agricultural mechanics teachers strongly disagreed on three statements: *I feel that my job is no more interesting than others I could get, My job is pretty uninteresting, and I am disappointed that I ever took this job*. In summary, these teachers feel that their job is interesting and feel as if they could not find anything better than they already have.

Research Objective Four

The Texas agricultural mechanics teachers stated that they got only *some support* from parents on any part of the agricultural mechanics job aspects. The parents supported the *FFA* most with a mean of 3.67. The Texas agricultural mechanics teachers stated that they got only *some support* from administration on any part of the agricultural mechanics job aspects except on their personal factors where they received lots of support. The administration supported teachers' *professional development* the most with a mean of 3.51.

Research Objective Five

The correlation between job satisfaction versus salary, hours worked per week, administration support, parent support, and teaching partner relationship is displayed in Table 17. Pearson's and bivariate correlations were used to calculate the correlation coefficient, represented by the term *r*, which is reported as both magnitude and direction. Davis (1971) was used in order to determine the magnitude of the correlations. The findings indicate a low relationship between the teachers job satisfaction and their salary (r = .148). However, hours worked per week (r = .922) and teaching partner relationship (r = .712) had a very high correlation to the teachers' job satisfaction. Administration support (r = .438) and parent support (r = .464) only had a moderate correlation to the teachers jobs satisfaction. All correlations related to the job satisfaction of teacher had a positive relationship

Conclusions and Implications

The following conclusions and implications are made as a result of the female Texas school-based agricultural mechanics survey. Conclusions and implications are drawn from the findings.

Research Objective One

With only 50 female agricultural mechanics teachers in the state of Texas and 39 (78%) teachers participating in this study, it can be concluded that the factors impacting these female agricultural mechanics teachers is reliable. As the female agricultural education teachers continue to increase, understanding them and their attitudes towards teaching the agricultural mechanics courses is imperative. Secondary agricultural education teachers and teacher educators must be aware of this influx of the female educators and be mindful of the unique characteristics that these women bring to the workforce (Lawver, 2009). If these teachers' perspectives and job satisfaction factors are not understood by parents and administration, the teachers may begin to leave at a higher rate (Castillo & Cano, 1999). Some implicative questions include: Do the male agricultural mechanics teachers share the same demographics as their female counterparts? Does the size of the agricultural mechanics laboratory effect their satisfaction with teaching the agricultural mechanics courses?

Research Objective Two

These agricultural mechanics teachers stated that there were many factors that had a great influence on the teacher career retention. The teachers' role as an FFA advisor was determined to be the number one reasons these teachers stay teaching agricultural mechanics. The majority of these teachers teach in one and two teacher departments where they must teach at least one agricultural mechanic course. If these teachers did not advise the FFA students, the results of this study suggest that it would be a major factor in the teachers leaving the profession. These female agricultural mechanics teachers are necessary to the student success in the agricultural mechanics laboratory, having female role models is essential in a business where males are dominate (Cano & Miller, 1992; Connors & Mundt, 2001). Some implicative questions that resulted from this study are: Were these teachers teaching agricultural mechanics courses because they had to? If offered an agricultural science position in the same district without teaching any agricultural mechanics courses, would these teachers take the position? Would their male counterparts feel the same as the female agricultural mechanics teachers?

Research Objective Three

Research objective three sought to determine the career satisfaction level of Texas school-based female agriculture mechanics teachers based upon: administrative support, parent support, relationships with teaching partners, supervising FFA activities, colleagues, and factors contributing to student success. The results of this study determined that these female agricultural mechanics teachers are satisfied with their current position and would not take another job over their current teaching position. These agricultural mechanics teachers are satisfied with their current position, however, would these teachers be more satisfied if they did not teach any agricultural mechanics courses? Understanding why teachers would leave the profession would help teacher educators and administrators better understand what should be avoided when hiring, educating, or retaining these female agricultural mechanics teachers (Castillo & Cano, 1999). Some implicative questions that arose from this study include: Are agricultural science teachers who do not teach agricultural mechanics courses more satisfied with their job than those who teach agricultural mechanics courses? Are male agricultural mechanics teachers more satisfied than the female agricultural mechanics teachers when teaching these courses?

Research Objective Four

Research objective four was designed to determine the level of school administrative and parental program support for curriculum/courses, FFA, professional development, personal factors, and co-worker relationships. On average, the parents gave these teachers some support on any aspect of their job. The administration also gave some support on every part of the job except their personal aspects of their career in which they received lots of support. Many female agricultural mechanics teacher could leave the profession in order to find a profession to give them more pleasure if their lack of support is not resolved. Understanding these female agricultural science teachers career satisfaction levels is vital to increasing the number of high school agricultural science teachers in the state and retaining existing teachers (Murray, Flowers, Croom, & Wilson, 2011). Some implicative questions include: Do the male agricultural mechanics teacher receive more support from the parents and administration than the female agricultural mechanics teachers? Why does the administration support their personal responsibilities more than their professional responsibilities?

Research Objective Five

Research objective five was developed to determine if a correlation existed between job satisfaction levels versus salary, hours worked, administration support, parent support, and teaching partner relationship. This research question determined that the teachers job satisfaction is mostly impacted by the hours worked per week and their teaching partner relationship. The implications of this can be that the more hours they are required to work per week, such as prepping for classes and attending FFA activities, the less satisfied the teacher will be with her job, therefore, the more likely she is are to leave the profession to find personal and professional satisfaction (Murray, Flowers, Croom, & Wilson, 2011). Implicative questions include: Would their male counterparts job satisfaction level feel the same as the female agricultural mechanics teachers? Does the amount of students in the classroom affect the females job satisfaction of teaching these agricultural mechanics courses?

Recommendations

The following recommendations are made as a result of the examination of the female Texas school-based agricultural mechanics teachers survey. Recommendations include both practical recommendations, which can be implemented by local and state professional staff development, and teacher educators within Texas, and recommendations for further research in this area.

Teacher Educators

Today's graduates must be prepared to work in a global changing economy (National Research Council, 2009). The AAAE National Research Agenda (Doerfert, 2011) called for a "sufficient scientific and professional workforce that addresses the challenges of the 21st century" (p. 9). According to the National Council for Agricultural Education Strategic Plan 2012-2015, it is imperative that agricultural teacher education institutions establish high quality agricultural teacher education across the nation and address "the preparation, retention, and advancement of high quality agricultural educators" (Strategic Plan, 2012-2015, p. 1). "Teacher educator programs have lagged behind" higher education programs which can lead to teachers who are unready for the classroom (Hurst, Roberts, & Harder, 2015, p. 188).

Teachers educators need to understand the demographics of these female teachers so they can begin to understand how these teachers feel in the position in which they teach in. Preparing future teachers for the classroom and extra-curricular activities is important so that teachers know what to expect when entering the agricultural education profession. Therefore, in order to retain these teachers it is important to understand the demographics of the female agricultural mechanics teachers.

It is recommended that teacher educators research more into why there are only 50 female agricultural mechanics teachers in Texas (3%), when they stated in this study that they are satisfied with their position teaching the agricultural mechanics curriculum. Agricultural mechanics courses encompass many different skill areas such as carpentry, welding, soldering, etc. There are more than 50 female teachers in Texas that teach the Principles of Agricultural, Food, and Natural Resource course, which does encompasses some agricultural mechanics skill areas. So why are there so few who stated they taught these skills?

This course encompasses many different subjects in the agricultural field that can fill the year without introducing these skill areas to the new students. Therefore, are these female teachers teaching this course not teaching the agricultural mechanics skills included in the TEKS of the class? Further research must be done to find out why this may be happening. Are the teachers that are teaching the Principles of Agricultural, Food, and Natural Resources not comfortable teaching these new students in the agricultural laboratory? The literature stated that the teachers are only required to take 45 credit hours worth of technical content out of the total 128 hours required to graduate (Connors & Mundt, 2001). With minimal credit hours spent in the laboratory, do these teachers feel as if they do not have enough experience in the laboratory to teach these mechanical courses effectively? With this introduction course and so many TEKS to cover in one year, do these teachers not want to deal with set-up and the responsibility of shop management? The female agricultural mechanics teachers in this study stated that they are satisfied with their position teaching these mechanical courses. However, do the animal and floral courses appeal more to these women?

School Administrators

School administration, in addition to many other factors, lead to teacher stress (Lambert, Ball, & Tummons, 2011). In this study, the administration gave some support on every part of the teachers' job except their personal aspects of their career in which they received lots of support. The theoretical framework of this study demonstrates the balancing act needed in order to stay satisfied with their career choice. This theory states that administration is one of the major factors that influence dissatisfaction (Castillo & Cano, 2004). This dissatisfaction often leads to lower retention rates making administrators' role in the satisfaction of any teacher a major one. The researcher recommends further research into how much support these teachers need from the administration. If researchers can determine the satisfactory level of support needed from administration, educators can better understand the female agricultural mechanics teachers' feelings towards leaving or staying in the profession.

Future Teachers

The 2011-2015 National Research Agenda states that our society and industry "will require a diverse workforce" this includes these female agricultural mechanics teachers (p. 19). Foster (2001) found that female agricultural education teachers struggle to balance their work and family in their daily lives. The agricultural education demographics are changing with an increasing amount of females entering the profession (Sorenson & McKim, 2014). Examining demographic characteristics such as marital status and parental status in relation to job satisfaction, might bring important information to the agricultural education profession.

According to the results of this study, female school-based agricultural mechanics educators in Texas identified that the teachers' role as an FFA advisor was their number one reason for continuing to stay in their job. Agriculture teachers in Texas cannot be an FFA advisor without the requirements of teaching in the classroom. However, if the school system was to revise its policies and have classroom teachers and FFA advisors in the high school system that were separate jobs, would these teachers be more inclined to leave the classroom and just advise the FFA activities?

Female teachers are different from their male counterparts in a way that has been proven that they shoulder twice as many family responsibilities (Murray, Croom, & Wilson, 2011). Female teachers must be aware of the commitment these teachers face every day, including the 59.8-hour workweek. Balancing family and career can be the most challenging aspect of their life while personal and career satisfaction influence their decision to stay or leave the profession every year. The researcher recommends that future research follow the incoming female agricultural mechanics teacher and their decisions to stay or leave the profession. Their reasons for leaving the profession might give a better understanding of career satisfaction and how it can be achieved.

The results of this study shows that these female agricultural mechanics teachers are satisfied with their current position and would not take another job over their current teaching position. These current agricultural mechanics teachers are satisfied with their current position; however, would these teachers be more satisfied if not teaching agricultural mechanics courses? The teachers in this study stated that they had an average of 7.3 years of teaching experience. However, we do not know their reasons for leaving the agricultural education profession. Why are there so few female agricultural mechanics teachers in the state, since the 2013-2014 female agricultural mechanics teachers were determined to be satisfied with their job.

APPENDIX SECTION

APPENDIX A

TEXAS SCHOOL-BASED FEMALE AGRICULTURAL MECHANICS

WEB-BASED ASSESSMENT

qualtrics

Greetings from Texas State University,

My name is Kaci Geiken and I am a graduate student at Texas State University. I am currently pursuing my masters degree in agricultural education with the intent on becoming a Texas agricultural science teacher.

I am conducting this research study to determine the **career satisfaction of female, Texas school-based agricultural science teachers,** who teach agricultural mechanics courses. Your responses to this survey will be used to help better understand the career satisfaction professional development needs of female agricultural mechanics teachers.

Furthermore, the knowledge gained from this study will also be used to strengthen the teacher education programs at all universities in Texas.
You have been chosen for this research study based upon your experience as an educator.

Currently we have not received your responses to our online questionnaire. If you have any questions as you complete the on-line questionnaire, please contact Kaci Geiken (kg1331@txstate.edu) or Dr. P. Ryan Saucier (ps51@txstate.edu).

Thank You,

Kaci Geiken
Graduate Student
Department of Agriculture
Texas State University

P. Ryan Saucier, Ph.D.
Assistant Professor
Department of Agriculture
Texas State University

IRB Approval #:EXP2014P950488R

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Survey Powered By Qualtrics

Part A: Career Satisfaction

Directions: This section contains nineteen statements about your occupation as an agricultural science teacher. Please provide your opinion concerning these statements by selecting one of the descriptors below for each statement. As a note, there are no right or wrong answers to these questions concerning your career satisfaction.

	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
There are some conditions concerning my job that could be improved.	○	○	○	○	○
My job is like a hobby to me.	○	○	○	○	○
My job is usually interesting enough to keep me from getting bored.	○	○	○	○	○
It seems that my friends are more interested in their jobs.	○	○	○	○	○
I consider my job rather unpleasant.	○	○	○	○	○
I enjoy my work more than my leisure time.	○	○	○	○	○
I am often bored with my job.	○	○	○	○	○
I feel fairly well satisfied with my present job.	○	○	○	○	○
Most of the time I have to force myself to go to work.	○	○	○	○	○
I am satisfied with my job for the time being.	○	○	○	○	○

I feel that my job is no more interesting than others I could get.					
I definitely dislike my job.					
I feel that I am happier in my work than most other people.					
Most days I am enthusiastic about my work.					
Each day of work seems like it will never end.					
I like my job better than the average worker does.					
My job is pretty uninteresting.					
I find real enjoyment in my work.					
I am disappointed that I ever took this job.					

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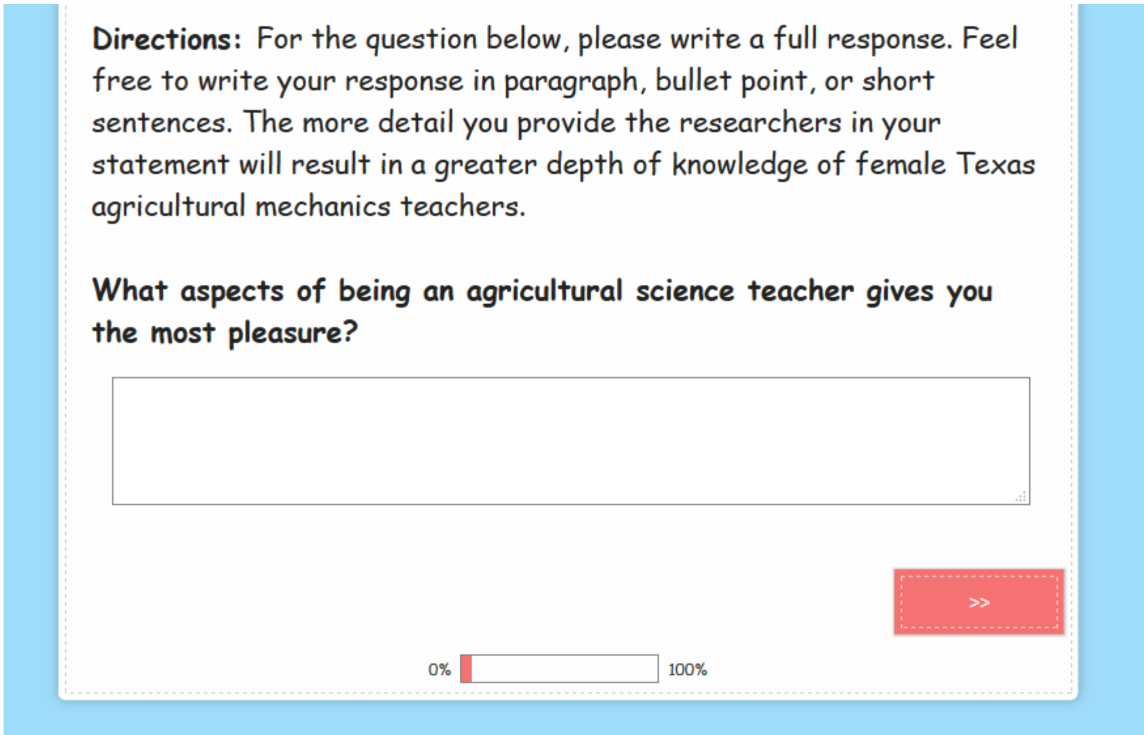

Directions: For the question below, please write a full response. Feel free to write your response in paragraph, bullet point, or short sentences. The more detail you provide the researchers in your statement will result in a greater depth of knowledge of female Texas agricultural mechanics teachers.

What aspects of being an agricultural science teacher gives you the most pleasure?

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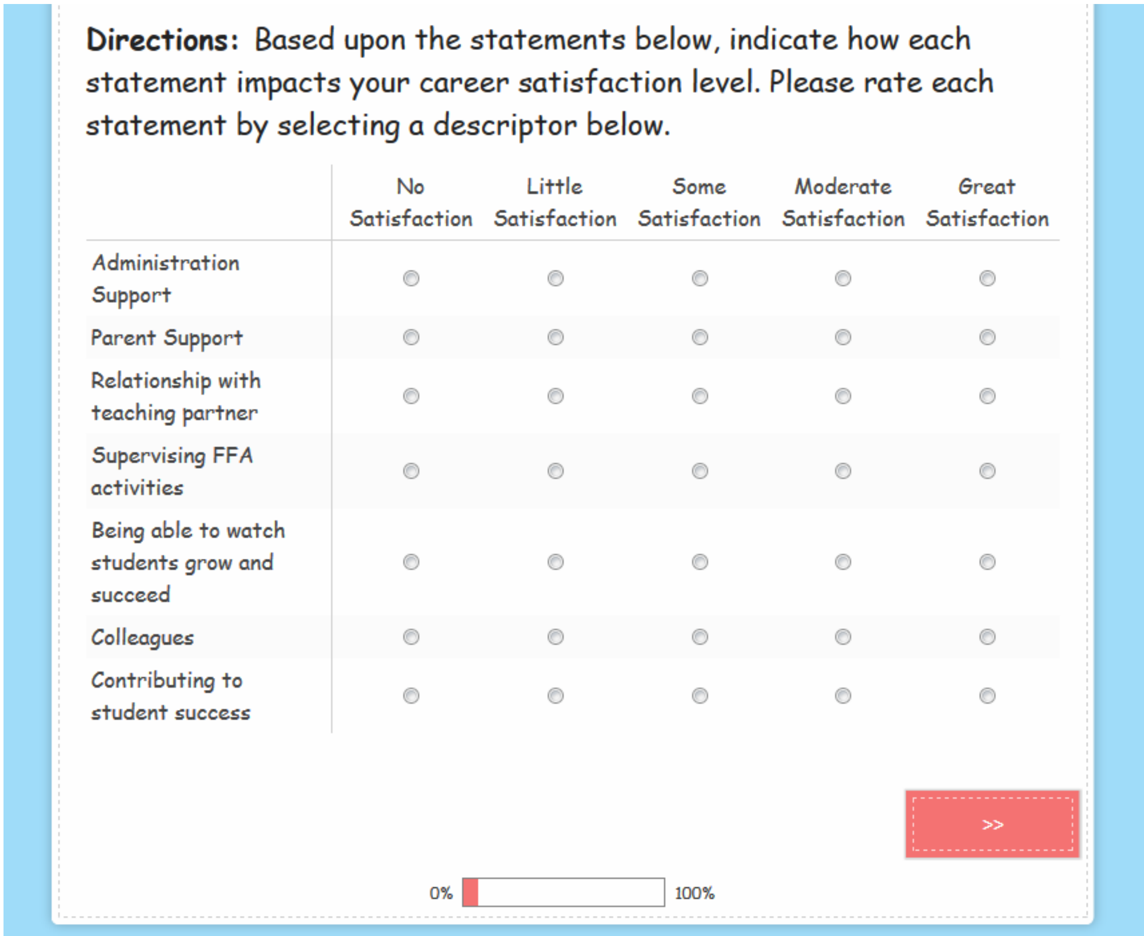

Directions: Based upon the statements below, indicate how each statement impacts your career satisfaction level. Please rate each statement by selecting a descriptor below.

	No Satisfaction	Little Satisfaction	Some Satisfaction	Moderate Satisfaction	Great Satisfaction
Administration Support	○	○	○	○	○
Parent Support	○	○	○	○	○
Relationship with teaching partner	○	○	○	○	○
Supervising FFA activities	○	○	○	○	○
Being able to watch students grow and succeed	○	○	○	○	○
Colleagues	○	○	○	○	○
Contributing to student success	○	○	○	○	○

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Part B: Career Retention

Directions: Please indicate how influential each of the factors listed below are in keeping you employed as an agricultural mechanics teacher. Please rate each statement by selecting a descriptor below.

	No Influence	Little Influence	Some Influence	Moderate Influence	Great Influence
Student Relationships	○	○	○	○	○
School Staff Relationships	○	○	○	○	○
Relationship with other teachers in the school	○	○	○	○	○
Administrative Relationships	○	○	○	○	○
Geographic Location	○	○	○	○	○
Spouses Job	○	○	○	○	○
Role as a Teacher	○	○	○	○	○
Role as an FFA Advisor	○	○	○	○	○
School District	○	○	○	○	○
Tenure	○	○	○	○	○
Courses Taught / Curriculum	○	○	○	○	○
Salary	○	○	○	○	○
Resources	○	○	○	○	○
Benefits	○	○	○	○	○
Budget	○	○	○	○	○
Children	○	○	○	○	○
Marital Status	○	○	○	○	○
Hours Worked	○	○	○	○	○
Teaching Partner Relationship	○	○	○	○	○
Parent Support for Ag Ed/ FFA	○	○	○	○	○
Teacher Support for Ag Ed/ FFA	○	○	○	○	○
Community Support for Ag Ed/ FFA	○	○	○	○	○

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Directions:

Based upon the statements below, indicate the amount of parental and administrative support.

How much support are you given from the parents?

	No support at all	Very little support	Some Support	Lots of support	Extreme Support
Curriculum/ Courses	○	○	○	○	○
FFA	○	○	○	○	○
Professional Development (i.e. attending workshops, conferences, etc.)	○	○	○	○	○
Personal (i.e. children, family situations, illness, etc.)	○	○	○	○	○
Co-worker (i.e. foster a positive relationships among co-workers)	○	○	○	○	○

How much support are you given from the administration?

	No Support at all	Very little support	Some support	Lots of support	Extreme Support
Curriculum/ Courses	○	○	○	○	○
FFA	○	○	○	○	○
Professional Development (i.e. attending workshops, conferences, etc.)	○	○	○	○	○
Personal (i.e. children, family situations, illness, etc.)	○	○	○	○	○
Co-worker (i.e. foster a positive relationships among co-workers)	○	○	○	○	○

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Directions: For the question below, please write a full response. Feel free to write your response in paragraph, bullet point, or short sentences. The more detail you provide the researchers in your statement will result in a greater depth of knowledge of female Texas agricultural mechanics teachers.

What aspects of your job motivate you to continue teaching agricultural mechanics curriculum?

What aspects of your job makes you want to stop teaching agricultural mechanics curriculum?

What motivated you to become an agricultural mechanics teacher?

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Part C: Program Demographics

Directions: Please answer the following questions about your program to the best of your ability.

How many agricultural science teachers do you have in your department (including you)?

- ◯ 1
- ◯ 2
- ◯ 3
- ◯ 4+

What is the approximate number of students currently enrolled in your local program?

Do you teach high school or Junior high school agriculture science courses?

	Yes	No
High School courses	◯	◯
Junior High School courses	◯	◯

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How many agriculture mechanics classes did you teach in the 2013-2014 academic school year?

- 1
- 2
- 3
- 4
- 5
- 6
- 7 or more

In the 2013-2014 academic school year, how many LDE teams did you train?

- 1
- 2
- 3
- 4
- 5+

In the 2013-2014 academic school year,how many CDE teams did you train?

- 1
- 2
- 3
- 4
- 5+

In the 2013-2014 academic school year, did you train a Tractor Tech team?

- Yes
- No

In the 2013-2014 academic school year, did you train an Agricultural Technology and Mechanical Systems CDE team?

- Yes
- No

Does your agricultural education program offer any certification supported by the industry?

- Yes
- No

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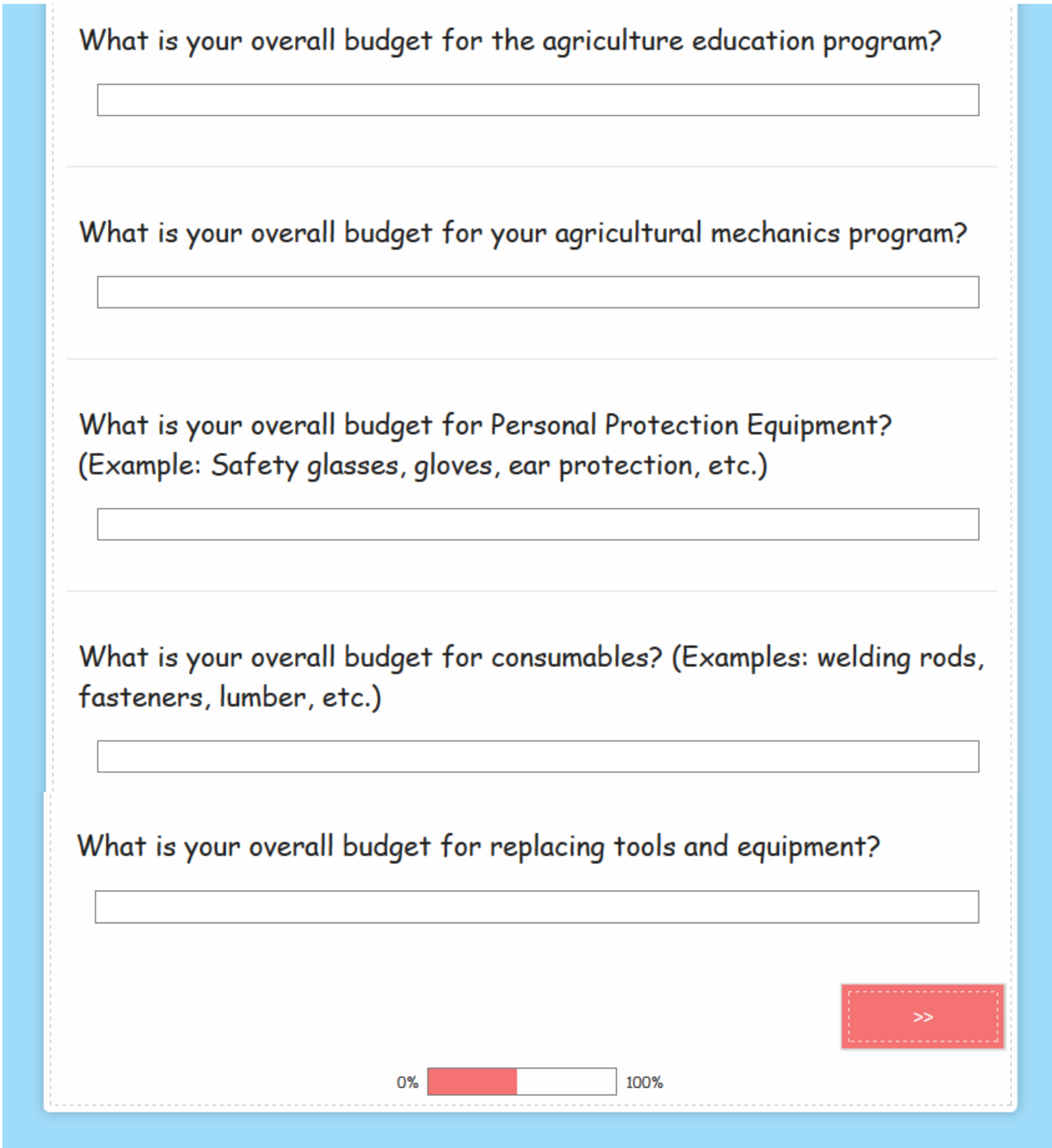

What is your overall budget for the agriculture education program?

What is your overall budget for your agricultural mechanics program?

What is your overall budget for Personal Protection Equipment? (Example: Safety glasses, gloves, ear protection, etc.)

What is your overall budget for consumables? (Examples: welding rods, fasteners, lumber, etc.)

What is your overall budget for replacing tools and equipment?

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Approximately how many square feet is your laboratory? If you have more than one laboratory, add the square footage of all to derive and answer.

Formula= length X width.

What is the approximate age of the laboratory you are teaching? If you have more than one laboratory, list the oldest.

- 0-4 years old
- 5-10 years old
- 11-15 years old
- 16+ years old

What condition is the laboratory you are using in?

- New
- Like New
- Older, but functional
- In need of minor repair
- In need of major repair
- Falling apart

Approximately how old are the tools you are using in your laboratory?

	1-5 Years	Tools5-10 Years	10-15 Years	15+ Years
Hand Tools	○	○	○	○
Handheld Power Tools	○	○	○	○
Stationary Power Tools	○	○	○	○

What kind of condition are the tool in that your are using in your laboratory?

	New	Like new	Older, but functional	In need of minor repair	In need or major repair	Falling apart
Hand Tools	○	○	○	○	○	○
Handheld Power Tools	○	○	○	○	○	○
Stationary Power Tools	○	○	○	○	○	○

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Part D: Professional and Personal Demographics

Approximately how much is your salary?

- 30,000-35,000
- 36,000-40,000
- 41,000-45,000
- 46,000-50,000
- 51,000-55,000
- 56,000-60,000
- 61,000-65,000
- 66,000-70,000
- 71,000-75,000
- 76,000-80,000
- 81,000-85,000
- 86,000-90,000
- 91,000-95,000
- 96,000-100,000

On average, how many hours do you work per week?

How many years of teaching experience do you have (including the 2013-2014 academic school year)?

How many years do you intend to teach (including the 2013-2014 academic school year)?

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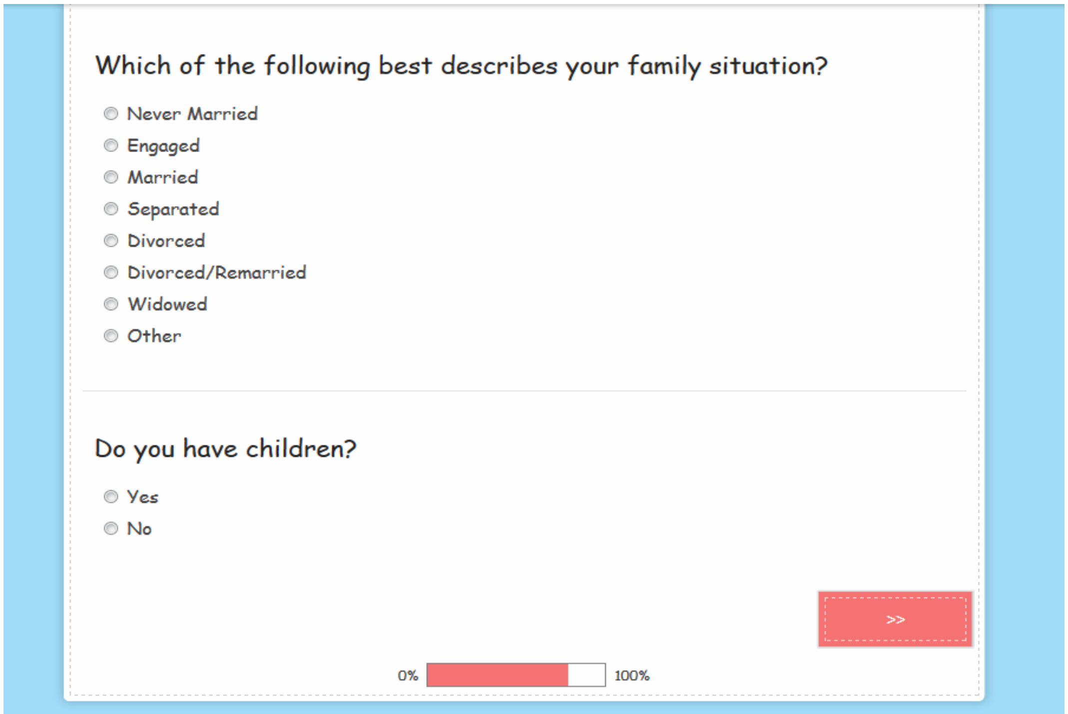

Which of the following best describes your family situation?

- Never Married
- Engaged
- Married
- Separated
- Divorced
- Divorced/Remarried
- Widowed
- Other

Do you have children?

- Yes
- No

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While in college, how agriculture mechanics did you complete to get your degree?

What is the highest degree you possess?

- Bachelor's
- Master's
- Specialist
- Other

How did you become certified to teach agricultural education?

- Bachelor's Degree in Agricultural Education
- Post Baccalaureate certificate
- Master's Degree with certification
- Alternative Certification Route

Are you currently pursuing an additional degree?

- Yes
- No

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What is your ethnicity?

- American Indian
- Asian/Pacific Islander
- Black
- White
- Hispanic
- Other

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Dear ,

I would like to sincerely thank you for participating and completing my survey. Your input is greatly appreciated and valued in our efforts to improve the education of future agricultural science teachers and betterment in lifestyle of current agricultural science teachers.

Thank you for your participation.

Sincerely,

Kaci Geiken
Graduate Student
Texas State University - San Marcos
Department of Agriculture

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APPENDIX B

CAREER SATISFACTION OF FEMALE TEXAS SCHOOL-BASED

AGRICULTURAL MECHANICS TEACHERS

MAILED SURVEY

Career Satisfaction of Texas Female School- Based

Agricultural Mechanics Teachers

Summer 2014

Texas State University
Department of Agriculture

Code: ________________

Career Satisfaction of Texas School Based Agriculture Mechanics Teachers

Instructions

Section A. This section contains nineteen statements about your occupation as an agricultural science teacher. Please provide your opinion concerning these statements by selecting one of the descriptors below for each statement. As a note, there are no right or wrong answers to these questions concerning your career satisfaction.

Section B. Please indicate how influential each of the factors listed below are in keeping you employed as an agricultural mechanics teacher. Please rate each statement by selecting a descriptor.

Section C. Please answer the questions about your program to the best of your ability.

Section D. Please answer the questions about your professional and personal demographics.

CONTINUE on Next Page

Example Response:

	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
There are some conditions concerning my job that could be improved.	X				

This individual strongly agrees that there are conditions with their job that could be improved.

What is the approximate age of the laboratory you are teaching? If you have more than one laboratory, list the oldest.

- 0-4 years old
- 5-10 years old
- 11-15 years old
- 16+ years old

CONTINUE on Next Page

Part A: Career Satisfaction

Directions: This section contains nineteen statements about your occupation as an agricultural science teacher. Please provide your opinion concerning these statements by selecting one of the descriptors below for each statement. As a note, there are no right or wrong answers to these questions concerning your career satisfaction. Please indicate your responses in the box below with an X.

	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
There are some conditions concerning my job that could be improved.					
My job is like a hobby to me.					
My job is usually interesting enough to keep me from getting bored.					
It seems that my friends are more interested in their jobs.					
I consider my job rather unpleasant.					
I enjoy my work more than my leisure time.					
I am often bored with my job.					
I feel fairly well satisfied with my present job.					
Most of the time I have to for myself to go to work.					
I am satisfied with my job for the time being.					
I feel that my job is no more interesting than others I could get.					
I definitely dislike my job.					
I feel that I am happier in my work than most other people.					
Most days I am enthusiastic about my work.					
Each day of work seems like it will never end.					
I like my job better than the average worker does.					
My job is pretty uninteresting.					
I find real enjoyment in my work.					
I am disappointed that I ever took this job.					

CONTINUE on Next Page

Directions: For the question below, please write a full response. Feel free to write your response in paragraph, bullet point, or short sentences. The more detail you provide the researchers in your statement will result in a greater depth of knowledge of female Texas agricultural mechanics teachers.

What aspects of being an agricultural science teacher gives you the most pleasure?

Directions: Based upon the statements below, indicate how each statement impacts your career satisfaction level. Please rate each statement by selecting a descriptor below. Please indicate your responses in the box below with an X.

	No Satisfaction	Little Satisfaction	Some Satisfaction	Moderate Satisfaction	Great Satisfaction
Administration Support					
Parent Support					
Relationship with teaching partner					
Supervising FFA activities					
Being able to watch students grow and succeed					
Colleagues					
Contributing to student success					

CONTINUE on Next Page

Part B: Career Retention

Directions: Please indicate how influential each of the factors listed below are in keeping you employed as an agricultural mechanics teacher. Please rate each statement by selecting a descriptor below. Please indicate your responses in the box below with an X.

	No Influence	Little Influence	Some Influence	Moderate Influence	Great Influence
Student Relationships					
School Staff Relationships					
Relationships with other teachers in the schools					
Administrative Relationships					
Geographic Location					
Spouses Job					
Role as a Teacher					
Role as an FFA Advisor					
School District					
Tenure					
Courses Taught / Curriculum					
Salary					
Resources					
Benefits					
Budget					
Children					
Marital Status					
Hours Worked					
Teaching Partner Relationship					
Parent Support for Ag Ed/ FFA					
Teacher Support for Ag Ed/ FFA					
Community Support for Ag Ed/ FFA					

CONTINUE on Next Page

Directions: Based upon the statements below, indicate the amount of parental and administrative support. Please indicate your responses in the box below with an X.

How much support are you given from the parents?

	No Support at all	Very Little Support	Some Support	Lots of Support	Extreme Support
Curriculum/ Courses					
FFA					
Professional Development (i.e. attending workshops, conferences, etc.)					
Personal (i.e. children, family situations, illness, etc.)					
Co-Worker (i.e. foster positive relationships among co-workers)					

How much support are you given from the administration?

	No Support at all	Very Little Support	Some Support	Lots of Support	Extreme Support
Curriculum/ Courses					
FFA					
Professional Development (i.e. attending workshops, conferences, etc.)					
Personal (i.e. children, family situations, illness, etc.)					
Co-Worker (i.e. foster positive relationships among co-workers)					

CONTINUE on Next Page

Directions: For the questions below, **please write a full response**. Feel free to write your response in paragraph, bullet point, or short sentences. The more detail you provide the researchers in your statement will result in a greater depth of knowledge of female Texas agricultural mechanics teachers.

What aspects of your job motivate you to continue teaching agricultural mechanics curriculum?

What aspects of your job make you want to stop teaching agricultural mechanics curriculum?

CONTINUE on Next Page

What motivated you to become an agricultural mechanics teacher?

CONTINUE on Next Page

Part C: Program Demographics

Directions: Please answer the following questions about your program to the best of your ability. Please respond to the following questions by printing your answer in the blank provided next to the question <u>or</u> circling an answer that is provided.

How many agricultural science teacher do you have in your department (including you)?

- 1
- 2
- 3
- 4+

What is the approximate number of students currently enrolled in your local program?

Do you teach high school or junior high school agriculture science courses?

	Yes	No
High School courses		
Junior High School courses		

How many agriculture mechanics classes did you teach in the 2013-2014 academic school year?

- 1
- 2
- 3
- 4
- 5
- 6
- 7 or more

CONTINUE on Next Page

In the 2013-2014 academic school year, how many LDE teams did you train?

- 1
- 2
- 3
- 4
- 5 or more

In the 2013-2014 academic school year, how many CDE teams did you train?

- 1
- 2
- 3
- 4
- 5 or more

In the 2013-2014 academic school year, did you train a Tractor Tech team?

- Yes
- No

In the 2013-2014 academic school year, did you train an Agricultural Technology and Mechanical Systems CDE team?

- Yes
- No

Does your agricultural education program offer any certifications supported by the industry?

- Yes
- No

What certification do you offer?

What is your overall budget for the agriculture education program?

CONTINUE on Next Page

What is your overall budget for your agricultural mechanics program?

What is your overall budget for Personal Protection Equipment?
(Example: Safety glasses, gloves, ear protection, etc.)

What is your overall budget for consumables?
(Examples: welding rods, fasteners, lumber, etc.)

What is your overall budget for replacing tools and equipment?

Approximately how many square feet is your laboratory? If you have more than one laboratory, add the square footage of all to derive an answer.

Formula= length X width (in feet)

What is the approximate age of the laboratory you are teaching? If you have more than one laboratory, list the oldest.

- 0-4 years old
- 5-10 years old
- 11-15 years old
- 16+ years old

CONTINUE on Next Page

In what condition is your laboratory?

- New
- Like New
- Older, but functional
- In need of minor repair
- In need of major repair
- Falling apart

Approximately how old are the tools you are using in your laboratory? Please indicate your responses in the box below with an X.

	1-5 Years	5-10 Years	10-15 Years	15+ Years
Hand Tools				
Handheld Power Tools				
Stationary Power Tools				

What kind of condition are the tools in that you are using in your laboratory? Please indicate your responses in the box below with an X.

	New	Like New	Older, but Functional	In need of minor repair	In need of major repair	Falling apart
Hand Tools						
Handheld Power Tools						
Stationary Power Tools						

CONTINUE on Next Page

Part D: Professional and Personal Demographics

Directions: Please respond to the following questions by printing your answer in the blank provided next to the question **or** circling an answer that is provided.

Approximately how much is your salary?

- 30,000-35,000
- 36,000-40,000
- 41,000-45,000
- 46,000-50,000
- 51,000-55,000
- 56,000-60,000
- 61,000-65,000
- 66,000-70,000
- 71,000-75,000
- 76,000-80,000
- 81,000-85,000
- 86,000-90,000
- 91,000-95,000
- 96,000-100,000

On average, how many hours do you work per week?

How many years of teaching experience do you have (including the 2013-2014 academic school year)?

How many years do you intend to teach (including the 2013-2014 academic school year)?

Which of the following best describes your family situation?

- Never Married
- Engaged
- Married
- Separated
- Divorced
- Divorced/Remarried
- Widowed
- Other

CONTINUE on Next Page

Do you have children?

- Yes
- No

How many children do you have?
(If none, write none)

While in college, how agriculture mechanics classes did you complete to get your degree?

What is the highest degree you possess?

- Bachelor's
- Master's
- Specialist
- Other

How did you become certified to teach agriculture education?

- Bachelor's Degree in Agricultural Education
- Post Baccalaureate certificate
- Master's Degree with certification
- Alternative Certification Route

Are you currently pursuing an additional degree?

- Yes
- No

What additional degree are you pursuing?
(If none, write none)

What is your ethnicity?

- American Indian
- Asian/Pacific Islander
- Black
- White
- Hispanic
- Other

Thank you for your participation in this survey. Your responses to this survey will be used to help better understand the career satisfaction and professional development needs of female agricultural mechanics teacher. Furthermore, the knowledge gained from this study will also be used to strengthen the teacher education programs at all universities in Texas.

Thank you,

Kaci Geiken
Graduate Student
Department of Agriculture
Texas State University
kg1331@txstate.edu
(817) 707-0340

IRB Approval #: EXP2014P950488R

APPENDIX C

PANEL OF EXPERTS

PANEL MEMBERS

Name	University	Department
Dr. Nathan Bond	Texas State University	Curriculum and Instruction
Dr. Sheyenne Krysher	Sam Houston State University	Distance Education
Dr. P. Ryan Saucier	Texas State University	Agriculture
Dr. Douglas G Morrish	Texas State University	Agriculture
Mr. David Vela	Texas State University	Agriculture
Ms. Jessica Espinoza	Texas State University	Agriculture

APPENDIX D

E-MAIL LETTER TO ALL TEXAS AGRICULTURAL SCIENCE TEACHERS

Greetings from Texas State University,

My name is Kaci Geiken and I am a graduate student at Texas State University. I am pursuing my master's degree in Agricultural Education and hope to one day become a Texas agricultural science teacher. I am conducting this research study to determine the career satisfaction of Texas school-based agricultural science teachers.

You have been chosen for this research study based upon your role as an educator.

I know that your time is precious and these initial questions will only take one minute of your time to complete.

1. Do you currently teach, or have you taught, an Agricultural Mechanics course and/or curriculum in the 2013-2014 academic school year?
Yes No

2. What is your gender?
Female Male

Please respond to kg1331@txstate.edu

Thank You for your time,

Kaci Geiken

Graduate Student

Department of Agriculture

Texas State University

APPENDIX E

E-MAIL LETTER TO FEMALE AGRICULTURAL MECHANICS TEACHERS

Dear {Female Agricultural Mechanics Teacher},

My name is Kaci Geiken and I am a graduate student at Texas State University. I am currently pursuing my Masters degree in agricultural education with the intent to one day become a Texas agricultural science teacher. I am conducting this research study to determine the career satisfaction of female, Texas school-based agricultural science teachers, who teach agricultural mechanics courses. Your responses to this survey will be used to help better understand the career satisfaction professional development needs of female agricultural mechanics teachers. Furthermore, the knowledge gained from this study will also be used to strengthen the teacher education programs at all universities in Texas.

You have been chosen for this research study based upon your experience as an educator.

In a few days you will receive an email with a URL link to a survey to complete through Qualtrics™. If you have any questions please contact Kaci Geiken (kg1331@txstate.edu) or Dr. P. Ryan Saucier (ps51@txstate.edu).

Thank You,

Kaci Geiken
Graduate Student
Department of Agriculture
Texas State University

IRB Approval #:EXP2014P950488R

APPENDIX F

FOLLOW UP E-MAIL

Dear {Female Agricultural Mechanics Teacher},

My name is Kaci Geiken and I am a graduate student at Texas State University. I am currently pursuing my master's degree in agricultural education with the intent on becoming a Texas agricultural science teacher.

I am conducting this research study to determine the Career Satisfaction of Female, Texas School-Based Agricultural Science Teachers, who teach any agricultural mechanics courses or curriculum, including the introduction to agriculture class. Your response to this survey will be used to help better understand the career satisfaction and professional development needs of female agricultural mechanics teachers.

Furthermore, the knowledge gained from this study will also be used to strengthen the teacher education programs at all universities in Texas.

You have been chosen for this research study based upon your experience as an educator.

Currently we have not received your response to our online questionnaire. If you would like to complete the questionnaire online please follow the link below. If you choose not to complete the online questionnaire you will be sent a booklet style survey to complete and return it in the pre-paid self-addressed envelope as soon as possible. If you have any questions as you complete the questionnaire, please contact Kaci Geiken (kg1331@txstate.edu) or Dr. P. Ryan Saucier (ps51@txstate.edu).

Thank You,

Kaci Geiken
Graduate Student
Department of Agriculture
Texas State University

P. Ryan Saucier, Ph.D.
Assistant Professor
Department of Agriculture
Texas State University

IRB Approval #: Exp2014P950488R

Follow this link to the Survey:
${l://SurveyLink?d=Take the Survey}

Or copy and paste the URL below into your internet browser:
${l://SurveyURL}

Follow the link to opt out of future emails:
${l://OptOutLink?d=Click here to unsubscribe}

APPENDIX G

MAILED COVER LETTER

Dear {Female Agricultural Mechanics Teacher},

My name is Kaci Geiken and I am a graduate student at Texas State University. I am currently pursuing my Master's degree in agricultural education with the intent to one day become a Texas agricultural science teacher.

I am conducting this research study to determine the Career Satisfaction of Female, Texas School-based Agricultural Science Teachers, who teach any agricultural mechanics courses or curriculum. Your response to this survey will be used to help better understand the career satisfaction and professional development needs of female agricultural mechanics teachers.

Furthermore, the knowledge gained from this study will also be used to strengthen the teacher education programs at all universities in Texas.

You have been chosen for this research study based upon your experience as an educator.

Currently, we have not received your responses to our questionnaire. If you could fill out the booklet survey and return it in the address envelope as soon as possible it would be greatly appreciated. If you have any questions as you complete the booklet questionnaire, please contact Kaci Geiken (kg1331@txstate.edu) or Dr. P. Ryan Saucier (ps51@txstate.edu).

Thank you,

Kaci Geiken
Graduate Student
Department of Agriculture
Texas State University

IRB Approval #: EXP2014P950488R

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