WORKFORCE SKILLS DEVELOPMENT IN OHIO 4-H CLUB MEMBERS: AN ANALYSIS BY GRADE, GENDER, AND LEADERSHIP EXPERIENCE

THESIS

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By

Amanda Marie Bennett, B.S.

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The Ohio State University
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Master's Examination Committee:

Approved by

Dr. Kristi Lekies, Advisor

Dr. Scott Scheer

_____

Advisor
Agricultural and Extension Education
Graduate Program

ABSTRACT

Young people are unprepared to enter the 21st Century workforce due to a lack in workforce skill development (The Conference Board, The Partnership for 21st Century Skills, Corporate Voices for Working Families, and the Society for Human Resource Management, 2006). Out-of-school programs present a unique opportunity for the development of these skills (Schwartz & Stolow, 2006). This study sought to explore the degree to which 4-H participation contributed to the development of workforce skills in Ohio youth. The focus was how Ohio 4-H members perceive their current level of workforce skills, and the extent to which 4-H participation has helped develop those skills. In addition, differences in the perceived helpfulness of 4-H were examined by grade, gender and leadership activities beyond the club level.

The participants consisted of Ohio 4-H club members in 9th and 12th grade (n = 501). They completed an online or paper survey. Approximately 30% were male and 70% were female; 96% were white; length of involvement in 4-H was 6.7 years; and youth were involved in a wide variety of activities.

Youth completed the measures on 4-H experiences, workforce skills, youth employment, and demographics. Frequencies indicate a perceived high level of workforce skills. They indicated 4-H was helpful in the development of these skills, particularly in being respectful of others, working well with others to achieve a goal or complete a project, and having a positive attitude about the work they do. They perceived

4-H to be the least helpful in technological skills and written communication. Pearson chi-square analysis indicated 12th graders perceived 4-H to be more helpful on one of the 25 skills. Females perceived 4-H to be more helpful on four of the 25 skills. Those with out of club leadership experience perceived 4-H to be more helpful on 20 of the 25 skills. Additionally, 30% of respondents indicated they had gotten a job as a result of the knowledge and skills they learned in 4-H.

4-H should offer more opportunities for written communication and technological skills to its members and youth development professionals should encourage young people to take part in leadership activities at all levels. 4-H should also consider addressing the gender gap. Further research could include replication in other states and using a multiple methods approach.

Dedicated to my husband, Adam,

For his patience and encouragement;

And to my parents for their love and support.

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VITA

December 21, 1983……..……Born Troy, Ohio

2002…….High School Diploma, Miami East High School, Casstown, Ohio

2006…….BS in Animal Sciences, The Ohio State University

2007 to present……Graduate Administrative Associate, Department of Human and Community Resource Development, The Ohio State University

Fields of Study

Major Field: Agricultural and Extension Education

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CHAPTER 1

INTRODUCTION

For the past 25 years, the workplace has undergone significant changes from blue collar jobs to more technologically advanced jobs. To keep up with these changes, workforce skills must continue to change. However, literature consistently reports that young people are unprepared or underprepared to enter the 21st Century workforce due to a lack in workforce skill development in areas such as teamwork, communication, technology, critical thinking, self-direction, and professionalism (The Conference Board, The Partnership for 21st Century Skills, Corporate Voices for Working Families, and the Society for Human Resource Management, 2006). Due to restraints on schools by recent legislation, school administrators, the community and simply time, schools do not have the capacity to prepare young people in the full range of skills necessary for the transition to careers, citizenship, and family and community life (Pittman, Irby, Yohalem, Wilson-Ahlstrom, 2004). Therefore, out of school programs present a unique opportunity for the development of these skills (Schwarz & Stolow, 2006). These programs offer youth the opportunity to practice teamwork, learn real world skills, explore new interests and participate in project-based learning activities. However, afterschool programs have been described as "unrecognized and untapped" resources (Schwarz & Stolow, 2006). The purpose of this study was to examine the extent to which participation in one out-of-

school program, 4-H, contributes to the development of workforce skills in youth by surveying Ohio 4-H Club members in 9th and 12th grades.

Out-of-school programs provide youth an opportunity to make connections between what they learn in school and what employers require for success in the workplace (Ferrari, Arnett, & Cochran, 2007). One such out-of-school program is 4-H, a community of young people across America who are learning leadership, citizenship and life skills. It is an educational youth program for youth ages 5-19. 4-H focuses on the hands-on approach to learning, which is most evident in projects youth complete as part of their involvement in the program. Projects provide a wide variety of opportunities to learn new skills in healthy living, citizenship, and science, engineering and technology. Project topics fall into several categories: agricultural, art, performing arts, technology, home economics, personal development, business, finance, sports and the outdoors. Specific project topics could include: sewing, car maintenance, rocket science, leadership, public speaking, livestock, and photography. However, youth can participate in 4-H in ways other than completing projects. 4-H also offers camps, conferences, afterschool programs, public speaking, judging events, and many more opportunities to be involved in the program. 4-H programs are located in rural and urban areas.

4-H programs are designed to include eight critical elements that are necessary for positive youth development:

1. Positive relationships with caring adults

2. Opportunities for self-determination
3. An accepting and inclusive environment
4. Opportunities to contribute through community service
5. A safe environment for learning and growing
6. Opportunities to develop and master skills
7. Engagement in learning
8. Opportunities to be an active participant in life – now and in the future (Kress, 2004).

Furthermore, these elements can then be broken down into four competencies: independence, belonging, generosity, and mastery. By exercising independence through decision making and taking action, youth develop their self-discipline and responsibility skills. Additionally, they learn to understand themselves better and to be more mature thinkers. Youth also need to experience a sense of belonging to a group, physically and emotionally. Opportunities for long-term consistent relationships with adults are paramount in the lives of children and youth. Youth develop a heightened sense of generosity and that their life has meaning and purpose by participating in community activities and service. Lastly, youth need to feel they are capable of mastering skills which will lead to success at solving problems and facing challenges (Kress, 2004).

Since 1914, when 4-H membership was recorded at 116,262, 4-H has experienced remarkable growth. In 1974, membership reached its highest recorded peak to date at 7.5

million (Van Horn, Flanagan, Thomson, 1999). Today, 4-H is a community of about 6 million youth across the United States. Additionally, 4-H includes 3,500 staff, 518,000 volunteers and more than 60 million alumni (National 4-H Council, 2008). Therefore, understanding the impact on workforce skill development through 4-H participation is critical to shape programming and help the program to remain relevant in today's world.

The setting for this study was the state of Ohio, which has a rich history of 4-H. In 1902, A.B. Graham started what came to be known as "Boy's and Girl's Agricultural Clubs" in Springfield, Ohio. Eventually, these agricultural clubs became what is known today as 4-H Youth Development clubs. In 2007, 222,108 youth in Ohio were involved in various clubs and groups within 4-H (Elder, 2007). Ohio was also chosen as the site for this study due to its long history of programming and a desire by the state 4-H office to study the topic of workforce skills. Most Ohio youth in 4-H participate through 4-H clubs, but there are other ways to participate. There are several afterschool programs, such as Adventure Central in Dayton, Ohio and Youth Outdoors in Cleveland, Ohio that are collaborations of multiple organizations which come together to give inner-city youth opportunities to develop life skills.

Research Questions

This study sought to explore the degree to which 4-H participation contributed to the development of workforce skills in Ohio youth. The focus was how Ohio 4-H club members perceive their current level of workforce skills and the extent to which 4-H

participation has helped develop those skills. In addition, differences in the perceived helpfulness of 4-H were examined by grade, gender and leadership activities beyond the club level.

The following questions were addressed:

1. What are the perceived level of workforce skills among Ohio 4-H members?
2. To what extent has 4-H contributed to the development of these skills as perceived by 4-H youth?
3. To what extent has 4-H helped Ohio 4-H members obtain employment?
4. Is there a difference in perceived helpfulness of 4-H based on grade?
5. Is there a difference in perceived helpfulness of 4-H based on gender?
6. Is there a difference in perceived helpfulness of 4-H based on leadership experiences?

The hypothesis of this study was that 4-H participation positively contributes to the development of workforce skills in Ohio 4-H Club members. Additionally, differences in the perceived helpfulness of 4-H would be found when respondents were analyzed by grade, gender and type of leadership experience.

Past evaluation of the 4-H program has focused on life skill development (Fitzpatrick, Gagne, Jones, Lobley, & Phelps, 2005; Gamon & Dehegedus-Hetzel, 1994; Maass, Wilken, Jordan, Culen, & Place, 2006; Seevers & Dormody, 1994a; 1994b; Ward, 1996); program impact (Astroth & Haynes, 2002; Diem, 2005; Goodwin, Carroll, &

Oliver, 2005; Goodwin, Barnett, Pike, Peutz, Lanting, & Ward, 2005; Lewis, 2008); and retention (Albright, 2008). These studies have explored the benefits of 4-H participation in areas such as at-risk behaviors, scholastic achievement, and youth-adult relationships in 4-H youth participants versus non-4-H youth participants (Astroth & Haynes, 2002; Goodwin, et al., 2005; 2005; Lewis, 2008; Mead, Rodriguez, Hirschl, & Goggins, 1999). Other studies have focused on how participation in 4-H influences career choice, educational training, and preparation for leadership roles in communities (DeGraff & Glover, 2003 Dworken, 2004; Forsythe, Matysik, & Nelson, 2004; McKinley, 1999). Overall, studies have found 4-H to be beneficial to participating youth in many areas.

Whereas other studies have looked at the issue of workforce development and transfer to real life from the point of view of alumni (Digby & Ferrari, 2007), this study was unique in that it focused on youth's perspectives of what they have learned as a result of their experiences in 4-H.

This study addressed a critical issue in today's society as the need to develop workforce skills among youth in the United States increases. Additional information has been needed to find ways that out of school activities, such as 4-H, can provide opportunities for youth to learn the necessary skills. Furthermore, the study has given youth development professionals a unique insight into the perspective of youth. It shed light onto the impacts programs can have on youth and how youth evaluate their learning experiences. Additionally, understanding the extent to which 4-H contributes to

workforce skills brings to light what youth are learning in 4-H and will serve as a check and balance of 4-H's relevancy in today's society. The outcomes of this study can be used by youth development professionals to evaluate their own programs and to modify existing programs to incorporate opportunities for the increased development of workforce skills.

Definitions

The following definitions were used in this study:

A *4-H club member* is a youth between the ages of 8 and 19 who is enrolled in a 4-H club through Ohio State University Extension's 4-H Youth Development program.

Out of club leadership is any 4-H leadership activity beyond the club level, such as County 4-H camp counselor or advisory committee member, Junior Leader club member or officer, Junior Fair Board member or officer, 4-H and/or Junior Fair royalty, 4-H CARTEEN team leader, 4-H Awareness Team, Food or Fashion Board, State 4-H Ambassadors, State 4-H Teen Council or presenter at a state 4-H conference.

No out of club leadership is 4-H leadership activity at the club level, either by being a 4-H club officer or club committee chairperson.

Limitations

Limitations of this study included:

1. This study was limited to Ohio 4-H members. 4-H programs in other states may be different in programming and participants. Therefore, findings of this study cannot be assumed to be generalizable to other states.
2. This study was limited to one point in time. It was not designed to give longitudinal data.
3. The participants self-reported on their skills; actual skills were not measured.
4. The participants in this study had been involved in the 4-H program for an average of 6.7 years. Therefore, it was most likely the participants think positively about 4-H or they would not be part of the program. The scores may be affected by this limitation.
5. Also, this study was limited to 4–H club members, not those in afterschool or school enrichment programs.
6. Excluded were those who were once in 4-H and have since dropped out. Therefore, the scores may be biased.
7. The study was limited to 9^{th} and 12^{th} graders. Consequently, the findings cannot be generalized to youth from other grade levels.
8. The response rate (34.5%) was lower than anticipated and may affect the results.

CHAPTER 2

REVIEW OF LITERATURE

The purpose of this chapter is to explore current literature on workforce skill development. Information will be presented on workforce readiness and skills, out-of-school programs, and 4-H. A summary concludes the chapter.

Workforce Readiness and Skills

For the past 25 years, the workplace has undergone significant changes from blue collar to technology. Preparing youth for the workplace is a concern in the United States society. Skills needed in the workplace have changed dramatically, while skills learned in a classroom have not changed accordingly (Schwarz & Kay, 2006). There are wide gaps between the skills businesses value and the skills most high school and college graduates actually have (Schwarz & Kay, 2006; The Conference Board, et al., 2006). For example, more than 80 percent of employers in the fastest growing industries rank writing as part of the hiring process, but more than 75% of 12^{th} graders are not proficient in writing (National Commission on Writing for America's Families, Schools, & Colleges, 2004). As changes in the labor market call for workers with skills in technology and professionalism, workforce skill development is important for business success and it is the responsibility of individuals, employers, and government to provide youth with opportunities to develop these skills (American Society for Training and Development, 2006).

Many efforts to record critical skill sets necessary for success in the workplace have been undertaken. Perhaps the most recognized is the Labor Secretary's Commission on Achieving Necessary Skills (SCANS) (1991; 1992) which links education to the workplace. These two reports recognized competencies needed by all workers including the ability to manage resources, work productively with others, acquire and use information, understand complex systems, and work comfortably with a variety of technologies. Additionally, competent workers were also characterized by their basic skills (reading, writing, speaking, listening), thinking skills (ability to learn, creative thinking, decision making, problem solving) and personal qualities (responsibility, self-esteem, self-management, sociability, integrity).

Murnane and Levy (1996) recorded their study of desired skill sets of entry-level workers by employers. After interviewing dozens of employers, they found that the new basic skills required to obtain a middle-class job were reading, writing, and arithmetic; the ability to work on diverse teams; the ability to use data to solve semi-structured problems; the ability to use computers to complete job tasks; and effective communication through written and oral means. When comparing high school graduates with the desired new basic skills, Murnane and Levy (1996) found that one-half of high school graduates did not possess the new skill set.

In 2006, over 400 employers from across the United States were surveyed on their assessment of the skill sets that new entrants into the workforce possessed

(The Conference Board, et al., 2006). The 400 employers identified four areas as the most important skills new entrants could have. They were: professionalism/work ethic, oral and written communications, teamwork/collaboration, and critical thinking/problem solving. However, the results of the survey concluded that high school graduates were insufficiently prepared to be successful in the workplace in writing in English, mathematics, reading comprehension, written communication, critical thinking/problem solving, and professionalism/work ethic and were adequately prepared to be successful in the workplace in only three "very important" applied skills: information technology application, diversity, and teamwork/collaboration. Two-year and four-year college graduates were better prepared for entry-level jobs, but were deficient in written communications, leadership, and writing in English (The Conference Board, et al., 2006). More than 70 percent of college professors and employers say graduates are unable to write clearly and had only poor to fair spelling skills. The lack of necessary skills for the workplace is costing American businesses more than $60 billion each year to retrain employees, much of that on remedial reading, writing and mathematics (Afterschool Alliance, 2005).

Cochran and Lekies (2008) recorded the results of an action team meeting of researchers and practitioners across the state of Ohio who met to synthesize the current literature and practitioner experience to identify a framework of workforce skills needed

for success in the 21st century knowledge economy. Six general categories of necessary skills needed in the workplace were identified.

The first skill category was thinking skills. These include critical thinking, problem-solving, creativity, and innovation. These skills aid in evaluating relevance, assessing accuracy, and using information to solve problems. By thinking creatively, new ideas and innovative solutions can be generated. Also, there is value in understanding how systems work, how to operate within them, and how to make improvements.

The second skill category was communication. Communication is "the ability to communication effectively using the range of methods and tools available in today's environment" (Cochran & Lekies, 2008). Communication enables one to listen, interpret and convey information to others clearly and effectively, both orally and written.

The third was teamwork and leadership. This skill is the ability to work efficiently on a team and to provide leadership. This encompasses the ability to work with others and contribute to the group effort, build collaborative relationships, work with diverse teams, negotiate and manage conflict, motivate a group or individual, use the strengths of others to achieve common goals and use interpersonal skills to coach and develop others.

Fourth was lifelong learning and self-direction. Improving oneself is accomplished by setting goals and improving skills through mentoring, training, formal education and other learning activities. Also, showing initiative by soliciting and receiving feedback to learn from mistakes is part of this category of skills.

The next category of skill was technology adoption and application. These skills include: an in-depth understanding of technology concepts, systems and operations; selecting and using appropriate technology to accomplish a given task; and identifying and solving problems with technology.

The last category identified by Cochran and Lekies (2008) was professionalism and ethics, demonstrated by being accountable and maintaining effective work habits and demonstrating ethical behavior.

So, what is causing this gap between skills required for the workplace and actual skills possessed by high school graduates? The American Society for Training and Development (ASTD) (2006) found that four factors have contributed to this gap. The first is that jobs are changing. Employees in the 21st Century need a higher level of technical and professional skills as a result of the shifts in the economy such as the decline of low-skill manufacturing, the growth of the service sector and the advancement of new technologies. Second, it is projected that by 2020 there will be a shortage of 14 million workers with at least some college experience. Therefore, a smaller proportion of the workforce will be prepared for more complex jobs. Third, the workforce growth is slowing – a smaller number of new workers will enter the labor force in the current decade than were added in the 1990s. And finally, although businesses recognize that employee learning and skill development is important to maintain a competitive edge, many businesses are falling short of this goal (ASTD, 2006).

The development of 21st century skills is important for two reasons. The first is that teamwork, problem solving, creativity, and communication are skills citizens need to be successful members of their communities. Secondly, jobs that require these skills will not only pay more, but will be more fulfilling and more enjoyable (Schwarz & Stolow, 2006).

The nation's job market shift from blue-collar type jobs to more administrative managerial types of jobs also has important implications for education. The occupations that have typically provided the majority of the nation's high school graduates with jobs are experiencing great decline. Therefore, youth that leave high school with the skills to complete postsecondary education and other training are presented with a greater opportunity for a more successful career, while those that graduate without the needed skills will find themselves in competition with one another for low-paying service sector jobs (Levy & Murnane, 2006).

The Partnership for 21st Century Skills (n.d.) suggests the educational system incorporate four components into the current curriculum: thinking and learning skills (critical thinking and problem solving, creativity and innovation, communication, and collaboration skills); information and communication technology literacy (the ability to accomplish thinking and learning skills through the use of technology); life skills (leadership, ethics, personal productivity, self-directed learning); and twenty-first century content (global awareness and business fundamentals and economic literacy). However,

many schools have not focused on the development of 21st century workforce skills due to restraints of time, structure, bureaucracy and other priorities (Digby & Ferrari, 2007; Schwarz & Stolow, 2006). Therefore, afterschool programs emerge as areas of potential with respect to the development of workforce skills in youth (Ferrari, Arnett, & Cochran, 2007; Schwarz & Kay, 2006; Cochran & Ferrari, 2009).

Out of School Programs

Out-of-school programs are carefully organized and supervised programs that operate during the after school hours (Zhang & Byrd, 2006). Although curriculum across out-of-school programs differs greatly, several key concepts remain the same: consistently including scholastic development opportunities, improving social behavior, providing a caring environment, promoting students' personal inspiration, and enhancing physical well-being (Zhang & Byrd, 2006). Out of school programs can offer physical activity, nutrition education, and access to healthy foods (Afterschool Alliance, 2005).

Youth want places where they can be physically active, do recreational activities, and have more opportunities to socialize with friends. Youth that were uninvolved in an out-of-school program desired small-group, flexible, or leisure internet-based activities to occupy their out of school hours. Additionally, they desire to be part of something that stems from their personal interests (Marczak, Dworkin, Skuza, & Beyer, 2006).

Afterschool programs are important for many reasons. First, they tend to operate in small groups which affords the youth with opportunities to work as a team. Second,

afterschool programs are excellent arenas for project-based learning where youth can develop mastery. They also offer real-world learning experiences that can be very meaningful to students. Moreover, out-of-school programs offer opportunities for students to explore new fields and technology and experience real-world challenges. Students investigate, analyze, synthesize, experiment, reflect, develop creativity, use data to solve complex problems, develop strong written and oral communication and experience working on diverse teams (Schwarz & Stolow, 2006).

Participation in out-of-school programs has been shown to reduce youth crime and violence; drug use and addiction; cut other risky behaviors; and boost school success and high school graduation (Newman, Fox, Flynn, & Christeson, 2000). In addition, children who attend afterschool programs have better grades and personal conduct in school, are more likely to graduate and have a lower incidence of violence and teenage pregnancy – all of which shape them into more productive, caring and economically strong citizens (Afterschool Alliance, 2005).

Furthermore, participation in out-of-school activities is often predictive of academic success as measured through test scores, absenteeism, school dropout rates, homework completion, and school grades (Eccles & Barber, 1999; Gore, Farrell, & Gordon, 2001; Marsh, 1992). Also, links exist between out-of-school activity participation and social development including the number of friends, quality of those friendships, and who those friends are (Eccles & Barber, 1999; Mead, et al., 1999).

Time spent in youth programs is a consistent predictor of youth thriving, enhanced self-concept, school performance and aspirations to attend college (Borden, 2004). Additionally, youth program participation is a predictor of improved occupational attainment, increased ability to overcome adversity, willingness to help others, improved leadership qualities, increased efforts to maintain good physical health, and involvement in political and social activities in young adulthood (Borden, 2004).

The most effective out-of-school programs with a comfortable learning atmosphere offer rich learning experiences, provide opportunities for youth to be engaged in problem solving and decision making, make youth feel like needed resources and are conducive to developing positive relationships with adults and other youth (McLaughlin, Irby, Langman, 1994). Miller and Hall (2007) studied 78 out of school programs in Massachusetts and found that qualified staff and administrators, low staff-to-child ratios, and opportunities for relationships with adults were predictive of quality programs.

4-H

The long history of positive youth development in 4-H makes it a prime example an out-of-school program that can contribute to the development of workforce skills in participating youth. 4-H has long been centered on a positive youth development framework which includes eight critical elements: a positive relationship with a caring adult; a safe environment; the opportunity for mastery of skills; the opportunity for service to others; self-determination, decision-making and goal setting skills; active,

engaged learning; a positive connection with the future; and an inclusive environment (National 4-H Impact Assessment Project, 2001). These elements contribute to building a framework for participants to become productive, participating adults. Furthermore, these elements can then be broken down into four competencies: independence, belonging, generosity, and mastery (Kress, 2004). By exercising independence through making decisions and taking action, youth develop skills in self-discipline and responsibility. Additionally, they learn to understand themselves better and to be more mature thinkers. Youth also need to experience a sense of belonging to a group, both physically and emotionally. Opportunities for long-term consistent relationships with adults are paramount in the lives of children and youth. Youth develop a heightened sense of generosity and that their life has meaning and purpose by participating in community activities and service. Lastly, youth need to feel they are capable of mastering skills which will lead to success at solving problems and facing challenges (Kress, 2004).

Life Skill Development

Skills needed for the workplace can be described more broadly as life skills (Ferrari, Arnett, & Cochran, 2007). A lack of developmental life skills may contribute to the likelihood of youth to engage in at-risk behaviors. These life skills are required for everyday adult life. It is therefore, vital for youth to develop these skills to live healthy, adult lives. These skills allow youth to respond to their environment by making responsible decisions, understanding their values, communicating and getting along well

with others (Boyd, Herring, Briers, 1992). Youth involved in programs, such as 4-H, develop life skills that help them live to be productive adults in society. Not only does 4-H teach valuable skills in science, math, agriculture and family and consumer sciences, but it includes non-formal, experiential education programs that teach youth these valuable life skills (Boyd, et al., 1992).

Several studies have shown that 4-H club members felt they gained skills that would help them throughout their life as a result of 4-H participation (Fitzpatrick, et al., 2005; Holmgren & Reid, 2007; Mead, et al., 1999; Nash & Sant, 2005; Olson & Croymans, 2008; Rusk, Martin, Talbert, & Balschweid, 2002). Specific skills included: public speaking, problem solving, goal setting, leadership skills, planning skills, self-confidence, self-motivation, self-discipline, citizenship, communication skills, academic gains, expanded horizons, organizational skills, respect for others, patience, tolerance, decision-making, teamwork, responsibility, and "real-world" experience from hands-on projects (Fitzpatrick, et al., 2005; Holmgren & Reid, 2007; Mead, et al., 1999; Nash & Sant, 2005; Olson & Croymans, 2008; Rusk, et al., 2002). All these skills have been recognized as beneficial life skills for workforce preparedness.

Behavioral Changes and Scholastic Achievement

Several studies of 4-H in Montana, Colorado, Idaho, and Ohio have shown positive impacts due to 4-H participation (Astroth & Haynes, 2002; Goodwin, et al., 2005; 2005; Lewis, 2008). The results of the surveys from 4-H members in 5th, 7th, and

9th grades were grouped into categories that align with the six C's of 4-H: contribution, confidence, competence, connection, caring and compassion (Lerner, 2004).

Contribution – The research indicated that 4-H youth were more likely than other youth to succeed in school (getting more A's). 4-H youth are involved as leaders in their schools and communities and are looked up to as role models for other youth. Additionally, 4-H members help others in their community. 4-H members were less likely than other youth to engage in at-risk behaviors such as shoplifting, stealing, use of illegal drugs, smoking, property damage, and skipping school or classes without permission.

Confidence – 4-H members reported feeling more in control of their lives. They are more likely to feel good about who they are and to feel their life has purpose and meaning. 4-H members are more likely than their counterparts to be able to make their own decisions, set goals, try new things and take responsibility for their actions.

Competence – 4-H members were more likely to hone skills that will help them become capable, competent, contributing adults. Skills include: record keeping, public speaking, organization, making good decisions, planning and money management.

Connection – 4-H members were more likely to report that adults view them as valuable assets in the community. Additional reports of 4-H bringing members closer to family members and/or other adults were noted.

Caring and Compassion – 4-H members were more likely to have been part of a project to make life better for others, given money or time to a charity, and spent time with elderly, sick, hungry and poor people.

Longevity of Participation Benefits

The results of a study of 4-H members and non-members in grades 5, 7, and 9 in the state of Montana reported that youth who were involved in 4-H for more than a year were significantly better off in several areas than their peers who did not participate in the program (Astroth & Haynes, 2002).

Length of time youth remain in 4-H clubs was examined to find if being a member over some period of time makes a difference in terms of skill development (Mead, et al., 1999). Youth that remained in 4-H for one year or more versus youth that did not participate in clubs or organizations had higher scores in the following areas: leadership, conflict resolution, communication, self-confidence, ability to make healthy choices, knowledge of nutritional and food safety, and record keeping. Additional research has shown that the longer youth are involved in the 4-H program, the greater the increase in community contributions (University of Minnesota, 2005)

4-H alumni indicate that long tenure in 4-H programs, events and experiences were perceived to be critical of the development of the following life skills: communication, getting along with others, technical skills, management, understanding self, and working with or leading groups. Similar results were found for current members (Mulroy, & Kraimer-Rickaby, 2006).

In addition to length of involvement in a program, other factors in how youth perceived 4-H to be helpful in the development of workforce skills may be due to breadth and intensity of involvement. Breadth is defined as the number of different types of activities in which youth are involved and intensity is defined as average frequency of involvement (Rose-Krasnor, Busseri, Willoughby, & Chalmers, 2006). Rose-Krasnor et al. (2006) found that breadth of involvement showed stronger relationships with indices of positive youth development than did intensity. Moreover, the study revealed that boys participated in their chosen activities more frequently than girls, although the difference was slight.

Gender

Little research has been done to date regarding gender differences in the development of workforce or other related skills in 4-H. Some research has found that gender differences did not exist for asset development among 4-H youth (Mead, et al., 1999). However, research by Seevers and Dormody (1994b) found female 4-H members had higher leadership life skills development than their male counterparts. Additionally,

in a study of FFA members, females were found to have higher leadership life skills development than males (Wingenbach & Kahler, 1997).

Leadership

Embedded in the Secretary's Commission on Achieving Necessary Skills report (1991; 1992) are many leadership skills and qualities. Therefore, for youth to be successful in the workplace, they must attain and hone their leadership skills and qualities. Youth who take part in leadership activities through participation in an out-of-school program have a higher sense of their own leadership capabilities than those youth that do not participate in leadership activities (Townsend & Carter, 1983). Several studies have found a positive relationship between participation in youth leadership activities through an out-of-school program and the development of youth leadership life skills (Dormody & Seevers, 1994; Mueller, 1989; Mulroy, & Kraimer-Rickaby, 2006; Wingenbach & Kahler, 1997).

For instance, 4-H members were observed to have higher leadership life skills development than nonmembers (Boyd, et al., 1992). Also, level of participation in 4-H was found to be a significant predictor of leadership life skills development scores among 4-H youth in Texas (Boyd, et al., 1992; Seevers & Dormody, 1994a; 1994b). The 4-H literature concludes the greatest impact on leadership life skills development would be achieved by increasing youth involvement in leadership activities beyond the community club level (Cantrell, Heinsohn, & Doebler, 1989; Heinsohn & Cantrell, 1986). Little

research was found to date on the relationship between participation in 4-H leadership activities and the development of workforce skills.

However, not all 4-H members who take part in leadership activities experience the same amount of development in this skill. Seevers and Dormody (1994b) found several factors affecting the development of leadership life skills including gender, achievement expectancy and ethnicity. Self-esteem, years in 4-H, age, and place of residence were not found to be related to leadership life skills development. As noted previously, female members had higher leadership life skills development than their male counterparts. Additionally, participation in projects and activities, the value of projects completed, and the challenges and responsibilities experienced in 4-H contributed to the personal and leadership development of 4-H alumni (Radhakrishna & Sinasky, 2005).

Leadership skills have been shown to be the skill most often transferred to other contexts. Digby and Ferrari (2007) surveyed 4-H camp counselor alumni to ascertain their perceptions on workforce skills gained as a result of their experience and transferred to settings beyond 4-H camp. 4-H alumni reported learning to take the lead on group projects in college classes and extracurricular activities, take the lead in a job even when co-workers had the same responsibility and delegate tasks to others. Overall, the alumni identified four of the five SCANs competencies and three of the foundation skills categories as a result of their involvement in 4-H camp.

Ohio 4-H Programming

4-H has a long history of helping youth develop life skills to guide them into the future to be active, productive citizens and to be successful in the workplace (Kress, 2006). One example of 4-H's efforts is the Job Experience and Training (JET) program at Adventure Central, which is a partnership with Ohio State University Extension, 4-H Youth Development, the City of Cleveland and Five Rivers MetroPark in Dayton, Ohio. The JET program is designed to focus on the need to develop workforce skills in youth. The program is carried out over a period of six months which closes in an eight-week summer work experience. The youth apply and interview for 20 jobs in six areas: Youth Education, Nutrition, Clerical, Parks and Conservation, Information Technology and Outdoor Recreation. MetroParks facilities are the sites for the jobs. Throughout the experience, youth are supervised by adults at each worksite and participate in team meetings held every two weeks to add to the learning process. An evaluation of the program reported that overall, the experience in the JET program improved youths' workforce skills, as evidenced by their own self-assessment and those of their adult supervisors. The most growth was observed in self-motivation, organizational systems, wise use of resources, asking questions to clarify information, listening and verbal communication skills, demonstrating responsibility, and problem solving.

The Ohio 4-H program has developed the Ohio 4-H Workforce Preparation Initiative program to strengthen and expand programs that are developing job skills in

youth (Arnett, et al., 2006). The goal of the initiative is to develop awareness and skills for career success through intentional workforce preparation experiences that include education, experience, and reflection. Youth can learn in a variety of ways. For example, youth learn skills such as communication, teamwork, understanding systems, and entrepreneurial skills by participating in their clubs on different committees, through public speaking events, completing projects and attending camps. Teens can also learn through work-based learning or post-secondary internship opportunities offered by Ohio State University Extension, CARTEENS (a traffic safety program conducted by 4-H teen leaders and their program partners for juvenile traffic offenders), 4-H Ambassadors (youth spokespersons for Ohio 4-H who demonstrate excellence in 4-H achievement, citizenship, and leadership), and Junior Fair Board membership (Arnett et al., 2006; Ohio 4-H, 2009a; Ohio 4-H, 2009b).

Summary and Hypothesis

In the past 25 years, skills required in the workplace have shifted dramatically while preparation in primary and secondary schools has remained largely unchanged. Therefore, participation in an afterschool or out-of-school program afford opportunities for youth to learn new skills and explore different fields to better equip themselves for the 21st Century workplace. Overall, studies show that participation in 4-H has positive impacts on youth in their behavior, attitudes, competencies, and relationships. However, it is unclear the extent to which 4-H participation contributes to the development of

specific workforce skills. Furthermore, it is largely unknown how the perceived helpfulness of 4-H varies by grade, gender or type of leadership experience from the perspective of the participant.

The hypothesis of this study was that 4-H participation positively contributes to the development of workforce skills in Ohio 4-H Club members. Additionally, differences in the perceived helpfulness of 4-H would be found when respondents were analyzed by grade, gender and type of leadership experience. It was hypothesized that 12th graders would perceive 4-H to be more helpful because they are more mature and have had the opportunity for more experiences. No differences were anticipated when respondents were analyzed by gender and some differences were anticipated when respondents were analyzed by type of leadership experience. In Figure 2.1 the model guiding the study is drawn.

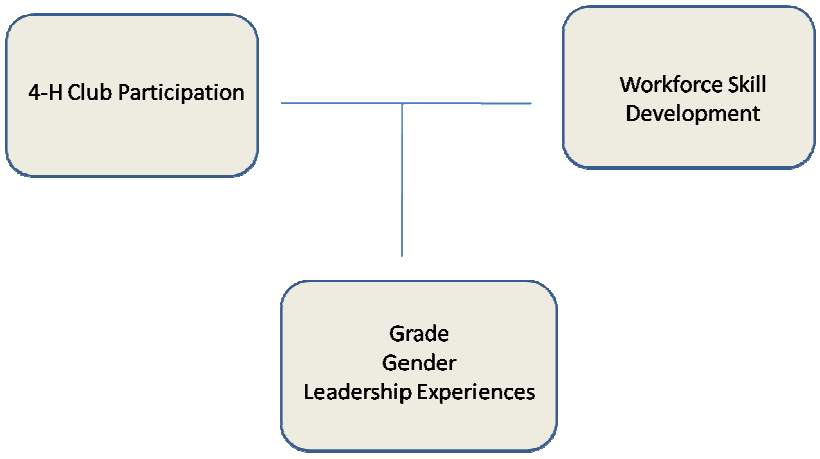


Figure 2.1 *Workforce skill development as related to 4-H club participation.*

CHAPTER 3

METHODOLOGY

This study was designed to explore how participation in 4-H influences the development of workforce skills as perceived by youth, and how perceptions of helpfulness differ by grade, gender and type of leadership experience. The following chapter presents information on study design, sample, measurement and instrument, data collection, the data analysis plan, and a description of the participants.

Research Questions

The research questions that guided this study were as follows.

1. What are the perceived level of workforce skills among Ohio 4-H members?
2. To what extent has 4-H contributed to the development of these skills as perceived by 4-H youth?
3. To what extent has 4-H helped Ohio 4-H members obtain employment?
4. Is there a difference in perceived helpfulness of 4-H based on grade?
5. Is there a difference in perceived helpfulness of 4-H based on gender?
6. Is there a difference in perceived helpfulness of 4-H based on leadership experiences?

Study Design

The study utilized surveys that were sent to a sample of Ohio 4-H youth in 9th and 12th grades. Online surveys were used, although youth had the opportunity to complete a written survey if they chose. A survey was chosen for the method of data collection as

surveys permit researchers to gather information from a large sample of people relatively quickly and inexpensively (Ary, Cheser Jacobs, Razavieh, & Sorensen, 2006, p. 407).

Sample

The population for this study was 9th and 12th graders who were enrolled in the Ohio 4-H program for the 2007 year. The two age groups were chosen to compare workforce skills of those that were just entering high school and those that were just completing high school. In 2007, there were 5,051 total 12th grade 4-H club members and 7,223 9th grade 4-H club members in the state of Ohio. A list of names and addresses was obtained from the Ohio 4-H Youth Development state office. A sampling program was used to calculate a sample with a 95% confidence interval. Using the sampling program to achieve a response rate of 50%, a sample size was calculated. A rate of 50% was used because it was believed that the sample was comprised of individuals who were typically involved in 4-H for a number of years, and they would be willing to complete the survey. The sampling program indicated 365 9th graders and 358 12th graders were needed to respond. Taking into account the 50% response rate, 735 9th graders and 716 12th graders were selected. All Ohio 4-H club members in grades 9 and 12 had an equal chance of being selected for the study.

Measurement and Instrument

The survey questions covered 4-H experiences, 4-H learning opportunities, planning and leadership opportunities, youth adult partnerships, workforce preparation

skills, community involvement, and demographics (Appendix A). For the purpose of this paper, 4-H experiences, workforce preparation skills, and demographics will be discussed.

4-H Experiences

The first section of questions was designed to gather information about the youths' experiences in 4-H clubs. For questions 2, 3, and 4 respondents could check as many responses as applied. The questions were as follows.

1. Length of time in 4-H – (How many years have you been in 4-H?)
2. Project area – (What is your main project area(s)?) Responses were: child development, clothing, creative arts, engineering, foods and nutrition, health, home decorating and designing, leadership, livestock, money management, natural resources, photography, plants/crops/gardening, science and technology, self-determines, shooting sports, small animals, woodworking, and other.
3. 4-H activity participation – (In which 4-H activities have you participated?) Responses were: county 4-H camp, state 4-H camp, state 4-H teen or volunteer conference, county health and safety public speaking/demonstration contest, entered a project at a county fair, entered a project at the state fair, national 4-H events, visited another country through 4-H, hosted a 4-H international visitor.

4. Leadership activities – (In which 4-H leadership activities have you been involved?) Responses were: 4-H club officer, 4-H club committee chairperson, county 4-H camp counselor, county 4-H advisory committee member, Junior Leader club member, Junior Leader club officer, Junior Fair board member, Junior Fair board officer, 4-H and/or Junior Fair royalty, 4-H CARTEEN teen leader, 4-H Awareness Team, Food or Fashion Board, State 4-H Ambassador, State 4-H Teen Council, made a presentation at a state 4-H conference, and other.

Workforce Skills

Workforce skills were assessed in three parts. The first was the youth's perspective of their own workforce skills and second, the degree to which they had learned these skills as part of their involvement in 4-H. Twenty-five questions were on the survey in this section. The questions were based on previous literature on workforce skills (The Conference Board, et al.; SCANS, 1991; 1992) and discussion by the Ohio State University Extension Workforce Preparation Team, who also reviewed the measure for content validity. Additionally, the instrument was reviewed by a group of 15 Ohio 4-H Teen Council members, ages 15-18, for readability and to ensure that questions were appropriate for the youth audience. For each question, youth responded on a 1-5 Likert scale, with 1= "I'm not very good at this,"3= "I'm ok at this" and 5= "I'm very good at this."

The workforce skill questions were as follows.

1. Thinking through difficulties and solving problems.
2. Being creative.
3. Making good decisions.
4. Expressing my thoughts clearly to others.
5. Speaking in front of a group.
6. Being a good listener.
7. Being a good writer.
8. Working well with others to achieve a goal or complete a project.
9. Working well with others to resolve disagreements in a way that is fair and respectful.
10. Leading others to achieve a goal.
11. Organizing people around an idea, problem, or cause.
12. Encouraging and supporting others.
13. Working well with others from diverse backgrounds (different ages, races, genders, religions, cultures, lifestyles, and viewpoints).
14. Taking the initiative for getting things done.
15. Setting goals for myself and work hard to meet them.
16. Asking for help when needed.

17. Having motivation to complete work or project tasks without someone reminding me.
18. Understanding basic computer operations.
19. Getting the information I need from the internet.
20. Using technology to communicate with others.
21. Using the appropriate technology to complete work or project tasks.
22. Managing my time well.
23. Having good work habits (being punctual, honest, and responsible).
24. Having a positive attitude about the work I do.
25. Being respectful of others.

Next, the youth were asked to specify how their participation in 4-H contributed to the development of each skill using a 5 point Likert scale where 1= "not at all," 3= "somewhat," and 5= "a great deal."

The next four questions concerned youth employment and career plans as they were related to 4-H using a mix of yes or no questions and blank spaces for open ended responses:

1. Have you gotten a job as a result of the skills and knowledge you've learned in 4-H?
2. Have you gotten a job as a result of someone you've known through 4-H?

3. Have you started a small business as a result of the skills and knowledge you've learned in 4-H? If yes, please describe.
4. Do you plan to start a small business in the future as a result of the skills and knowledge you've learned in 4-H? If yes, please describe.

Demographics

Nine demographic questions were asked to obtain background information and for use in comparisons among groups.

1. Age – (How old are you?) (open-ended)
2. Grade – (What grade are you in)? (9^{th}, 10^{th}, 11^{th}, 12^{th})
3. Gender – (Are you male or female?)
4. Ethnicity – (How do you describe yourself?) (White, not Hispanic/Latino, African-American, American Indian/Alaskan Native, Asian or Pacific Islander, Hispanic/Latino, Multiracial, Other)
5. Place of Residence – (Where do you live?) (farm, rural area but not on a farm, town less than 20,000 residents, city 20,000 to 99,999 residents, large city 100,000 or more residents)
6. County of Residence – (What county are you from?) (fill in blank)

Data Collection

Data were collected through online and written surveys from November 2007 through February 2008. The survey took about 15 minutes to complete. Parents of

selected youth under the age of 18 were mailed a letter detailing the study and asking their permission for their son or daughter to participate in the study (Appendix B). If they consented, they were asked to give their son or daughter an accompanying letter that detailed the study and provided the link for the website to the online survey (Appendix C). A percentage of the youth were age 18 or older (n = 93). To this group of youth, a letter was mailed directly to them. Both letters also included a telephone number to request a paper copy of the survey if the youth chose to complete the survey in this way. In an effort to increase the response rate, a follow-up postcard was mailed one week after the survey was sent, which was followed by a subsequent reminder letter to the parents or youth age 18 a week later. A final letter and hard copy of the survey with a return envelope was mailed approximately two weeks later. A drawing for two $50 cash prizes (one for each grade) was used to increase response rates.

Each survey was coded so that follow-up could be made with non-respondents. Also, the codes helped ensure that only the selected youth completed the surveys. No names were collected on any of the surveys.

Data Analysis

Data from the surveys were coded and entered into a SPSS 17.0 for analysis. Descriptive data were reported in percentages for all variables. Pearson chi-square analysis was used to assess differences in workforce skill development based on grade, gender and type of leadership experiences.

Description of Participants

A total of 501 9th and 12th graders responded to the survey for an overall response rate of 34.5%. Two surveys were eliminated because grade and/or age were not reported and when the codes were compared to the master list, the recipients should have been 12 years old. It was concluded they received the survey in error. Another survey was eliminated based on a phone call from the parent that indicated the child has special needs and could not complete the survey. Respondents had the option of completing an online survey or a written survey. Of the respondents, 33.5% completed a written survey. Ninety-four of the respondents indicated they plan to attend college. Ten percent indicated they had been or currently were being homeschooled.

In the population, 87 of Ohio's 88 counties were selected and in the sample 87 of 88 counties responded. Therefore the final sample was representative of all counties.

Participants were between the ages of 13 and 19. All but eight of the 9th graders were 14 and 15. All but four 12th graders were either 17 or 18 years old. The 9th graders' mean age was 14.4 and the 12th graders' mean age was 17.4. A summary of age, frequency and percentage of respondents in a particular age group follow in Table 3.1.

Age	Frequency (*n*=497)	Percentage of Respondents
13	8	2%
14	149	30%
15	102	20%
16	3	1%
17	142	28%
18	92	18%
19	1	<1%

Table 3.1 *Respondents by Age*

The participants in the study were split by grade fairly evenly. Fifty-three percent were in the 9th grade and 47% were in the 12th grade. The respondents by grade are reported in Table 3.2.

Grade	Frequency (*n* = 501)	Percentage of Respondents
9th Grade	266	53%
12th Grade	235	47%

Table 3.2 *Respondents by Grade*

Of the total population of 9th graders, 60% were female and 40% were male. The sample selected for the study was 63% female and 37% male. The respondents were 70% female and 30% male, which approximated the total population with slightly more females. Of the total population of 12th graders, 64% were female and 36% were male. The sample was 66% female and 34% male. Of the respondents, 69% were female and 31% were male indicating slightly more females. Approximately 70% of the total respondents were female and 30% were male. The participants by gender and grade are found below in Table 3.3.

Grade	**Male** (n = 151)	**Female** (n = 350)
9th Grade	30%	70%
12th Grade	31%	69%

Table 3.3 *Respondents by Grade and Gender*

The respondents were disproportionately white (96%), but representative of the Ohio 4-H population (in 2007 90% reported being white) (Elder, 2007). The remainder were 1% or less African-American, American Indian/Alaskan Native, or American Indian/Alaskan Native and 0% were Hispanic/Latino or Asian/Pacific Islander. Table 3.4 summarizes the results of ethnicity.

Ethnicity	Frequency (*n*=494)	Percentage of Respondents
White, not Hispanic/Latino	475	96%
Other	19	4%

Table 3.4 *Respondents by Ethnicity*

The majority of participants reported living on a farm (44%) or in a rural area, but not on a farm (38%). About 19% lived in a town, city or large city. See Table 3.5.

Where they live	Frequency (*n* = 496)	Percentage
Live on a farm	216	44%
Rural area but not on a farm	187	38%
Town, less than 20,000 residents	55	11%
City, 20,000 to 99,999	35	7%
Large city, 100,000 or more residents	3	1%

Note. Percentage does not equal 100 due to rounding.

Table 3.5 *Respondents by Place of Residence*

The majority (92%) had been involved in 4-H for three to nine years. Nineteen percent of the respondents had been involved in 4-H for more than ten years. Length of involvement is reported in Table 3.6.

Number of Years Involved	Frequency (*n*=501)	Percentage of Respondents
1	21	4%
2	18	4%
3	24	5%
4	40	8%
5	43	9%
6	89	18%
7	57	11%
8	46	9%
9	60	12%
10	50	10%
11	17	3%
12	13	3%
13	12	2%
14	1	<1%
15	0	0%
16	1	<1%

Table 3.6 *Respondents by Number of Years in 4-H*

The respondents were involved in a variety of projects: child development (3%); clothing (14%); creative arts (9%); engineer (3%); food and nutrition (20%); health (5%); home décor and design (3%); leadership (12%); livestock (69%); money management (2%); natural resources (3%); photography (13%); plants, crops or gardening (8%); science and technology (4%); self-determined (8%); shooting sports (7%); small animals (22%); and woodworking (9%). Respondents were allowed to choose more than one project. The results are reported in Table 3.7.

Project Type	Frequency (*n*=501)	Percentage of Respondents
Child development	15	3%
Clothing	70	14%
Creative arts	47	9%
Engineering	17	3%
Food and nutrition	101	20%
Health	25	5%
Home decorating and designing	16	3%
Leadership	62	12%
Livestock	344	69%
Money management	11	2%
Natural resources	15	3%
Photography	64	13%
Plants/crops/gardening	42	8%
Science and technology	20	4%
Self-determined	42	8%
Shooting sports	35	7%

Table 3.7 *Respondents by 4-H Project*

Table 3.7 continued

Project Type	Frequency (*n*=501)	Percentage of Respondents
Small animals	110	22%
Woodworking	44	9%

The majority of the respondents did not have outside of the club leadership experience. Out of club leadership experience was defined as taking part in a leadership activity beyond the club level, such as Junior Fair Board, State Ambassadors, and council advisory members. In club leadership was defined as a club officer or a committee chair person. Type of leadership experience for respondents is summarized in Table 3.8.

Type of Leadership Experience	Percentage (*n* = 501)
No out of club leadership experience	39%
Out of club leadership experience	61%

Table 3.8 *Respondents by Leadership Experience*

CHAPTER 4

RESULTS

The purpose of this study was to explore the extent to which Ohio 4-H participation contributes to the development of workforce skill development in youth. This chapter presents the findings for each research question.

Research Question 1

What are the perceived level of workforce skills among Ohio 4-H members?

Overall, the respondents reported high level of proficiency in workforce skills. Responses of 1 being "I'm not very good at this" to 3 being "I'm ok at this" were grouped together in the lower level of skill column to indicate lower proficiency. High level of proficiency was measured by grouping responses of 4 to 5 being "I'm very good at this" in the higher level of skill column. The top five areas were being respectful of others (91.8%); getting the information I need from the Internet (86.5%); making good decisions (85.4%); encouraging and supporting others (85.3%); working well with others to achieve a goal or complete a project (84.8%); and using the appropriate technology to complete work or project tasks (84.7%). Youth felt less proficient in having motivation in asking for help when needed (67.0%); expressing their thoughts clearly to others

(66.8%); managing their time well (65.6%); being a good writer (55.0%); and speaking in front of a group (52.6%). The results are summarized in Table 4.1.

Workforce Skill	Rank	Percentage with lower level of skill (%)	Percentage with high level of skill (%)
Being respectful of others.	1	8	91.8
Getting information I need from the Internet.	2	14	86.5
Making good decisions.	3	15	85.4
Encouraging and supporting others.	4	14	85.3
Working well with others to achieve a goal or complete a project.	5	15	84.8
Using the appropriate technology to complete work or project tasks.	6	15	84.7
Using technology to communicate with others.	7	16	83.8
Being good listener.	8	17	83.2
Working well with others who are different from me.	9	18	81.6
Having a positive attitude about the work I do.	10	20	80.6
Understanding basic computer operations.	11	19	80.2

Table 4.1 *Perceived level of workforce skills among Ohio 4-H club members*

Table 4.1 continued

Workforce Skill	Rank	Percentage with lower level of skill (%)	Percentage with high level of skill (%)
Working well with others to resolve disagreements in a way that is fair and respectful.	12	20	79.6
Having good work habits.	13	22	77.6
Setting goals for myself and working hard to meet them.	14	22	77.4
Taking the initiative for getting things done.	15	23	77.0
Thinking through difficulties and solving problems.	16	23	76.9
Leading others to achieve a goal.	17	24	76.4
Being creative.	18	24	75.6
Organizing people around an idea, problem, or cause.	19	31	68.8
Having motivation to complete work or project tasks without someone reminding me.	20	32	67.2
Asking for help when needed.	21	33	67.0
Expressing my thoughts clearly to others.	22	34	66.8

Continued

Table 4.1 continued

Workforce Skill	Rank	Percentage with lower level of skill (%)	Percentage with high level of skill (%)
Managing my time well.	23	35	65.6
Being a good writer.	24	45	55.0
Speaking in front of a group.	25	47	52.6

Note. n=497-500

Research Question 2

To what extent has 4-H contributed to the development of these skills as perceived by 4-H youth?

Overall, youth felt 4-H had helped in the development of workforce skills. Respondents indicating a 1 being "Not at All" to 3 being "Somewhat" were grouped together in the lower level of helpfulness column. Respondents indicating a 4 or 5 being "A great Deal" were grouped together in the higher level of helpfulness column. Youth indicated 4-H was most helpful in developing the following workforce skills being respectful of others (82.1%); working well with others to achieve a goal or complete a project; having a positive attitude about the work I do (79.2%); encouraging and supporting others (75.9%); setting goals for myself and working hard to meet them (75.6%); and making good decisions (75.2%). On the other end of the scale, youth felt

4-H contributed only somewhat to using the appropriate technology to complete work or project tasks (45.6%); getting information I need from the Internet (40.0%); using technology to communicate with others (39.6%); becoming a good writer (38.6%); and understanding basic computer operations (36.2%); and The full results are reported in Table 4.2.

Workforce Skill	Rank	Lower level of helpfulness (%)	Higher level of helpfulness (%)
Being respectful of others.	1	18	82.1
Working well with others to achieve a goal or complete a project.	2	21	79.2
Having a positive attitude about the work I do.	3	22	77.7
Encouraging and supporting others.	4	24	75.9
Setting goals for myself and working hard to meet them.	5	24	75.6
Making good decisions.	6	25	75.2
Working well with others who are different from me.	7	26	73.7
Leading others to achieve a goal.	8	27	73.6
Working well with others to resolve disagreements in a way that is fair and respectful.	9	27	72.8
Taking the initiative for getting things done.	10	28	71.9
Having good work habits.	11	30	70.2
Being good listener	12	31	68.8

Table 4.2 *Extent to which 4-H has helped Ohio 4-H members develop workforce skills*

Table 4.2 continued

Workforce Skill	Rank	Lower level of helpfulness (%)	Higher level of helpfulness (%)
Organizing people around an idea, problem, or cause.	13	32	67.2
Expressing my thoughts clearly to others.	14	34	66.3
Being creative.	15	34	66.2
Having motivation to complete work or project tasks without someone reminding me.	16	35	65.5
Speaking in front of a group.	17	35	65.4
Asking for help when needed.	18	36	64.2
Managing my time well.	19	38	61.6
Thinking through difficulties and solving problems.	20	41	59.2
Using the appropriate technology to complete work or project tasks.	21	55	45.6
Getting information I need from the Internet.	22	60	40.0
Using technology to communicate with others.	23	61	39.6
Being a good writer.	24	62	38.6
Understanding basic computer operations.	25	64	36.2

Note. n=496-500

Research Question 3

To what extent has 4-H helped Ohio 4-H members learn important skills and obtain employment?

Thirty percent of club members reported they had gotten a job as a result of the skills and knowledge they had learned in 4-H. Seventeen percent of respondents reported getting a job as a result of knowing someone through 4-H. Several respondents (6%) had started a small business as a result of the skills and knowledge they had learned in 4-H. Some business ventures included: babysitting, livestock fitting and care, selling eggs, operating a pumpkin stand, cow/calf operation, dog and horse training, selling mechanical parts on eBay, duck hatchery, tailoring, cake decorating, bicycle repairs, making crafts, and raising livestock for sale. An additional 23% reported planning to start a small business as a result of the skills and knowledge they had learned in 4-H. Some planned business ventures included: farming, raising livestock, selling recycled manure for compost in gardens, small animal care and grooming, interior design, beauty salon, fireworks store, and veterinarian.

Research Question 4

Is there a difference in perceived helpfulness of 4-H based on grade?

In order to investigate whether 9th graders and 12th graders differed on the extent to which they felt 4-H helped them develop workforce skills, a chi-square statistic was used. Respondents that indicated a 1 being “Not at All” to a 3 being “Somewhat” were grouped together and those that reported a 4 or 5 being “A great Deal” were also grouped

together. The data was recoded assigning a code of 0 to those that had indicated a 1 to 3 response on the skill scale or a code of 1 to those that indicated a 4 or 5 on the skill scale. The results of the Pearson chi-square test identified one skill as being significantly different by grade, leading others to achieve a goal (x^2=6.277; $p < .05$). Table 4.3 shows the results of the Pearson chi-square test. The table is ordered by x^2 and p values from most significant to least significant.

	9th (*n*=266)	**12th** (*n*=235)		
	Percentage replying "A great Deal"	**Percentage replying "A great Deal"**	x^2	*p*
Leading others to achieve a goal.	68.9	78.9	6.277	0.014*
Using the appropriate technology to complete work or project tasks.	49.6	41.2	3.536	0.071
Being a good writer.	42.0	34.6	2.891	0.097
Organizing people around an idea, problem, or cause.	63.7	70.9	2.904	0.104
Understanding basic computer operations.	39.0	32.9	2.006	0.162
Getting information I need from the Internet.	43.0	36.8	1.991	0.170
Using technology to communicate with others.	41.8	36.9	1.249	0.271
Thinking through difficulties and solving problems.	57.0	61.7	1.149	0.316
Taking the initiative for getting things done.	70.5	73.5	0.571	0.485
Being creative.	67.5	64.7	0.457	0.509
Expressing my thoughts clearly to others.	65.0	67.8	0.431	0.568

Table 4.3 *Chi-square analysis on difference of perceived helpfulness of 4-H to develop workforce skills by grade*

Table 4.3 continued

	9th (*n*=266)	**12th** (*n*=235)		
	Percentage replying "A great Deal"	**Percentage replying "A great Deal"**	x^2	***P***
Working well with others who are different from me.	72.6	75.0	0.382	0.543
Working well with others to achieve a goal or complete a project.	78.2	80.3	0.320	0.583
Having good work habits.	69.1	71.4	0.317	0.624
Having a positive attitude about the work I do.	76.8	78.6	0.238	0.667
Working well with others to resolve disagreements in a way that is fair and respectful.	72.0	73.8	0.214	0.686
Having motivation to complete work or project tasks without someone reminding me.	66.4	64.5	0.200	0.705
Asking for help when needed.	65.2	63.2	0.196	0.708
Speaking in front of a group.	66.3	64.5	0.170	0.706
Managing my time well.	62.4	60.7	0.156	0.713
Encouraging and supporting others.	76.5	75.1	0.134	0.753
Being good listener.	68.2	69.7	0.126	0.771
Making good decisions.	75.5	74.9	0.022	0.918

Continued

Table 4.3 continued

	9th (*n*=266)	**12th** (*n*=235)		
	Percentage replying "A great Deal"	**Percentage replying "A great Deal"**	***x*²**	***P***
Setting goals for myself and working hard to meet them.	75.9	75.2	0.036	0.917
Being respectful of others.	82.1	82.1	0.001	1.000

*$p < .05$.

Research Question 5

Is there a difference in perceived helpfulness of 4-H based on gender?

To determine if there was a difference in the perceived level of helpfulness of 4-H between males and females, a chi-square test was conducted. Respondents that indicated a 1 being "Not at All" to a 3 being "Somewhat" were grouped together and those that reported a 4 or 5 being "A great Deal" were also grouped together. The data was recoded assigning a code of 0 to those that had indicated a 1 to3 response on the skill scale or a code of 1 to those that indicated a 4 or 5 on the skill scale. The results of the Pearson chi-square test revealed four significantly different skills by gender with females perceiving 4-H to be more helpful. The four skills were being a good writer (x^2=14.816; p <.05); encouraging and supporting others (x^2=5.771; p <.05), setting goals for myself and working hard to meet them (x^2=4.312; p <.05); and managing my time well (x^2= 4.024; p <.05). The full results of the Pearson chi-square test are reported in Table 4.4.

	Males (*n*=151)	**Females** (*n*=350)		
	Percentage replying "A great Deal"	**Percentage replying "A great Deal"**	***x*²**	***P***
Being a good writer.	25.8	44.1	14.816	0.000***
Encouraging and supporting others.	68.9	78.9	5.771	0.022*
Setting goals for myself and working hard to meet them.	69.5	78.2	4.312	0.042*
Managing my time well.	55.0	64.5	4.024	0.046*
Speaking in front of a group.	58.9	68.3	4.076	0.051
Working well with others to achieve a goal or complete a project.	73.5	81.6	4.187	0.054
Being respectful of others.	76.8	84.4	4.100	0.056
Having motivation to complete work or project tasks without someone reminding me.	59.3	68.2	3.648	0.064
Working well with others to resolve disagreements in a way that is fair and respectful.	67.5	75.1	3.065	0.10
Having a positive attitude about the work I do.	72.8	79..8	2.903	0.101

Table 4.4 *Chi-square analysis on difference of perceived helpfulness of 4-H to develop workforce skills by gender*

Table 4.4 continued

	Males (*n*=151)	**Females** (*n*=350)		
	Percentage replying "A great Deal"	**Percentage replying "A great Deal"**	x^2	***P***
Taking the initiative for getting things done.	66.7	74.1	2.895	0.103
Being creative.	60.9	68.5	2.688	0.122
Leading others to achieve a goal.	68.7	75.7	2.680	0.120
Organizing people around an idea, problem, or cause.	62.0	69.4	2.572	0.119
Asking for help when needed.	59.6	66.3	2.044	0.156
Expressing my thoughts clearly to others.	62.3	68.1	1.617	0.216
Thinking through difficulties and solving problems.	55.0	61.0	1.605	0.234
Being good listener.	66.2	70.0	0.710	0.402
Working well with others who are different from me.	71.3	74.7	0.617	0.439
Getting information I need from the Internet.	42.7	38.9	0.617	0.485
Understanding basic computer operations.	38.7	35.1	0.592	0.477

Continued

Table 4.4 continued

	Males (*n*=151) **Percentage replying "A great Deal"**	**Females** (*n*=350) **Percentage replying "A great Deal"**	x^2	***P***
Having good work habits.	68.2	71.0	0.384	0.595
Using technology to communicate with others.	40.9	38.9	0.181	0.689
Making good decisions.	74.2	75.6	0.123	0.736
Using the appropriate technology to complete work or project tasks.	46.0	45.5	0.009	0.922

*$p < .05$. ***$p < .001$.

Research Question 6

Is there a difference in perceived helpfulness of 4-H based on leadership experiences?

An investigation into the perceived level of helpfulness of 4-H by type of leadership experience was completed using a chi-square test. The respondents were designated "out of club leadership" if they had any leadership experience beyond the club level in 4-H such as camp counselor, Junior Fair Board member, State 4-H Ambassador, or county 4-H advisory committee member. Respondents were categorized "no out of club leadership" if they only had participated in leadership activities by being a 4-H club

officer or a club committee chairperson. Respondents that indicated a 1 being "Not at All" to a 3 being "Somewhat" were grouped together and those that reported a 4 or 5 being "A great Deal" were also grouped together. The data was recoded assigning a code of 0 to those that had indicated a 1 to 3 response on the skill scale or a code of 1 to those that indicated a 4 or 5 on the skill scale. The Pearson chi-square test revealed that 20 of the 25 skills were significantly different by type of leadership experience. These were: expressing my thoughts clearly to others (x^2=27.649; p<.05); leading others to achieve a goal (x^2=25.590); organizing people around an idea, problem, or cause (x^2=22.935; p<.05); speaking in front of a group (x^2=21.520; p<.05); and working well with others to resolve disagreements in a way that is fair and respectful (x^2=20.116; p<.05). Additional skills that were significantly different were making good decisions (x^2=19.109; p<.05); encouraging and supporting others (x^2=18.584; p<.05); working well with others who are different from me (x^2=17.056; p<.05); being a good listener (x^2=15.247; p<.05); taking the initiative for getting things done (x^2=14.771; p<.05); working well with others to achieve a goal or complete a project (x^2=13.804; p<.05); having good work habits (x^2=13.352; p<.05); being respectful of others (x^2=12.218; p<.05); thinking through difficulties and solving problems (x^2=11.217; p<.05); having positive attitude about the work I do (x^2=11.452; p<.05); managing my time well (x^2=10.127; p<.05); having motivation to complete work or project tasks without someone reminding me (x^2=7.223;

p <.05); setting goals for myself and working hard to meet them (x^2=7.212; p <.05); asking for help when needed (x^2=6.887; p <.05) and being creative (x^2=4.745; p <.05).

The results of the Pearson chi-square test are shown in Table 4.5.

	No out of club leadership (n=305) **Percentage replying "A great Deal" (%)**	**Out of club leadership** (n=196) **Percentage replying "A great Deal" (%)**	x^2	p
Expressing my thoughts clearly to others.	57.4	80.3	27.649	0.00***
Leading others to achieve a goal.	65.6	86.1	25.590	0.00***
Organizing people around an idea, problem, or cause.	59.1	79.8	22.935	0.00***
Speaking in front of a group.	57.6	77.8	21.520	0.00***
Working well with others to resolve disagreements in a way that is fair and respectful.	65.7	84.0	20.116	0.00***
Making good decisions.	68.4	85.7	19.109	0.00***
Encouraging and supporting others.	69.2	86.2	18.584	0.00***

Table 4.5 *Chi-square analysis on difference of perceived helpfulness of 4-H to develop workforce skills by type of leadership experience*

Table 4.5 continued

	No out of club leadership (*n*=305) **Percentage replying "A great Deal" (%)**	**Out of club leadership** (*n*=196) **Percentage replying "A great Deal" (%)**	x^2	*p*
Working well with others who are different from me.	67.2	83.9	17.056	0.00***
Being good listener.	62.4	79.0	15.247	0.00***
Taking the initiative for getting things done.	65.7	81.5	14.771	0.00***
Working well with others to achieve a goal or complete a project.	73.8	87.6	13.804	0.00***
Having good work habits.	64.1	79.5	13.352	0.00***
Being respectful of others.	77.3	89.6	12.218	0.00***
Thinking through difficulties and solving problems.	53.3	68.4	11.217	0.001***
Having a positive attitude about the work I do.	72.6	85.6	11.452	0.001***
Managing my time well.	56.1	70.3	10.127	0.002**
Having motivation to complete work or project tasks without someone reminding me.	60.9	72.7	7.223	0.009**

Continued

Table 4.5 continued

Setting goals for myself and working hard to meet them.	71.5	82.1	7.212	0.008**
Asking for help when needed.	59.7	71.3	6.887	0.01**
Being creative.	62.5	71.9	4.745	0.033*
Using technology to communicate with others.	38.7	40.7	0.194	0.707
Understanding basic computer operations.	37.3	34.4	0.443	0.567
Getting information I need from the Internet.	40.4	39.5	0.041	0.852
Using the appropriate technology to complete work or project tasks.	46.0	45.1	0.039	0.854
Being a good writer.	38.8	38.1	0.023	0.925

*$p < .05$. **$p < .01$. ***$p < .001$.

CHAPTER 5

DISCUSSION

The overall purpose of this study was to explore the extent to which 4-H participation contributes to the development of workforce skills. This chapter includes a summary of the study that describes the problem, model and method. Additionally, a discussion for each research question is included. The chapter concludes with a discussion of limitations, implications, and future research.

Statement of Problem and Study Summary

For the past 25 years, the workplace has undergone significant changes in the type of skills required to be successful. Unfortunately, preparation of youth by schools and other venues have not changed so rapidly to keep up. Therefore, youth are unprepared to be successful in the workplace. To date, little research has been done on how participation in an afterschool program, such as 4-H, contributes to the development of workforce skills. This study sought to explore the extent to which 4-H contributes to these workforce skills.

This study was grounded in the theory that 4-H participation contributed positively to the development of 25 workforce skills. Additionally it was hypothesized that there would be differences in the perceived helpfulness of 4-H by grade, gender, and type of leadership experience.

To address the research questions, a survey was designed to measure workforce skills development as perceived by Ohio 4-H club members. Surveys were sent to 1451 9th and 12th grade Ohio 4-H club members in 2007 of which approximately one-third responded. The sample was taken from the database of 4-H club members obtained from the Ohio 4-H Youth Development state office.

Summary and Discussion of Findings

This section summarizes the findings presented in Chapter Four. The summary follows the order of research questions outlined in Chapter One.

Research Question 1: What are the perceived levels of workforce skills among Ohio 4-H members?

Overall, Ohio 4-H Club members perceive themselves to have a high level of proficiency of workforce skills. According to previous research, businesses perceive that high school graduates are adequately prepared for the workplace in information technology application, diversity and teamwork/collaboration (The Conference Board, et al., 2006). The results of the current study support those findings in that using technology, working with others who are different than themselves and working well with others to achieve goals and resolve disagreements ranked in the top ten workforce skills 4-H Club members felt most proficient.

However, employers and college professors report high school graduates have poor written and oral communication skills, professionalism/work ethic, and teamwork or

collaboration skills (Afterschool Alliance, 2005; The Conference Board, et al., 2006). Although, the findings of this study indicate that 9th and 12th grade Ohio 4-H Club members agreed these areas were their lowest level of proficiency among the 25 skills the participants did not rate themselves extremely low. The discrepancy may lie in the fact that the results of the survey are self-reported. When self-reporting, it is a concern that subjects tend to report what they believe the researcher wants to see or report what reflects positively on their abilities, knowledge, beliefs, and opinions (Cook and Campbell, 1979). Another possibility for the discrepancy might be due to positive reinforcement from high grades, awards, honors, and positive feedback that does not accurately reflect the expectations of employers once the youth leave high school.

Research Question 2: To what extent has 4-H contributed to the development of these skills as perceived by 4-H youth?

Overall, Ohio 4-H members in 9th and 12th grades indicated positive impacts on their workforce skills through their experiences in 4-H. Over 60% of youth reported 4-H has helped them with oral communication, leadership, organization, teamwork, diversity, taking initiative, motivation, asking for help, work ethics and time management. Over 75% agreed or strongly agreed 4-H has helped them learn to be encouraging and supporting of others, set goals for their self and work hard to achieve the, make good decisions and have a positive attitude about the work they do. Over 80% of the youth noted 4-H has helped them to work well with others to achieve a goal, and to be

respectful of others. These finding support previous research (Astroth & Haynes, 2002; Fitzpatrick, et al., 2005; Goodwin, Carroll, & Oliver, 2005; Holmgren & Reid, 2007; Mead, et al.,1999) which found youth reported that participation in 4-H (or in the National FFA Organization) had helped them with public speaking, leadership skills, planning skills, communication skills, organizational skills. The findings also support research that found 60-90% of youth felt 4-H had helped them gain life skills in self-esteem, teamwork, responsibility, planning/organizing and cooperation (Fitzpatrick, et al., 2005).

The 4-H Youth Development program prides itself on its many opportunities for youth to build public speaking skills. However, it is interesting to note that speaking in front of a group was ranked by the participants in this study 16 of 25 in the perceived level of helpfulness of 4-H in developing this skill and 25 of 25 on the current level of proficiency. The low ranking of public speaking skill may be due to the fact that youth do not feel confident in their ability and do not consider themselves to be very good at public speaking. Youth may feel as if they are far from being proficient at public speaking. However, if 4-H members would be compared to the general youth population, they may score themselves higher in public speaking.

Research Question 3: To what extent has 4-H helped Ohio 4-H members obtain employment?

A remarkable 30% of the youth reported they have gotten a job as a result of the skills and knowledge they have learned in 4-H. About 23% of the youth surveyed plan to start a small business in the future as a result of the skills and knowledge they have learned in the program. Additionally, 40% noted that 4-H had helped them make a choice about a future career. It is obvious that knowledge, skills, and experiences gained in 4-H is influential in the future lives of its members. Although it is largely unknown the extent to which 4-H contributes to the future employment of its members, some research of 4-H alumni has found that 4-H participation has been beneficial to the future of a 4-H participant in terms of employment. Kress (2006) reported that 4-H alumni indicated the enjoyment and sense of mastery they experienced in 4-H through completed projects "laid the seed" for future employment. A majority (74%) of Canadian 4-H alumni reported that their 4-H experiences contributed significantly to their personal and career experiences (Canadian 4-H Council, 2002).

The findings from this study are consistent with research which has concluded that youth gain valuable future or employment skills as a result of their experiences in youth development programs (DeGraff & Glover, 2003; Dworken, 2004; Forsythe, et al., 2004). Additional research should be conducted in the area of career aspirations, choices, and future plans of 4-H members related to their 4-H experience.

Research Question 4: Is there a difference in perceived helpfulness of 4-H based on grade?

The results of the analysis were surprising. It was hypothesized that 12th graders would have more experiences and maturity than the 9th grade counterparts that would lead to an elevated perceived view of the extent to which 4-H helped in the development of workforce skills. However, the study found youth perceived 4-H is providing opportunities for the development of workforce skills at the same rate for 12th graders and 9th graders. The lack of significant difference in the perceived helpfulness of 4-H between 9th and 12th graders may be due to the fact that between the grades of 9 and 12, members are not taking on new projects, are not getting involved in additional activities within 4-H or have become comfortable with their level of involvement in the program. Also, opportunities for 12th graders may not be changing enough or they may be developing workforce skills through other life experiences such as work, school, or other leadership activities. Additionally, the 12th graders may have great autonomy in their lives giving them the opportunity to interact with more people, causing the impact of 4-H to be diminished in the development of workforce skills.

Research Question 5: Is there a difference in perceived helpfulness of 4-H based on gender?

Four skills of the 25 skills were found to be significantly different by gender on perceived helpfulness of 4-H. The skills fell into three categories: communication

(written and oral), professionalism and ethics, and teamwork. All four skills were more highly rated by females than males. Therefore, the results of this study indicate that females perceive 4-H to be more helpful in some areas than their male counterparts. Perhaps the gender gap was due to the fact the enrollment of Ohio 4-H Club members in grades 9 and 12 (see page 36) is largely female. Males may not have felt as if they had as many opportunities to develop workforce skills within 4-H or did not take advantage of as many opportunities. Additionally, the lack of male volunteers (only 34% of the total adult volunteer population in 2007) within the 4-H program may have attributed to males not perceiving 4-H to be as helpful to the degree as their female counterparts (Elder, 2007).

The results of this study support previous research which found that gender is a factor in the development of life skills (Junge, Manlallan, & Raskauskas, 2003; Seevers & Dormody, 1994b). However, little research was found on the role gender plays in the development of workforce skills specifically. Additional research is needed to ascertain the extent to which gender plays in the development of workforce skills.

Research Question 6: Is there a difference in perceived helpfulness of 4-H based on leadership experiences?

Of particular interest is that 20 of the 25 skills were significantly different based on type of leadership experience. Those with out of club leadership experience tended to perceive 4-H to be more helpful in the development of workforce skills. The remaining

five skills that were not significant by leadership experience were technological and written communication skills.

The results of this study reinforce the findings of previous research that conclude there is a positive relationship between participation in leadership activities and the development of leadership life skills (Dormody & Seevers, 1994; Mueller, 1989; Wingenbach & Kahler, 1997). Additionally, previous research and this study find that level of participation in 4-H, such as participation in leadership activities beyond the club level, would have the greatest impact on leadership life skills development (Heinsohn & Cantrell, 1986).

The increase in perceived helpfulness of 4-H by those who participate in out of club leadership activities may be attributed to the fact that club members are exposed to more challenging situations that have forced them to develop certain life skills to succeed. Members who take part in additional activities would no doubt be exposed at a higher rate to people who are different than themselves, be required to work as a team, and have opportunities to lead people. Therefore, increased exposure to these types of activities and opportunities would afford those with out of club leadership participation to rate their 4-H experience to be more helpful.

Limitations

There were several limitations to this study. First, the study was limited to Ohio 4-H club members in 9^{th} and 12^{th} grades. Therefore, the results cannot be generalized to

members in other grades or in other states because programming varies by state. Second, the survey was conducted in one point in time. It was not designed to give longitudinal data. Third, the participants self-reported their skill level. Their actual skill level was not assessed. Next, the participants had been involved in the Ohio 4-H Youth Development program for an average of 6.7 years. It is likely that youth who had been involved in a program for that length of time would think positively about the program or they would not still be involved. Also, the study was limited to 4-H Club members and does not provide information for afterschool or school enrichment program participants. This study also excluded those who had once been in 4-H and have since dropped out. Therefore, the results are expected to be more biased. Moreover, the response rate of 34.5% was lower than originally anticipated. An additional limitation to this study was the fact the majority of the sample was under the age of 18, which required a letter to be sent to the parents of the youth to obtain permission. The parents were then instructed to give an additional letter to their child if consent was given. Therefore, it is unknown how many youth actually received the letter. And lastly, the study was limited to 9^{th} and 12^{th} graders and cannot be generalized beyond those members in these two grades. Despite these limitations, this study provides valuable information about the current level of workforce skills and the perceived helpfulness of 4-H to the development of these skills.

Implications

The results of this study conclude that 4-H programming is contributing to the development of workforce skills as perceived by 4-H youth. The 4-H Youth Development Program should continue to provide opportunities to youth of all backgrounds, including underserved youth, in the area of workforce development.

The results of this study identify areas in which the Ohio 4-H Youth Development program can improve programming. The first is to provide more opportunities to develop written communication and technological skills to its members. More advanced writing exercises in project workbooks, creation of new technological-based projects and programs are some ideas to accomplish this goal. Second, females tended to find 4-H to be more helpful in the development of certain skills. The 4-H program should consider ways to closing this gender gap that exists in learning opportunities for females and males within the 4-H program. Lastly, type of leadership experience was the most significant factor in the helpfulness of 4-H for the development of workforce skills when analyzed. Therefore, 4-H should increase opportunities for its members to take part in out of club leadership experiences.

The results of this study give youth development professional pertinent information about what youth are learning as a result of their participation, how they are using it, and how they perceive the 4-H program to be helpful to the development of

certain skills. Youth development professionals will be able to use this study as an example of ways they can evaluate their own programs.

This study should be replicated in other states and with other grade levels and compiled to ascertain how 4-H is contributing to the development of workforce skills nationally. Because the future of the country is being shaped by those students who are currently attending secondary schools, it is important to assess how they are developing. Additionally, a multiple methods approach would be valuable to add richness to the information gathered by this survey. Focus groups or individual interviews would provide a voice for information that cannot be gathered through written communication. Additional research could be completed longitudinally with the 9th graders who were in the study. Data could be collected from the 9th graders when they are in 12th grade to compare with the data collected from this study.

Conclusion

The current study focused on exploring the degree to which 4-H contributed to the development of workforce skills in Ohio 4-H club members in grades 9 and 12. In a time where employers agree high school and even college graduates lack the necessary skills and are underprepared to be successful in the workplace, an investigation into the current level of skill and the perceived helpfulness of 4-H and other out-of-school programs in the development of those skills is timely.

Ohio 4-H club members in grades 9 and 12 are highly proficient in most workforce skills. However, there is variation by grade, gender and leadership type of experience in the perceived helpfulness of 4-H in the development of those skills. This study indicates that 4-H participation in the life of youth positively impacts the development of workforce skills, particularly if that youth is involved in out of club leadership activities.

Youth today lack the skills necessary to transition into the 21st century workplace. The Ohio 4-H Youth Development program provides many unique opportunities for youth to develop necessary workforce skills to help them make the transition to careers, citizenship and community and family life.

REFERENCES

Afterschool Alliance. (2005). Afterschool programs: A wise public investment. (Issue Brief No. 22). Washington, DC: Afterschool Alliance.

Albright, M.B. (2008). *Here today, gone tomorrow: An investigation into why older youth leave the 4-H program.* Unpublished doctorial dissertation, The Ohio State University, Columbus, Ohio.

American Society for Training & Development. (2006). *Bridging the skills gap: how the skills shortage threatens growth and competitiveness…and what to do about it.*

Arnett, N., Cochran, G., Cox, K., Ferrari, T., Hall, L., Harris, B., Nestor McNeely, N., & Smathers, C. (2006). *Ohio 4-H Workforce Preparation Overview*. Available online at http://www.ohio4h.org/workforceprep/files/Ohio4-HWorkforcePreparationOverview.pdf

Ary, D., Cheser Jacobs, L., Razavieh, A., & Sorensen, C. (2006). *Introduction to Research in Education* (7th ed.). Belmont, CA: Thomas Wadsworth.

Astroth, K.A., & Haynes, G.W. (2002). More than cows and cooking: Newest research shows the impact of 4-H. *Journal of Extension, 40*(4). Available online at http://www.joe.org/joe/2002august/a6.shtml

Borden, L.M. (2004, February). What research and practice tell us about participation and retention. *Presentation at the annual National Afterschool Association, Tampa, FL.*

Boyd, B.L., Herring, D.R., & Briers, G.E. (1992). Developing life skills in youth. *Journal of Extension, 30*(2). Available online at www.joe.org/joe/1992winter/a4.shtml.

Canadian 4-H Council. (2002). Measures of Success II. Executive Summary. Available online at http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/4h948/$FILE/measurespdf.pdf

Cantrell, J., Heinsohn, A.I., and Doebler, M.K. (1989). Is it worth it? Going beyond the local 4-H club. *Journal of Extension, 27*(1).

Cochran, G., & Lekies, K.S. (May 2008). *Skills for Success in the Knowledge Economy. Ohio State University Extension Action Brief.* Available online at http://www.ohio4h.org/workforceprep/documents/SkillsforSuccess-ActionBriefMay2008.pdf

Cochran, G., & Ferrari, T.M. (Spring 2009). Preparing youth for the 21st century knowledge economy. *Afterschool Matters*. Available online at http://www.robertbownefoundation.org/pdf_files/2009_asm_spring.pdf.

Cook, T.D., & Campbell, D.T. (1979). Quasi experimentation: Design and analysis issues for field settings. Chicago, IL: Rand McNally.

DeGraff, D., & Glover, J. (2003). Long-term impacts of working at an organized camp for seasonal staff. *Journal of Park and Recreation Administration, 21*(1), 1-20.

Diem, K. (2005). *Evidence of the benefits and impact of 4-H youth development.* Available online at www.clemson.edu/4h.

Digby, J.K., & Ferrari, T.M. (2007). Camp counseling and the development and transfer of workforce skills: The perspective of Ohio 4-H camp counselor alumni. *Journal of Youth Development, 2*(2).

Dormody, T.J., & Seevers, B.S. (1994). Predicting youth leadership life skills development among FFA members in Arizona, Colorado, and New Mexico. *Journal of Agricultural Education, 35*(2), 65-71.

Dworken, B. S. (2004). *The unique contributions and impacts of the camp staff experience*. Retrieved from the American Camp Association website http://www.acacamps.org/research/CRS_handouts_2004.pdf

Eccles, J., & Barber, B.L. (1999). Student council, volunteering, basketball, or marching band: What kind of extracurricular participation matters? *Journal of Adolescent Research, 14*(1), 10-43.

Elder, J. (2007). *Ohio 4-H Youth Development State Statistical Report.* Available online at http://www.ohio4h.org/about/statistics.html.

Ferrari, T.M., Arnett, N., Cochran, G. (2007). *Preparing teens for success: building 21st century skills through a 4-H work-based learning program.* Manuscript submitted for publication. *Journal of Youth Development.*

Fitzpatrick, C., Gagne, K.H., Jones, R., Lobley, J., Phelps, L. (2005). Life skills development in youth: Impact research in action. *Journal of Extension, 43*(3).

Forsythe, K., Matysik, R., & Nelson, K. (May 2004). *Impact of the 4-H camp counseling experience*. Retrieved from the University of Wisconsin website http://www.uwex.edu/ces/4h/department/viewdocument.cfm?item=Impact%20of%20the%204%2DH%20Camp%20Counseling%20Experience2%2Epdf

Gamon, J., & Dehegedus-Hetzel, O.P. (1994). Swine project skill development. *Journal of Extension, 32*(1). Available online at www.joe.org/joe1994june/rb5.html.

Goodwin, J., Barnett, C., Pike, M., Peutz, J., Lanting, R., Ward, A. (2005). Idaho 4-H impact study. *Journal of Extension, 43*(4). Available online at www.joe.org/joe/2005august/a4.shtml.

Goodwin, J., Carroll, J.B., & Oliver, M. (2005). *Public school students' out of school time study: Measuring the impact of Colorado's 4-H youth development program*.

Gore, S., Farrell, F., & Gordon, J. (2001). Sports involvement as protection against depressed mood. *Journal of Research on Adolescence, 11*, 119-130.

Heinsohn, A.L., & Cantrell, M.J. (1986). *Pennsylvania 4-H impact study: An evaluation of teens' life skills development.* University Park: The Pennsylvania State University, Department of Agricultural and Extension Education.

Holmgren, L.N., & Reid, C.R. (2007). 4-H & FFA livestock projects: Life skills gained and knowledge learned. *Journal of Youth Development, 2*(1).

Junge, S.K., Mangalallan, S., & Raskauskas, J. (2003). Building life skills through afterschool participation in experiential and cooperative learning. *Child Study Journal, 33*(3), 165-174.

Lerner, R.M. (2004). *Liberty: Thriving and civic engagement among American youth.* Thousand Oaks, CA: Sage Publications.

Levy, F., & Murnane, R. J. (2006). Why the changing American economy calls for twenty-first century learning: Answers to educators' questions. *New Directions for Youth Development,* 110, 53-62.

Lewis, D.K. (2008). *Ohio public school students' out-of-school time study: Measuring the impact of Ohio's 4-H youth development community club program.* Unpublished doctorial dissertation, The Ohio State University, Columbus, OH.

Kress, C. (2004, February). *Essential elements of 4-H youth development.* Presentation at the annual National Afterschool Association, Tampa, FL. Available online at www.national4-hheadquarters.gov/library/elements.ppt

Kress, C. (2006). Twenty-first century learning after school: The case of 4-H. *New Directions for Youth Development, 110*, 133-140.

Maass, S.E., Wilken, C.S., Jordan, J., Culen, G., & Place, N. (2006). A comparison of 4-H and other youth development organizations in the development of life skills. *Journal of Extension, 44*(5).

Marczak, M.S., Dworkin, J., Skuza, J., & Beyer, J. (2006). What's up? What young teens and parents want from youth programs. *New Directions for Youth Development, 112,* 45-56.

Marsh, H.W. (1992). Extracurricular activities: Beneficial extension of the traditional curriculum or subversion of academic goals? *Journal of Educational Psychology, 84*(4), 553-562.

McLaughlin, M.W., Irby, M., and Langman, J. (1994). *Urban sanctuaries: Neighborhood organizations in the lives and futures of inner-city youth*. San Francisco: Jossey-Bass.

Mead, J.P., Rodriguez, E., Hirschl, T.A., & Goggin, S.E. (1999). *Understanding the difference 4-H clubs make in the lives of New York youth: How 4-H contributes to positive youth development.* Final Report.

McKinley, S. K. (1999). *4-H alumni perceptions regarding the impact of the Indiana 4-H program*. Unpublished doctorial dissertation, Purdue University, West Lafayette, Indiana.

Miller, B.M., & Hall. G. (2006-2007). What counts in after school? Findings from the Massachusetts afterschool research study (MARS). *Journal of Youth Development,* (3).

Mueller, D. (1989). *Taking the lead in leadership.* Unpublished masters' thesis, Washington State University, Pullman, Washington.

Mulroy, M.T., & Kraimer-Rickaby, L. (2006). *The impact and sustainability of 4-H youth development programs: A synthesis report.* National 4-H Council.

Murnane, R.J., & Levy, F. (1996). *Teaching the new basic skills.* The Free Press: New York.

Nash, S.A., & Sant, L.L. (2005). *Life-skill development found in 4-H animal judging. Journal of Extension, 43*(2). Available online at http://www.joe.org/joe/2005april/rb5.shtml

National 4-H Council. (2008). An overview of 4-H. *About us.* Available online at http://4-h.org/b/Pages/Layouts/GroupPage87f1.html?SiteId=2317&PersistentTheme=4H

National 4-H Impact Assessment Project. (2001). *Prepared and engaged youth.* Washington, DC: United States Department of Agriculture. Available online at National 4-H Headquarters website, http://www.national 4-hheadquarters.gov/about/4h_impact.htm

National Commission on Writing for America's Families, Schools, & Colleges. (2004). *Writing: A ticket to work . . . or a ticket out: A survey of business leaders.* New York: College Board.

Newman, S.A, Fox, J.A., Flynn, E.A., & Christeson, W. (2000). *America's after-school choice: The prime time for juvenile crime, or youth enrichment and achievement.* Washington, D.C.: Fight Crime: Invest in Kids. Available online at http://www.fightcrime.org/reports/as2000.pdf.

Ohio 4-H. (2009a January 15). *4-H Ambassadors.* Available online at http://www.ohio4h.org/youth/ambassadors/index.html

Ohio 4-H. (2009b February 24). *4-H Carteens*. Available online at http://www.ohio4h.org/youth/carteens.html

Olson, C.A., & Croymans, S.R. (2008). Strengthening 4-H youth consumer decision-making skills: Contest to community service. *Journal of Extension, 46*(1). Available online at http://www.joe.org/joe/2008february/iw4.php.

Pittman, K., Irby, M., Yohalem, N., & Wilson-Ahlstrom, A. (2004). Blurring the lines for learning: The role of out-of-school programs as complements to formal learning. *New Directions for Youth Development, 101*, 19-41.

Radhakrishna, R.B., & Sinasky, M. (2005). 4-H experiences contributing to leadership and personal development of 4-H alumni. *Journal of Extension, 43*(6).

Rose-Krasnor, L., Busseri, M.A., Willoughby, T., & Chalmers, H. (2006). Breadth and intensity of youth activity involvement as contexts for positive development. *Journal of Youth and Adolescence, 35*(3), 385-399.

Rusk, C.P., Martin, C.A., Talbert, B.A., Balschweid, M.A. (2002). Attributes of Indiana's 4-H livestock judging program. *Journal of Extension, 40*(2). Available online at http://www.joe.org/joe/2002april/rb5.html

Schwarz, E., & Kay, K. (2006). Issue Editors' Notes. *New Directions for Youth Development, 2006*(110), 1-7.

Schwarz, E., & Stolow, D. (2006).Twenty-first century learning in afterschool. *New Directions for Youth Development, 2006*(110), 81-99.

Seevers, B.S., & Dormody, T.J. (1994a). 4-H youth participation in leadership development activities: a tri-state study. *Journal of Agricultural Education, 35*(4), 49-54.

Seevers, B.S., & Dormody, T.J. (1994b). Predicting youth life leadership skills development among senior 4-H members: A tri-state study. *Journal of Agricultural Education, 35*(3), 64-69.

Seevers, B. S., & Dormody, T.J. (1995). Leadership life skills development: Perceptions of senior 4-H youth. *Journal of Extension,33*(4). Available online at http://www.joe.org/joe/1995august/rb1.html

The Conference Board, Inc., the Partnership for 21st Century Skills, Corporate Voices for Working Families, and the Society for Human Resource Management. (2006). *Are they really ready to work? Employers perspectives on the basic knowledge and applied skills of new entrants to the 21st century U.S. workforce.* Available online at http://www.conference-board.org/pdf_free/BED-06-Workforce.pdf

The Partnership for 21st Century Skills. (n.d.) Framework for 21st century learning. Available online at www.21stcenturyskills.org.

Townsend C., & Carter, R. (1983). The relationship of participation in FFA activities and leadership, citizenship, and cooperation. *Journal of the American Association of Teacher Educators in Agriculture, 24*, 20-25.

University of Minnesota. (2005). *The 4-H study of positive youth development.* Available online at http://www.fourh.umn.edu/evaluation/4hpydstudy.html.

U.S. Department of Labor, The Secretary's Commission on Achieving Necessary Skills (SCANS). (1991). *What Work Requires of Schools*. Washington, DC: U.S. Government Printing Office.

U.S. Department of Labor, The Secretary's Commission on Achieving Necessary Skills (SCANS). (1992). *Learning a Living: A Blueprint for High Performance*. Washington, DC: U.S. Government Printing Office.

Van Horn, B.E., Flanagan, C.A., Thomson, J.S. (1999). Changes and challenges in 4-H (part 2). *Journal of Extension, 37*(1). Available online at http://www.joe.org/joe/1999february/comm1.html.

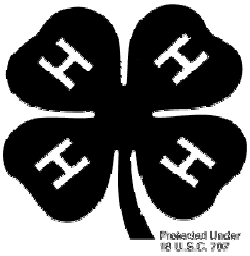
Ward, C.K. (1996). Life skill development related to participation in 4-H animal science projects. *Journal of Extension, 43*(2). Available online at www.joe.org/jor/1996april/rb2.html.

Wingenbach, G.J., & Kahler, A.A. (1997). Self-perceived youth leadership and life skills of Iowa FFA members. *Journal of Agricultural Education, 38*(3), 18-27.

Zhang, J.J. & Byrd, C.E. (2006). Successful after-school programs: The 21st Century community learning centers. *Journal of Physical Education, Recreation and Dance, 77*(8).

APPENDIX A

SURVEY INSTRUMENT



Ohio State 4-H
25 Ag Administration
2120 Fyffe Road
The Ohio State University
Columbus, OH 43210
(614)-688-3537

Welcome to the 4-H Workforce Skills Study!

For this study, you will be asked short answer and multiple choice questions about your 4-H experiences, the opportunities you have had, and the skills you have learned. The survey will take about 10-15 minutes to complete. Remember, all of your answers are confidential. You are also free not to answer any of the questions if you so choose.

If you wish to be included in the drawing for the $50 prize, please check the box at the end of the survey.

SURVEY INSTRUMENT

Note: This is an online survey.

Welcome to the 4-H Workforce Skills Study!

For this study, you will be asked short-answer and multiple choice questions about your 4-H experiences, the opportunities you've had, and the skills you have learned. The survey will take about 10-15 minutes to complete. Remember, all of your answers are confidential. You are also free not to answer any of the questions if you so choose.

If you wish to be included in the drawing for the $50 prize, please check the box at the end of the survey.

To start, please enter the code written at the top of your letter here _____.

Section 1: Your 4-H Experiences

Let's get started! The first questions ask about your experience with 4-H. These include the years you have been a 4-H member, your projects, and your activities.

1. How many years have you been in 4-H? ____ Years

2. What is your main project area(s) in 4-H? (check up to 5 that you have been most involved in)

- ❒ Child development
- ❒ Clothing
- ❒ Creative arts
- ❒ Engineering
- ❒ Foods and nutrition
- ❒ Health
- ❒ Home decorating and designing
- ❒ Leadership
- ❒ Livestock
- ❒ Money management
- ❒ Natural resources
- ❒ Photography

❒ Plants/crops/gardening
❒ Science and technology
❒ Self-determined (please describe) _____
❒ Shooting sports
❒ Small animals
❒ Woodworking
❒ Other (please describe) _____

3. In which 4-H activities have you participated? (check all that apply)
❒ County 4-H camp
❒ State 4-H camp
❒ State 4-H teen or volunteer conference
❒ County health and safety public speaking/demonstration contest
❒ Entered a project at a county fair
❒ Entered a project at the state fair
❒ National 4-H events (attending national 4-H conference, participating on teams/
committees or in contests/competitions)
❒ Visited another country through 4-H
❒ Hosted a 4-H international visitor

4. In which 4-H leadership activities have you been involved? (check all that apply)
❒ 4-H club officer
❒ 4-H club committee chairperson
❒ County 4-H camp counselor
❒ County 4-H advisory committee member
❒ Junior Leader club member
❒ Junior Leader club officer
❒ Junior Fair Board member
❒ Junior Fair Board officer
❒ 4-H and/or Junior Fair royalty
❒ 4-H CARTEEN teen leader
❒ 4-H Awareness Team
❒ Food or Fashion Board
❒ State 4-H Ambassador
❒ State 4-H Teen Council
❒ Made a presentation at a state 4-H conference
❒ Other (please describe) _____

Section 2: Opportunities for Learning in 4-H

We are interested in the opportunities youth have in 4-H. Please read the following statements and indicate how you would describe 4-H, based on your experience. The scale ranges from 1 to 5, with 1=strongly disagree and 5=strongly agree.

	Strongly Disagree 1	**Disagree 2**	**Undecided 3**	**Agree 4**	**Strongly Agree 5**
1. There are opportunities to explore new interests.	1	2	3	4	5
2. There are opportunities to take on difficult problems and issues.	1	2	3	4	5
3. There are opportunities to complete challenging tasks.	1	2	3	4	5
4. There are opportunities to be creative.	1	2	3	4	5
5. Speaking in front of a group is part of 4-H activities.	1	2	3	4	5
6. Youth have opportunities to discuss what they've learned in 4-H.	1	2	3	4	5
7. Writing is part of 4-H activities.	1	2	3	4	5
8. 4-H members work together on common projects or goals.	1	2	3	4	5
9. Youth receive feedback on their work.	1	2	3	4	5
10. Youth learn ways to work out differences among each other.	1	2	3	4	5

11. There are opportunities to interact with other youth who come from backgrounds different from me.	1	2	3	4	5
12. There are opportunities to learn about important issues in the world around me.	1	2	3	4	5
13. Youth have the opportunity to work in small groups with other youth.	1	2	3	4	5
14. Technology is a part of 4-H activities.	1	2	3	4	5

Section 3: Opportunities for Planning and Leadership; Youth-Adult Relationships

Next, we are interested in opportunities youth have in 4-H to be involved in planning, leadership, and other activities. We also are interested in learning more about the relationship between youth and adults. Please read the following statements and indicate how you would describe 4-H, based on your experience. The scale ranges from 1 to 5, with 1=strongly disagree and 5=strongly agree.

	Strongly Disagree 1	**Disagree 2**	**Undecided 3**	**Agree 4**	**Strongly Agree 5**
1. Youth are given important responsibilities.	1	2	3	4	5
2. Youth make important decisions about activities.	1	2	3	4	5
3. Youth decide what to discuss at meetings.	1	2	3	4	5
4. Youth take the lead in carrying out activities.	1	2	3	4	5

5. Youth manage and direct activities.	1	2	3	4	5
6. Ideas of youth are taken seriously.	1	2	3	4	5
7. Adults tend to take over during meetings and activities.	1	2	3	4	5
8. Youth serve in leadership roles.	1	2	3	4	5
9. Youth have opportunities to lead groups of other youth.	1	2	3	4	5
10. Youth make important decisions about money.	1	2	3	4	5
11. Youth have the primary responsibility for the success of any activity.	1	2	3	4	5
12. Youth get along well with each other.	1	2	3	4	5
13. Adults encourage and support youth.	1	2	3	4	5
14. Youth are able to form relationships with adults other than their parents.	1	2	3	4	5
15. Youth have the opportunity to get acquainted with individuals, businesses, and organizations in their community through 4-H activities.	1	2	3	4	5
16. Adults help all youth to feel included.	1	2	3	4	5

Section 4: Your Workforce Skills

The following is a list of important workforce skills. Please read each statement and then check what level of skill you feel you currently have in these areas. Your responses will help us to better design 4-H projects and activities. Please answer on a scale from 1 to 5, with1=I'm not very good at this to 5=I'm very good at this.

My current level of skill	**I'm not very good at this**			**I'm ok at this**	**I'm very good at this**
1. Thinking through difficulties and solving problems.	1	2	3	4	5
2. Being creative.	1	2	3	4	5
3. Making good decisions.	1	2	3	4	5
4. Expressing my thoughts clearly to others.	1	2	3	4	5
5. Speaking in front of a group.	1	2	3	4	5
6. Being good listener.	1	2	3	4	5
7. Being a good writer.	1	2	3	4	5
8. Working well with others to achieve a goal or complete a project.	1	2	3	4	5
9. Working well with others to resolve disagreements in a way that is fair and respectful.	1	2	3	4	5
10. Leading others to achieve a goal.	1	2	3	4	5
11. Organizing people around an idea, problem, or cause.	1	2	3	4	5
12. Encouraging and supporting others.	1	2	3	4	5
13. Working well with others who are different from me.	1	2	3	4	5
14. Taking the initiative for	1	2	3	4	5

getting things done.					
15. Setting goals for myself and working hard to meet them.	1	2	3	4	5
16. Asking for help when needed.	1	2	3	4	5
17. Having motivation to complete work or project tasks without someone reminding me.	1	2	3	4	5
18. Understanding basic computer operations.	1	2	3	4	5
19. Getting information I need from the Internet.	1	2	3	4	5
20. Using technology to communicate with others.	1	2	3	4	5
21. Using the appropriate technology to complete work or project tasks.	1	2	3	4	5
22. Managing my time well.	1	2	3	4	5
23. Having good work habits.	1	2	3	4	5
24. Having a positive attitude about the work I do.	1	2	3	4	5
25. Being respectful of others.	1	2	3	4	5

4-H and Workforce Skills

Next, we want to know how your 4-H experiences may have helped you learn important skills, get a job, or earn money. Please think about your projects, other 4-H activities you've been involved in, and people you've gotten to know through 4-H. The scale ranges from 1 to 5, with 1=not at all and 5=a great deal.

How much has 4-H helped you with these skills?

	Not at all		**Somewhat**		**A great deal**
1. Thinking through difficulties and solving problems.	1	2	3	4	5
2. Being creative.	1	2	3	4	5
3. Making good decisions.	1	2	3	4	5

4. Expressing my thoughts clearly to others.	1	2	3	4	5
5. Speaking in front of a group.	1	2	3	4	5
6. Being good listener.	1	2	3	4	5
7. Being a good writer.	1	2	3	4	5
8. Working well with others to achieve a goal or complete a project.	1	2	3	4	5
9. Working well with others to resolve disagreements in a way that is fair and respectful.	1	2	3	4	5
10. Leading others to achieve a goal.	1	2	3	4	5
11. Organizing people around an idea, problem, or cause.	1	2	3	4	5
12. Encouraging and supporting others.	1	2	3	4	5
13. Working well with others who are different from me.	1	2	3	4	5
14. Taking the initiative for getting things done.	1	2	3	4	5
15. Setting goals for myself and working hard to meet them.	1	2	3	4	5
16. Asking for help when needed.	1	2	3	4	5
17. Having motivation to complete work or project tasks without someone reminding me.	1	2	3	4	5
18. Understanding basic computer operations.	1	2	3	4	5
19. Getting information I need from the Internet.	1	2	3	4	5
20. Using technology to communicate with others.	1	2	3	4	5
21. Using the appropriate	1	2	3	4	5

technology to complete work or project tasks.					
22. Managing my time well.	1	2	3	4	5
23. Having good work habits.	1	2	3	4	5
24. Having a positive attitude about the work I do.	1	2	3	4	5
25. Being respectful of others.	1	2	3	4	5

26. Have you gotten a job as a result of the skills and knowledge you've learned in 4-H?	Yes No
27. Have you gotten a job as a result of someone you've known through 4-H?	Yes No
28. Have you started a small business as a result of the skills and knowledge you've learned in 4-H?	Yes please describe No
29. Do you plan to start a small business in the future as a result of the skills and knowledge you've learned in 4-H?	Yes please describe No
30. Have you earned money in other ways, such as through a product you've developed or service you've provided, as a result of the skills and knowledge you've learned in 4-H? (do not include any money earned from fair projects)	Yes please describe No
31. Has 4-H helped you in the choice of your future career?	Yes No Unsure

Section 5: Community Involvement

Think about your experiences in 4-H. Indicate what things you have done in your community through 4-H projects and activities. Answer yes only for the things you've done through 4-H.

1. Helped community residents with household or yard work 2. Gave money, food, or clothing for community members in need 3. Gave money to a community club or group 4. Volunteered at a school, child care center, or nursing home 5. Helped improve community parks, gardens, or other outdoor space 6. Helped improve buildings 7. Helped animals or animal shelters 8. Helped other clubs or groups in my community with an event or activity 9. Raised money for a need in my community. 10. Took the lead in planning a community event or activity 11. Asked businesses or groups for money for a 4-H activity 12. Spoke to school or community groups about 4-H 13. Represented 4-H at a community function 14. Served on a community board or committee (other than Junior Fair Board) 15. Took action to let others know about an important issue in my community 16. Written an article for a community newspaper about 4-H 17. Been interviewed by a newspaper, radio, or TV station about 4-H 18. Talked to government leaders 19. Attended government meetings 20. Given a performance (theater, singing, etc.) 21. Other (please specify)	0=No 1=Yes

Section 6: About You

You're almost done! The final questions ask about you and your background.

1. How old are you? _____ years

2. What grade are you in?
   - ❒ 9th
   - ❒ 10th

❒ 11th
❒ 12th
❒ No longer in high school

3. Have you ever been home-schooled? ❒ Yes ❒ No

4. Are you male or female? ❒ Male ❒ Female

5. How do you describe yourself?
   ❒ White, not Hispanic/Latino
   ❒ African-American
   ❒ American Indian/Alaskan Native
   ❒ Asian or Pacific Islander
   ❒ Hispanic/Latino
   ❒ Multiracial
   ❒ Other

6. Where do you live?
   - ❒ Farm
   - ❒ Rural area but not on a farm
   - ❒ Town, less than 20,000 residents
   - ❒ City, 20,000 to 99,999 residents
   - ❒ Large city, 100,000 or more residents

7. What county are you from? _____

8. Do you plan to attend college after you finish high school?
   ❒ Yes ❒ No ❒ Don't Know

You are now finished!

Please check here if you wish to be entered into the drawing for the $50 prize.

❒ Yes, I wish to be entered into the prize drawing.

Thank you for your time! It is greatly appreciated.

APPENDIX B

INFORMATIONAL LETTER TO PARENTS

November 1, 2007

Dear Parents:

The Ohio State 4-H office is conducting a study on the workforce skills of 4-H youth. This study is part of an effort to learn more about the experiences of 4-H youth and the impacts 4-H has had. We would like to ask your permission for your child to participate in the study.

Approximately 750 4-H youth in each of grades 9 and 12 across the state have been randomly selected to be in the study. Your child will be asked to complete an online survey that consists of short-answer and multiple choice questions. The questions ask about activities, leadership experiences, opportunities for learning, workforce skills, and community involvement through 4-H. It will take about 10-15 minutes to complete the survey. A paper copy of the survey is also available as an alternative to doing the survey online.

Survey answers are completely confidential and will be seen only by the research staff. No names or other identifying information will ever be connected to any of the responses. Any reports of the findings will be summarized, with all answers combined together.

This study is voluntary. It is up to you if you want your son or daughter to participate. If you agree, we ask that you give the informational letter to your child. The letter explains the study and gives directions and link to the website. It is also up to your child whether or not to be in the study. Your or your child's decision whether to participate will not affect your relationship with your local 4-H program, Ohio State University 4-H, or the Ohio State University.

The findings from this study will be very helpful to us as we work to offer high quality programs that meet the needs of youth. Workforce skills such as teamwork, leadership, communication, and time management are essential for young people getting ready for today's workplace, and we are looking for ways we can improve our programs that teach these skills. The opinions of your son or daughter are very important—please help us to make the study include as many youth as possible.

As an incentive for participation, youth who complete the survey will have the chance to be entered into a prize drawing for a $50 cash prize. One prize will be given away to a youth in each grade.

If you have any questions about the study, or if you would like to see a copy of the survey or request a paper copy, please feel free to contact me. To discuss other study-related questions with someone who is not part of the research team, you may contact Ms. Sandra Meadows in the Office of Responsible Research Practices at the Ohio State University at 1-800-678-6251.

Thank you very much for helping with this important study.

Sincerely,

Kristi Lekies, Ph.D. (614)-688-3537
Assistant Professor and Evaluation Specialist lekies.1@osu.edu

APPENDIX C

INFORMATIONAL LETTER TO YOUTH

November 1, 2007

Dear 4-H member:

I'm writing to ask you to be in a study being conducted by the Ohio State 4-H office on the workforce skills of 4-H youth. We are interested in learning more about your experiences in 4-H, the skills you have learned, and the ways that 4-H has helped you learn these skills.

We have randomly selected approximately 750 4-H youth in each of grades 9 and 12 across the state to be in the study. You are asked to complete an online survey that includes short-answer and multiple choice questions. The questions ask about activities, leadership experiences, opportunities for learning, workforce skills, and community involvement through 4-H. It will take about 10-15 minutes to do. Please go to www.ohio4h.org/workforcesurvey to do the survey. If you do not wish to do the survey online, a paper copy can be sent to you.

Survey answers are completely confidential and will be seen only by the research staff. No names or other identifying information will ever be connected to any of the responses. Any reports of the findings will be summarized, with all answers combined together.

This study is voluntary. It is up to you whether or not to be in the study. You are also free not to answer any questions if you so choose. Your decision whether to participate will not affect your relationship with your local 4-H program, Ohio State University 4-H, or the Ohio State University.

The findings from this study will be very helpful to us as we work to offer high quality programs that meet the needs of youth. What we learn can help us to improve our programs. Your opinions are very important—please help us to make the study include as many youth as possible.

As an incentive for participation, all youth who complete the survey will have the chance to be entered into a prize drawing for a $50 cash prize. One prize will be given away to a youth in each grade.

If you have any questions about the study, or if you would like to see a copy of the survey or request a paper copy, please feel free to contact me. To discuss other study-related questions with someone who is not part of the research team, you may contact Ms. Sandra Meadows in the Office of Responsible Research Practices at the Ohio State University at 1-800-678-6251.

Thank you very much for helping with this important study.

Sincerely,

Kristi Lekies, Ph.D. (614)-688-3537
Assistant Professor and Evaluation Specialist lekies.1@osu.edu