

STUDENT PERCEPTIONS OF SOFT SKILLS AND CAREER DECISION SELF-EFFICACY
ATTAINED THROUGH PARTICIPATION IN SAE PROGRAMS

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Student Perceptions of Soft Skills and Career Decision Self-Efficacy
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ABSTRACT

This study sought to assess student perceptions of soft skills and career decision self-efficacy attained through participation in Supervised Agriculture Experience programs. This study attempted to describe the demographics of the selected sample, describe the career decision self-efficacy and perceived soft skill attainment of high school agricultural education students, and describe the relationship between SAE and career decision self-efficacy and perceived soft skill development. This study found no significant difference in career decision self-efficacy or perceived soft skill attainment between those who participated in SAE and those who did not. A positive significant impact was noted for career decision self-efficacy and perceived soft skill attainment between those who had placement and exploratory SAEs with the exception of problem solving. This would suggest that students participating in programs that require greater investment and student input are receiving greater perceived skill attainment and efficacy through their experience.

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DEDICATION

For Grampa

Thank you for instilling in me a love of and passion for teaching and learning. While you weren't here to see the completion of this degree, your suggestion when I was six that I should be a teacher never left. The compassion, passion for lifelong learning, and desire to help others grow have been phenomenal examples for me.

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CHAPTER 1. INTRODUCTION

“Supervised Agricultural Experience is the part of agri-science education that provides students with the opportunity to gain the experience they need for a successful future career. A wide range of experiences can be had through SAE, helping students explore their areas of interest in agriculture and careers. SAEs allow students to develop specific job skills, earn money, and apply concepts taught in agri-science class”

(www.ExploreSAE.com, 2014).

SAE Defined

To make instruction relevant and meaningful, Supervised Agricultural Experience (SAE) programs allow students to apply and further classroom skills through real-life activities (Phipps et al., 2008). This can take the form of a program, lasting the duration of the high school experience, or a project, lasting less than a year. According to Phipps, Osborne, Dyer, and Ball (2008), “SAE programs consist of planned, sequential agricultural activities of educational value conducted by students outside of class and laboratory instruction for which systematic instruction and supervision are provided (p. 438).” Supervised Agricultural Experience (SAE) should be made up of three main components: planned out-of-class activities, documentation of project activities, and supervision by a teacher who assigns credit for the experience underneath four main categories: exploratory, research, placement, and entrepreneurship (AET, 2014). Exploratory projects are open to all students and typically pertain to Agriculture, Food, and Natural Resources career pathways. Research projects apply the scientific method to agriculturally related areas, and placement involves a work experience setting in an area of student interest. Entrepreneurship allows for student financial risk to assume the responsibilities

of owning an enterprise (AET, 2014). SAE projects in any area lead to SAE programs, and ultimately employment in a particular area of agriculture (Phipps et al., 2008).

Role of SAE in Experiential Learning

Experiential learning has been identified as promotional to contextual learning, problem solving, and learning by doing (Retallick & Martin, 2008). Hughes and Barrick (1993) concluded a comprehensive agriculture program should aim to increase agricultural knowledge; develop employability, leadership, and personal skills; promote life-long learning; and integrate productive citizens into their communities. SAE is purported to be the mainstay of applied skill in a comprehensive agricultural education program. For SAE program quality to be maintained, Camp, Clarke, and Fallon suggested projects should focus on teaching personal responsibility, money management, communication, and trade skills as indicators of a successful program, rather than highlighting the compartmentalization of SAEs into specific categories for award applications (2000). Supervised Agricultural Experience should provide a variety of benefits to students when implemented appropriately. As an experiential learning process, students apply skills to real-world scenarios, scaffolding to genuine understanding (Phipps et al., 2008). “SAE programs fill a significant void in the application and transfer of acquired knowledge and skills, and often aid in developing positive attitudes toward learning” (Phipps, et al., 2008, p. 445). Phipps et al. also note higher levels of achievement, a sense of ownership, individualized application and transfer, development of management skills, career preparation, building character, responsibility, and desirable work habits as by-products of this method of applying experiential learning (2008). CTE Online corroborates the benefits of SAE programming, and adds earning money, making employment connections, skill development, and work experience

in a field of interest (2012). Given this desired role, promotion of and participation in SAE programming would seem to be a foregone conclusion; unfortunately, it is not.

Participation

Full participation in Supervised Agriculture Experience programs appears to have eluded programs for many reasons. There is a significant and increasing gap (78% of Agricultural Education students had SAEs in 1991, compared to 55% in 2005) between the number of students enrolled in agricultural education courses and those who take full advantage of the SAE component of the program (Retallick & Martin, 2008). Camp et al. concluded SAE needs to be more flexible for teachers, more valuable to students, and more usable for the foreseeable future of agriculture (2000). Cheek et al., called for further research to explain and clarify the role of SAE and FFA in student achievement (1993). Talbert and Balschweid inquired into student engagement in each component of the agriculture program and suggested further research be conducted to determine levels of interest and motivators for students participating in agricultural education (2004). Two thirds of the FFA members surveyed had completed a proficiency application and one third did not have an SAE (Talbert & Balschweid, 2004). Myers et al. lamented the loss of focus on experiential learning through SAE; SAEs have become mere avenues for awards (2004). A major effort is necessary to identify the mission of SAE and assist teachers in the successful integration of SAE into their classroom (Dyer & Osborne, 1995). Educators cannot continue to equate SAE programs with recordkeeping and awards, and must rather begin to emphasize their value to experiential learning (Dyer & Osborne, 1995). As such, intrinsic motivation should be initiated to maintain the greatest level of participation and retention in programming (Bird et al., 2013). According to Lewis et al., available facilities, teacher encouragement, and frequency of help are essential to students' perceptions of success

through their SAE, but analysis of student SAE knowledge and perceptions would add to the scope of understanding regarding SAE participation (2012).

Innovative agricultural education programs should match industry trends, find new ways to improve agriculture, focus on the participant's future, and develop lifelong learners and leaders in the agricultural community (Rayfield et al., 2012). To better define those innovative programs, examination of the questions posed by Dyer and Osborne regarding the empirical value of SAE, limiting or promoting factors for participation, and methods for effective generation of student interest should be pursued (1995). Robinson and Haynes (2011) found while SAE programs prepare students for potential careers and allow students to connect with industry, students may not participate unless they realize the value of the program.

Benefits

Stakeholders tend to recognize SAEs as beneficial to students, but the benefits reported tend to be general in nature, qualitatively and anecdotally derived, and occasionally conflicting (Dyer & Williams, 1997). Dyer and Williams report limited benefits in the development of communication skills, problem solving skills, and agricultural knowledge (1997). Students in Missouri and Utah believed having had an SAE in high school was beneficial to their future based on their skill attainment (Lewis, Rayfield, & Moore, 2012). Through each program component (classroom, FFA, and SAE); Dailey, Conroy, and Shelley-Tolbert (2001) concluded the agricultural education program produces effective community members with adequate social skills who are prepared for higher education. Ramsey and Edwards (2004) resolved SAE provides rich opportunities to support student achievement in science. SAE includes more than skill development and proficiency, and reaches to include career development (Retallick, 2010). Robinson and Haynes received responses from alternatively certified agriculture instructors in

Oklahoma suggesting SAE is valuable in teaching life skills, responsibility, career preparation, confidence, relationship building, and accountability (2011). Ramsey and Edwards (2011) examined specific pathways and found SAE to provide skills in pathway specific skills and soft career skills. Based on these correlations, skill attainment through SAEs may better prepare students for entry-level positions in the industry of agriculture through cognitive conflict and social interaction (Ramsey & Edwards, 2011). Talbert and Balshweid (2004) proposed numerous agricultural benefits derived from the SAE program, including connectedness to agriculture in a descriptive comparative study as a result of career exploration through agricultural education. Traditional agricultural values suggest an implied value for premier leadership, personal growth, and career success (Talbert & Balschweid, 2004). If personal growth is a measure of student success in FFA, true growth will show in all areas of potential student achievement (Talbert & Balshweid, 2004). Connection of SAE to career skills has been established; quantifying those connections will allow better implementation of programming to benefit students and employers.

Skills Sought by Employers

Connecting classroom to industry is a constant cry in today's career and technical education environment. Along with trade skills, basic soft skills dominate the needs of today's workplace including interpersonal and intrapersonal knowledge, ethics, organization, work habits, time management, teamwork, communication, anger management, reasoning, problem solving, trust, confidence, empathy, adaptability, self-control, and managing one's learning (McNamara, 2009; Caudron, 1999). Trustworthiness, adaptability, and collaboration were noted in a study of 121 companies worldwide as skills vital for individual success in the workplace (Caudron, 1999). Characteristics most indicative of such success include assertiveness, empathy,

happiness, problem-solving skills, optimism, and interpersonal relations (Caudron, 1999). In addition, higher-order cognitive functions such as metacognition, problem solving, critical thinking, and idea evaluation are not only desired by today's employers, but lacking in today's job candidates (McNamara, 2009). Employers are asking for future ready workers from a system that hasn't caught up to the present (Hyslop, 2008). The future is a moving target of innovation and adaptation (McNamara, 2009), and CTE programs play critical roles in the growth of a future ready workforce (Hyslop, 2008). Based on the findings of Dailey et al (2001), Robinson & Haynes (2011), and Ramsey & Edwards (2004), SAE could be instrumental in developing the soft skills employers seek with increasing regularity.

Statement of Problem

Research thus far is insufficient to determine the contribution of Supervised Agricultural Experience toward the development of soft skills employers seek with increasing regularity. Dyer and Osborne concluded no academic impact from SAE (1996). Dyer and Williams noted significant benefits perceived by teachers, but fewer benefits perceived by other stakeholders (1997). Retallick and Martin (2005), and Hanagriff et al. (2010) concluded significant economic benefits from SAE in Iowa and Texas. Furthermore, besides an apparent proven lack in perceived long-term, intangible, invaluable benefits outside of agricultural education, students and teachers have little to draw upon to validate student participation in SAEs. While intrinsic value has been determined as a stronger motivating factor (Bird et al., 2013), little has been done to give name and measure to those benefits. If teachers are to motivate students based on intrinsic value, outside of FFA awards, teachers must have a better understanding of what those benefits entail to be able to tailor a program to students' value derivation. (Bird et al., 2013).

Further, do students recognize their own skill levels and can those skills be attributed to their involvement in SAE?

Theoretical Framework

Lent and Hackett concluded that acquisition of soft skills can lead to greater self-efficacy, which can be gained through enactive attainment (performance accomplishments) such as those acquired through Supervised Agricultural Experience (1987). Self-efficacy has also been significantly implicated in career indecision (Lent & Hackett, 1987), indicating a need to develop self-efficacy through student experience.

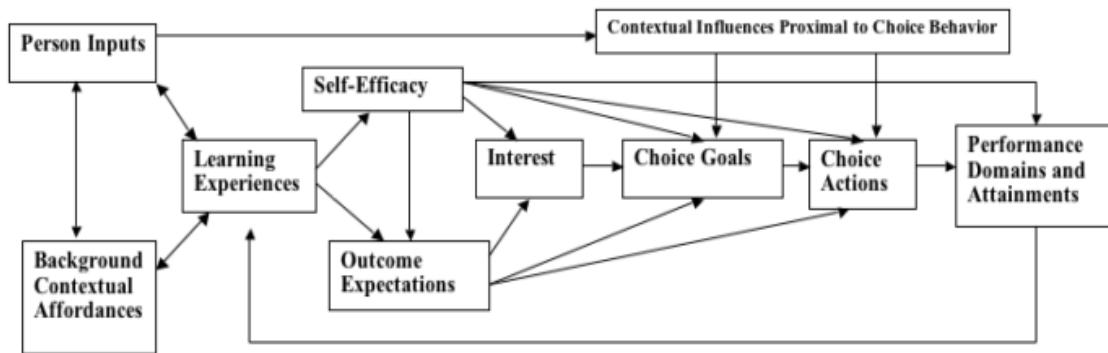


Figure 1.1. Model of personal, contextual, and experiential factors affecting career-related choice behavior (Lent, Brown, and Hackett, 1994)

In this study, Supervised Agricultural Experience is the learning experience meant to drive self-efficacy and outcome expectations (student performance and attainment). This study proposes that the soft-skills and self-efficacy attained will not only shape future Supervised Agricultural Experiences, but enhance the ability of youth of make career decisions, drive student attainment, and refine soft-skill development.

Lent, Brown, and Hackett (1994) present a social cognitive framework for understanding career-relevant interests, selection of career options, and performance in occupational pursuits. Among various models and interlinkages discussed, most relevant to this study is the “Model of

Interest Development.” This model highlights self-efficacy, outcome expectations, interest link, values, and attitudes. In quoting Bandura (1986), Lent et al. note that interests are fostered by outcome expectations, particularly self-evaluative outcomes (1994). They further speculate that *favorable* outcome expectations are necessary for self-efficacy. In this way, the outcome expectations serve as the intrinsic reward and driving force motivating self-efficacy in students participating in an experience (Lent et al., 1994).

In a given experience, a person will bring with them the inputs of predispositions, gender, race, health status, background, and contextual affordances (Lent et al., 1994). These play into the learning experience, thus determining the self-efficacy and outcome expectations perceived. Performance domains and attainments are then achieved through reciprocal relationships between interest, choice goals, and choice actions (Lent et al., 1994).

Purpose of the Study

The purpose of this study is to explore the perceptions of skills gained by students participating in SAE programs to better understand SAE’s role in career readiness in light of the aforementioned demographic shift away from rural residency. Given this need for examination into SAE in light of the plethora of skills SAE could potentially offer, this study seeks to quantify the soft skill attainment perceived by individuals participating in an SAE program. The central questions guiding this study asked: What soft-skills commonly sought by employers are gained through participation in SAE programs? Beyond skill development in agriculturally-focused areas, what additional intangible skills are associated with involvement in SAE? How might SAE help prepare adolescents for the workforce? The research objectives are as follows:

Research Objectives

1. Describe selected demographics of high school agricultural education students enrolled at Dassel-Cokato High School, Fairmont High School, Morris High School, Howard Lake-Waverly-Winsted, Plainview-Elgin-Millville, Ada-Borup High School, Staples-Motley High School, and Sleepy Eye High School.
2. Describe the career decision self-efficacy of students enrolled at Dassel-Cokato High School, Fairmont High School, Morris High School, Howard Lake-Waverly-Winsted, Plainview-Elgin-Millville, Ada-Borup High School, Staples-Motley High School, and Sleepy Eye High School.
3. Describe students' perceptions of soft skill development through SAE programs at Dassel-Cokato High School, Fairmont High School, Morris High School, Howard Lake-Waverly-Winsted, Plainview-Elgin-Millville, Ada-Borup High School, Staples-Motley High School, and Sleepy Eye High School.
4. Describe the relationship between SAE involvement and career decision self-efficacy at Dassel-Cokato High School, Fairmont High School, Morris High School, Howard Lake-Waverly-Winsted, Plainview-Elgin-Millville, Ada-Borup High School, Staples-Motley High School, and Sleepy Eye High School.
5. Describe the relationship between SAE involvement and perceptions of soft skill development at Dassel-Cokato High School, Fairmont High School, Morris High School, Howard Lake-Waverly-Winsted, Plainview-Elgin-Millville, Ada-Borup High School, Staples-Motley High School, and Sleepy Eye High School.

Need of Study

Despite an extensive list of benefits credited to Supervised Agricultural Experience, Croom notes declines in student participation, lack of direction, and limited teacher time for implementation often leave SAE a weak component of agricultural programming (2008). As fewer students participate in the comprehensive agricultural education model, fewer experiential learning opportunities are afforded (Retallick & Martin, 2008). If, as Roberts suggests, experiential learning is defined by the context in which it occurs, learning activities must be more accurately defined to determine which are considered experiential (2006). Research thus far has been insufficient to determine the effect of Supervised Agricultural Experience on the soft skills employers seek with increasing regularity. SAE programs struggle as the demographics of agricultural programs shift from rural to urban, bringing a different societal attitude about farming and work (Retallick, 2010). Therefore, additional context is needed to describe student outcomes related to SAE, beyond financial.

CHAPTER 2. LITERATURE REVIEW

What is Supervised Agricultural Experience?

While Supervised Agricultural Experience (SAE) is often discussed as an equal player in the three circle model (Fig 2) of agricultural education, declines in student participation, lack of direction, and limited teacher time for implementation often leave SAE a weak component of agricultural programming (Croom, 2008). Literature for this review is divided into six major themes to ascertain the effect of SAE participation on the development of soft skills in an attempt to better shed light on the non-agricultural benefits of participating in SAE programs to allow instructors to better gauge their recruitment and instruction efforts regarding this necessary component of the three circle model.

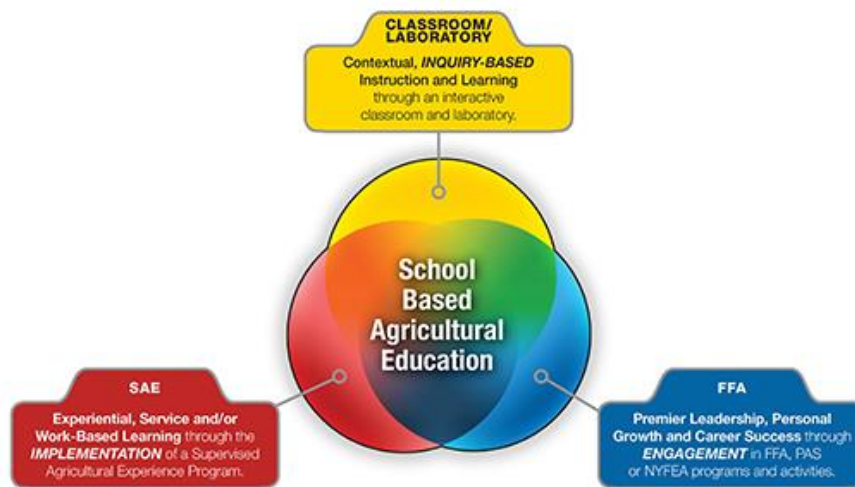


Figure 2.1. Model of a comprehensive agricultural education program. Model includes classroom, SAE, and FFA experiences (The National FFA Organization, 2015).

First, SAE will be defined, including use of SAE in conjunction with classroom instruction, SAE visits, and assessment. Second, SAE will be examined in regard to theories set forth by various proponents of experiential learning. Third, the determination and criteria for quality SAE programs will be presented. Fourth, factors influencing SAE participation will be

discussed. Fifth, the benefits of SAE programming will be put forward. Finally, the theoretical framework of this study will be reviewed.

SAE Defined

Supervised experience was, most likely, the first component of the agricultural education model to be established, and Rufus W. Stimson was a key player in establishing this supervised experience in schools (Croom, 2008). Supervised Agricultural Experience (SAE) is defined by the National FFA Organization as a required component of an agricultural education program designed to promote the consideration of multiple careers, learning of industry skills, and application of skills to a workplace of interest to the student (2015). This program is designed to provide students independent opportunities to excel in various areas of agriculture and be awarded through FFA programs such as proficiency awards and membership degrees (Croom, 2008). SAE categories include Ownership/Entrepreneurship, Placement/Internship, Research, Exploratory, School-Based Enterprise, and Service-Learning (ffa.org, 2015). Entrepreneurship students own and manage their own enterprise while students with a placement SAE work for agriculturally related businesses. Research based SAEs allow students to design and conduct an experiment to answer a questions, and exploratory SAEs ask students to participate in guided career research. School-based enterprises are student managed, cooperative opportunities. Finally, service-learning allows community engagement while promoting planning and implementation practices (ffa.org, 2015).

The Work-Based Learning Sourcebook notes SAEs support academic standards, empowers students to apply classroom skills, accept challenges, achieve goals in a professional setting, and offer a venue for year-round learning with guidance from key adults (Kansas Curriculum Center, 1996). Gary Moore defines sixteen essential theorems of SAE, stating all

students should be required to have an SAE, SAE should be an integral component of agriculture classes, and records and planning are fundamental to gaining the full benefits of the experience (2003). SAE is designed to extend instruction beyond the classroom, and develop the skills, knowledge, and attitudes relevant and beneficial to success in the workplace (New Ways to Work, 2012). SAE allows for individualized instruction by tailoring outcomes to fit the needs of students, and provide a setting for application of class concepts (Roberts & Harlin, 2007).

Experiential Learning

“Preparation of workers for entry into and advancement in the workplace of the next decade requires an educational program provides not only job skills...but also higher order thinking, problem solving, and collaborative work skills (Doolittle & Camp, 1999).” The strength of agricultural education is all three components (classroom, FFA, and SAE) being so easily experiential (Baker, Robinson & Kolb, 2012). SAE embodies many of the tenets outlined by experiential learning and experiential learning theorists (Doolittle & Camp, 1999; Roberts, 2006; Arnold, Warner, & Osborne, 2006; Baker, et al., 2012).

Doolittle and Camp explain the role of SAE in relation to the central pillars of constructivism (1999). SAE applies particularly well to the factors of learning taking place in a real-world environment, learner relevant content and skills, assessment of skills relative to prior student understanding, and formative assessment to design future experience (Doolittle & Camp, 1999). Furthermore, Doolittle and Camp expressly note experience is the main catalyst for knowledge construction and provides the activity around which the mind will operate (1999). However, if experiential learning is not authentic, knowledge construction is not enhanced to its fullest extent (Doolittle & Camp, 1999). Knobloch (2003) asks, “Is experiential learning authentic?” In his examination of four founding theorists in experiential education, he concludes

Dewey (experimentation), Knapp (field demonstration), Stimson (inductive), and Lancelot (problem solving) align with value beyond school. Knobloch further concludes it is the experience of problem solving that helps students through application and building connections (2003).

Many have worked to align and apply experiential learning theory to the agriculture classroom and begin to describe the benefits students attain through the same (Arnold et al., 2006; Roberts, 2006; & Baker et al., 2012). Experiential learning has been shown to produce better results than traditional models of education as a goal-oriented, standards-based, and knowledge-retaining form of instruction (Baker et al., 2012). Roberts (2006) summarized the work of Dewey, Joplin, and Kolb, to propose a spiraling model of the experiential learning process in context. This work is compared with the theories of the problem solving approach and inquiry-based learning to better define an applicable model to be applied to the agriculture experience at the secondary level (Roberts, 2006). Arnold et al. found students who were intentionally engaged in the cycle of Kolb's learning theory noted benefits including increased retention, positive learning, engaging environment, and greater use of higher order thinking (2006). Supervision plays a key role in the success of the implementation of experiential learning theories, requiring thought and skill from the teacher and input from the group being taught (Arnold et al., 2006). Arnold et al. go on to conclude experiential learning provides an essential link from the classroom to the world of work (2006). Further studies state an experience can be qualified as educational if organization, intentional selection, individualized instruction, and goal orientation are maintained (Arnold et al., 2006). Baker et al. further expound on Kolb's experiential learning theory to note all three components of the agricultural education model focus on experiential learning (2012). SAE is particularly highlighted in the

development of meta-skills. Baker et al. found the direct connection to an SAE project and classroom instruction was a misplaced focus should allow easy discourse and interplay between the components (2012). The experience is essential to developing the necessary skills to solve problems and develop a plan; building a student's interest and developing planning, goal setting, persistence, and self-directional skills (Baker et al., 2012).

Program Quality

Programs that don't express and search for areas to improve die, and SAE is no exception. Unfortunately, improvements to the SAE programming FFA offers have appeared sporadic, falling short on purpose and direction (Cheek, Arrington, Carter and Randall, 1994; Croom and Flowers, 2001). Goal setting and career value have lost their derivation to awards, degrees, and applications (Cheek et al., 1994). Cheek, et al. (1994) note students are not adequately evaluated on their participation, teachers do not have time to devote to evaluating endless record books and keeping record books updated, let alone providing support for countless sites for their students (Cheek et al., 1994). If students had a better way to keep records to show growth in program areas, the experience could be more meaningful. (Cheek, et al., 1994)

Regardless of the program model pursued, little is accomplished if teachers do not acknowledge the benefits of a comprehensive agricultural education program that fully embraces the three circle model (Clark & Scanlon, 1996). For Supervised Agriculture Experience programs to be successful, they must be adequately planned and appropriately supervised (Swartzel, 1996). Multiple researchers have examined the various ways teacher's influence student participation in the SAE component of the three circle model (Clarke & Scanlon, 1996; Swartzel, 1996; Rayfield et al., 2012; Wilson & Moore, 2007; Rayfield & Wilson, 2009). Clarke and Scanlon (1996), examined the effects of teacher attitudes on participation in the FFA

proficiency awards program. Research suggests the influence of teachers is a strong factor in student pursuit of FFA awards (Clarke & Scanlon, 1996). Teachers are the necessary link to make SAE programming and subsequent awards relevant to students, and it is with this conclusion nine recommendations were presented to encourage student participation in SAE (Clarke & Scanlon, 1996). Most applicable of those recommendations to this review note students should be made aware of the work of their peers, and agriculture teachers should highlight the skills gained through SAE rather than economic accomplishment (Clarke & Scanlon, 1996). Empirical data regarding teacher perception of SAE programming has noted teachers in Tennessee agreed helping students plan their SAEs and supervision of students' SAEs during the summer were essential parts of an extended contract (Swortzel, 1996). Swortzel also noted teachers who had a positive perception of SAE programming had a scheduled class period for SAE during the school day (1996). Moore and Wilson (2007) found an extreme disparity between the value teachers place on SAE and their practice in implementation through a descriptive research questionnaire. If improvements are to occur with SAEs, focus on teacher training must be on improvement and quality rather than value (Wilson & Moore, 2007). Wilson and Moore (2007) concluded teachers are not doing a quality job of carrying out SAE programming, regardless of the important role they feel it plays. Rayfield et al. (2012) found the teacher's role included utilizing hands on activities, maintaining an attitude of high motivation, and maintaining knowledge current with industry. Principals can also support or demoralize their SAE program in the way they reward their teachers for student SAE programming through their annual evaluations (Rayfield & Wilson, 2009). Principals do, however, agree with teachers echoing SAE is important, realistic, and provides for character education (Rayfield & Wilson, 2009). Edwards and Ramsey (2013) further corroborate through

a Delphi study links to industry expectations are not fully developed in the current teacher training model. If teachers are to successfully reach their students through SAE, better teacher training must occur; aiding teachers in developing better instruction and establish foundations for teachers to better support students in their work experience (Edwards & Ramsey, 2013).

SAE Participation

There is a significant gap between the number of students enrolled in agricultural education courses and those who take full advantage of each component of the program (Retallick & Martin, 2008). In the early 1990s, 85% of agricultural education students participated in SAE, and by 2005 the number had dwindled to 55.82% (Retallick & Martin, 2008). Despite the positive impacts of experiential learning and continued efforts to improve agricultural education program quality, Talbert and Balschweid found two-thirds of FFA members and two-fifths of non-members reported having an SAE (2004). One in three in the Talbert and Balschweid study reported their highest award to be Star Greenhand or Star Chapter Award, with less than half of the respondents identifying their highest degree at the Greenhand level; two thirds had never attempted earning a proficiency award through application (2004). Students believe there are limited opportunities in agricultural education (Myers, Breja, and Dyer, 2004). Myers et al., (2004) found a need to focus on less traditional SAEs to maintain strong student involvement. Lewis, Rayfield, and Moore (2012) found, through a descriptive questionnaire study of 120 secondary programs, factors influencing involvement in SAEs include knowledge of given SAE categories, classroom instruction, and SAE integration into instruction. Benefits, improvements, and success do nothing for a program in which no students will participate. If a student does not derive value from awards such as FFA Degrees and Proficiencies, agriculture educators must find new approaches and relay other benefits with

which to draw students into SAE programming. More research is needed in each of these areas to address what changes should be implemented. However, if SAE categories, classroom instruction, and SAE integration into instruction were improved, it is suggested SAE involvement in programs would rise (Lewis, Rayfield, and Moore, 2012).

Myers et al. (2004) further suggest, apart from teacher training, SAE programs suffer from recruitment problems arising from any number of societal, school, and resource issues stemming from lack of purpose and alignment of programs with established experiential learning models. Retallick (2010) studied further factors affecting SAE participation through qualitative exploratory focus groups. Five factors were posed as program limiting: Changing demographics and societal attitudes, mechanics and structure of schools, resource availability, image, and the agricultural education system itself (Retallick, 2010). SAE programs struggle as the demographics of agricultural programs shift from rural to urban, bringing a different societal attitude about farming and work (Retallick, 2010). Retallick adds the agriculture education system itself often gets in its own way as it works to convince students of value rather than provide opportunities for students to derive value for themselves (2010). Lewis et al. noted additional research should address the differences in student and teacher perceptions as they relate to SAE, and the relationships between the factors affecting SAE participation should be examined more closely (2012). Factors noted included school facilities, student encouragement, and frequency of SAE help. Lewis et al. further concluded that students who have a high propensity for involvement (apart from their agricultural programs) tend to have the highest quality SAE programs when given the necessary supports.

A shift from producer agriculture to consumer agriculture is apparent (Steele, 1997). Developing new SAEs, promoting the benefits of agricultural education, and building a program

focused on student interest to attract students were solutions posed to the issue of the busy student (Myers et al., 2004). Students do not enter their agriculture education classrooms with lofty SAE goals in mind or projects already begun (Dyer & Osborne, 1995). Lewis, Rayfield, and Moore (2012) noted many students may opt out of SAE participation due to a lack of understanding of the four SAE categories. Despite declining participation in SAE programs, Bird, Martin, and Simonsen noted the utilization of external motivation should be used cautiously (2013). Intrinsic motivation should be initiated to maintain the greatest level of participation and retention in programming (Bird et al., 2013). Such motivation could take the form of focus on personal interest and designing SAEs to have personal meaning for individuals.

Positive and negative factors regarding student partaking in SAE programs have been identified. Factors positively affecting students' participation in SAE programs include the number of semesters individuals have been enrolled in agriculture courses (Dyer & Osborne, 1995), perceived skill development from the student (Lewis, Rayfield, & Moore, 2012), provision of numerous award and recognition opportunities (Lewis et al., 2012), perceived intrinsic motivators (Bird, Martin & Simonsen, 2013) and the availability of school facilities (Lewis et al., 2012). Bird, Martin, and Simonsen (2013) found, through historical and qualitative interpretive research methods, students are most motivated to participate in SAE programs at a high level when internal factors are in play. If educators are to use caution when using external motivators, they must have a better grasp and understanding of the internal motivators for students in both the long and short term (Bird et al., 2013). SAEs must provide value to students beyond FFA Degrees and Proficiency Awards. SAE must return to its roots of career success to maintain meaningful experience for students (Bird et al., 2013). Lewis et al. proposed a discussion of SAE opportunities in all areas of agriculture would be beneficial to encouraging

SAE involvement (2012). Factors negatively affecting student SAE participation have been identified as well. Dyer and Osborne found a lack of agriculture background, lack of resources, and competition for student and teacher time to be significant hurdles (1995). Limited time in teacher contracts, lack of SAE supervision hours during the school day, decreased assistance with transportation costs, and scheduling concerns have posed significant barriers as well (Steele, 1997). Robinson and Haynes (2011) noted particular involvement barriers come about for alternatively certified teachers; an increasing problem as teachers are crossing state lines or may not have been involved in FFA themselves. A qualitative descriptive study exposed barriers such as stereotype, interest, money, and time are implied in SAE programs with little training or literature on how to overcome in these areas (Robinson & Haynes, 2011). Additional training is suggested for alternatively certified teachers, but additional professional development should be suggested and offered for many instructors in agriculture as proposed by Edwards and Ramsey (2013). As fewer students participate in the comprehensive agriculture education model, fewer experiential learning opportunities are afforded (Retallick & Martin, 2008).

SAE Program Benefits

SAE enhances classroom learning by providing real life experience for students (Camp, Clarke, & Fallon, 2000). Other reasons noted in the Camp, et al. study included students being encouraged to learn more in class, and learning about the agricultural field through experiencing work (2000). SAE program participation is positively related to student achievement in agri-science and moderately correlated to broad student achievement (Cheek, Arrington, Carter, & Randell, 1993). Stone and Aliaga (2005) found youth participating in school to work programs took more math and science than their peers who did not. This study posited students participating in school to work programs are better equipped to see the value of math and science

in their day to day life (Stone & Aliaga, 2005). No relationship was found between participation in school to work programming and high school GPA, nor was there a significant relationship between school to work participation and college expectations (Stone & Aliaga, 2005).

However, evidence was present to report a positive relationship between key measures of high school achievement and participation in school to work activities (Stone & Alaiga, 2005).

Principals believe work-based learning provides opportunities to learn character education (Rayfield & Wilson, 2009).

Stakeholders tend to recognize SAEs as beneficial to students, but the benefits reported tend to be general in nature, qualitatively and anecdotally derived, and occasionally conflicting (Dyer & Williams, 1997). Dyer and Williams report limited benefits in the development of communication skills, problem solving skills, and agricultural knowledge (1997). Experiential learning has been identified as promotional to contextual learning, problem solving, and learning by doing (Retallick & Martin, 2008). Students in Missouri and Utah believed having had an SAE in high school would be beneficial to their future based on their skill attainment (Lewis, Rayfield, & Moore, 2012). Dailey, Conroy, and Shelley-Tolbert (2001) concluded agricultural education produces effective community members with adequate social skills who are prepared for higher education. Ramsey and Edwards (2004) resolved SAE provides rich opportunities to support student achievement in science. SAE includes more than skill development and proficiency, and reaches to include career development (Retallick, 2010). Robinson and Haynes received responses suggesting that SAE is valuable in teaching life skills, responsibility, career preparation, confidence, relationship building, and accountability (2011). If such skills are truly derived from participation in Supervised Agricultural Experience, this program should be a highlight in the comprehensive agricultural education model rather than an afterthought.

Ramsey and Edwards examined specific pathways and found SAE to provide dependability, reliability, trust, speaking, self-motivation, loyalty, consistency, determination, confidence, organization, and commitment to be skills tied to agricultural communications (2011). Animal science paired strongly with people skills, proper terminology, animal health, and basic math (Ramsey & Edwards, 2011). Based on these correlations, Ramsey and Edwards concluded skill attainment through SAEs may better prepare students for entry-level positions in the industry of agriculture. Talbert and Balshweid (2004) proposed numerous agricultural benefits derived from the SAE program, including connectedness to agriculture in a descriptive comparative study. Traditional agricultural values, suggest an implied value for premier leadership, personal growth, and career success (Talbert & Balschweid, 2004). If personal growth is an area to measure student success in FFA, true growth, will show in all areas of potential student achievement (Talbert & Balshweid, 2004). With the variety of studies claiming potential benefits of Supervised Agricultural Experience, additional study is certainly warranted. Connection of SAE to career skills has been established; quantifying those connections will allow better implementation of programming to benefit students and employers. Not all impacts of SAE are positive, however. Robinson and Haynes note SAEs can be time consuming and costly for students (2011).

Economic impact is perhaps the most quantifiable of outcomes regarding SAE. Retallick and Martin derived as much as \$2.20 returning to students for every \$1.00 invested by Iowa school districts into SAE (2005). SAE has an economic impact beyond the immediate student income (Retallick & Martin, 2005). Retallick notes SAE is used to teach the development of economic skills, including: record-keeping, record analysis, financial management, and money management (2010). SAEs were found to contribute a \$189-million-dollar economic impact in

Texas, translating expense values into state and local business income and economic growth (Hanagriff, Murphy, Roberts, Briers, and Lindner, 2010).

Theoretical Framework

According to Heckman and Kautz (2012), “soft skills predict success in life...produce that success, and programs that enhance soft skills have an important place in an effective portfolio (p. 451).” Devadason et al. cite the Ministry of Higher Education in Malaysia soft skill competencies in relation to soft-skills acquired through classroom instruction (2010). Acquisition of soft skills can lead to greater self-efficacy, influencing job performance, and what is done with the skills individuals possess (Lent & Hackett, 1987). Lent and Hackett (1987) note such efficacy is attained through four major routes, one of which is enactive attainment (performance accomplishments) such as those acquired through Supervised Agricultural Experience. Self-efficacy has also been significantly implicated in career indecision (Lent & Hackett, 1987), indicating a need to develop self-efficacy through student experience.

In this study, Supervised Agricultural Experience is the learning experience meant to drive self-efficacy and outcome expectations (student performance and attainment). This study proposes that the soft-skills and self-efficacy attained will not only shape future Supervised Agricultural Experiences, but enhance the ability of youth of make career decisions, drive student attainment, and refine soft-skill development.

Lent, Brown, and Hackett (1994) present a social cognitive framework for understanding career-relevant interests, selection of career options, and performance in occupational pursuits. Among various models and interlinkages discussed, most relevant to this study is the “Model of Interest Development.” This theoretical model highlights self-efficacy, outcome expectations, interest link, values, and attitudes. In quoting Bandura (1986), Lent et al. note that interests are

fostered by outcome expectations, particularly self-evaluative outcomes (1994). They further speculate that *favorable* outcome expectations are necessary for self-efficacy. In this way, the outcome expectations serve as the intrinsic reward and driving force motivating self-efficacy in students participating in an experience (Lent et al., 1994).

In a given experience, a person will bring with them the inputs of predispositions, gender, race, health status, background, and contextual affordances (Lent et al., 1994). These play into the learning experience, thus determining the self-efficacy and outcome expectations perceived. Performance domains and attainments are then achieved through reciprocal relationships between interest, choice goals, and choice actions (Lent et al., 1994). Based on the three circle model proposing SAE as an integral component of agricultural education and the Lent et al. model of interest development purporting learning experiences effect on career efficacy and outcome expectations, this study seeks to address the application of the model of interest development to agricultural education programs, with the SAE component as the main focus.

Summary

With the SAE as the learning experience, this study seeks to find the self-efficacy and outcome expectations perceived for students in agricultural education programs. Betz and Klein (1996) propose a career self-efficacy scale and Betz and Taylor (2006) provide a manual for its use. If then, a student participates in a Supervised Agricultural Experience program, do they achieve greater career self-efficacy and a more solid foundation in soft skills? At what level does interest drive choice, perception and performance to aid in the career success of participating individuals?

CHAPTER 3. METHODOLOGY

Purpose of the Study

The purpose of this study was to explore the perceptions of skills gained by students participating in SAE programs to better understand SAE's role in career readiness. Given this need for examination into SAE in light of the plethora of skills SAE could potentially offer, this study sought to quantify the soft skill attainment and career decision self-efficacy perceived by individuals participating in an SAE program.

Research Objectives

1. Describe selected demographics of high school agricultural education students.
2. Describe the career decision self-efficacy of students.
3. Describe students' perceptions of soft skill development.
4. Describe the relationship between SAE involvement and career decision self-efficacy.
5. Describe the relationship between SAE involvement and perceptions of soft skill development.

Research Design

The descriptive relational study utilized student responses regarding their perceptions of soft skill attainment and career decision self-efficacy through self-reported participation in their own SAE. The present study used quantitative methods in the form of a survey utilizing closed ended questionnaire items and a Likert-scale matrix.

Subject Selection

Dassel-Cokato High School, Fairmont High School, Morris High School, Howard Lake-Waverly-Winsted High School, Plainview-Elgin-Millville High School, Ada-Borup High School, Staples-Motley High School, and Sleepy Eye High School affiliated with the Minnesota

FFA Association were offered the opportunity to elect into this study. Each program that was offered the opportunity to participate elected to do so. Agriculture programs at these schools were purposefully selected by the researcher and selected based on their geographical proximity to the researcher, perceived quality of agricultural education program, and representation of the eight regions of the Minnesota FFA Association. Teachers and principals received an invitation to participate (Appendix A) and parent's received notification of data collection with the option to elect their student out of the study (Appendix B). Because this study intends to focus on required exposure and participation in many facets of the agricultural education model, juniors and seniors were offered the opportunity to participate. In an effort to increase participant exposure, tenth graders were included on a case-by-case basis.

Student survey took place from May 10-27, 2016. While the entire sample was comprised of students in agricultural education, students were not required to be enrolled in FFA to participate in the study as students could have been required to complete SAE hours as part of their coursework. Students received an invitation, cover letter, and letter of assent (Appendix D). Surveys were available in paper format, and administered by the researcher or agriculture instructors at each respective high school. Students were sampled through convenience sampling methods. Students were selected for participation based on the opt-in of their advisor and willingness to participate based on student assent. The overall sample language was English; no cultural or language barriers were noted and no accommodations were necessary. Notice of confidentiality, consent, and assent were collected and stored by the researcher.

Instrumentation

Eleventh and twelfth grade high school students took a survey rating their perceptions of their present level of soft skills acquired. Soft skill item construction was based on questions

outlined by Devadason et al. (2010) in the skill areas of communication, critical thinking and problem solving, teamwork, lifelong learning and information management, entrepreneurial, moral and professional ethics, and leadership. Students also completed the twenty-five question short form of the Career Decision Self-Efficacy (CDSE-SF) assessment (Betz et al., 2006). Surveys took fifteen to twenty minutes to complete and were integrated into class time already structured for SAE instruction.

Career Decision Self Efficacy-Short Form

The Career Decision Self Efficacy (CDSE) Short Form was created through the work of Betz and Taylor (2006). The Career Decision Self Efficacy Short Form was previously established as valid and reliable. This scale measures the degree of belief to which an individual feels they can take the necessary actions to make career decisions based on five subscales including: “1) accurate self-appraisal; 2) gathering occupational information; 3) goal selection; 4) making plans for the future; and 5) problem solving” (Betz & Taylor, 2006). The CDSE has been reported to be highly reliable with an internal consistency coefficient of 0.97 (Betz & Taylor, 2006). The short form abbreviates each of the five initial subscales to five questions rather than ten. The CDSE uses a Likert-type scale ranging from 1 (no confidence at all), 2 (very little confidence), 3 (moderate confidence), 4 (much confidence), and 5 (complete confidence).

Soft Skill Assessment

The Soft Skill Assessment was developed by the researcher from indicators established by the Malaysian Ministry of Higher Education as utilized by Devadason, Subramaniam, and Daniel (2010). The established soft skill attainment indicators were developed into “I can” statements and put into a five point Likert-type matrix. The Likert-type scale ranges include 1 (strongly disagree), 2 (disagree), 3 (neither agree nor disagree), 4 (agree), and 5 (strongly agree).

The soft skill assessment addressed 44 indicators of work place competency to gauge student perception of ability to demonstrate various soft skills. Internal reliability was determined via Chronbach's Alpha. Inter-item correlation was determined to be moderate. Item total statistics was high; thus all items were retained. Five constructs were identified that matched closely with the initial framework; Communication (n=10; $\alpha=0.90$), Problem Solving (n=9; $\alpha=0.91$), Lifelong Learning (n=3; $\alpha=0.81$), Professional Ethics (n=10; $\alpha=0.91$), and Leadership (n=12; $\alpha=0.94$). No total soft skill score will be determined as the instrument measures individual constructs rather than a composite score for soft skill development.

Demographics

The demographic questions were designed to gauge the length of student participation in an agricultural program (year in school, FFA membership, FFA degrees attained, work based learning participation), participation in Supervised Agricultural Experience Programs (SAE description, SAE records, SAE visits, SAE area, and SAE proficiency), and future plans. Demographic questions were close-ended or short answer. Close-ended questions included: year in school, FFA membership length, gender, FFA degree attainment, work-based learning participation, SAE participation, SAE area, SAE proficiency, and plans to attend college or technical school. Open-ended questions asked students to describe their SAE, describe their record keeping system, list the date of their most recent SAE visit, describe their future plans, and identify the institution at which they plan to further their education. Demographic questions were derived to give the researcher a framework from which to draw conclusions regarding SAE participation, soft skill development, and career decision self-efficacy.

Validity and Reliability Procedures

Teachers were asked to aid the researcher in preventing duplicates. Students who were in multiple classes with an individual teacher were asked to complete the study once. Students not in attendance on the day of measurement were considered non-respondents. No follow-up procedures were exercised to collect data from those absent. Two participants' responses were removed from the data set as duplicates. Four were removed as the student completed less than half the data set.

Data Analysis

The dependent variables for this study are students' perceived Career Decision Self-Efficacy and Soft Skill Attainment. The independent variables for this study were SAE involvement and SAE type. Student surveys were evaluated and categorized by nominal data provided by demographic questions. The student demographic section asked students to denote their participation in SAE programs to give a comparative sample of SAE participations vs non-SAE participants. This was used to determine program type and SAE involvement to allow comparative analysis across degrees of participation. Student surveys were further evaluated based on ordinal data collected regarding agreeance with Likert-type scale questions related to soft skill perception and career decision self-efficacy. Descriptive statistics were utilized to analyze Career Decision Self-Efficacy, Soft Skill Attainment, and student demographic items. Data were analyzed using the Statistical Package for Social Sciences (SPSS Version 21). The data analysis included descriptive measures for each variable at each level of measurement. Analysis of variance (ANOVA) was determined between 1) SAE and each Soft Skills Attainment construct, 2) SAE, Career Decision Self-Efficacy, and Soft Skill Attainment, and 3)

SAE and Career Decision Self-Efficacy. Individually, the variables of SAE participation and type defined SAE program involvement for the purposes of this study.

Risks and Benefits

Glencoe-Silver Lake FFA (FFA program of researcher) members were not surveyed to avoid researcher bias. Student survey responses and contact information were coded to prevent violations of confidentiality. The researcher was the only handler of data, and raw data was not distributed to FFA advisors for evaluation or grading. Attrition may pose problems for the long term goals and additional study, and additional incentives may be pursued to maintain contact with study participants to determine the career and college effects of the soft skill development perceived through SAE.

Risks to students included inconvenience and time put into the survey process. Benefits to students included developing greater understanding of their SAE and project as well as its long term benefits. Downsides for advisors included time input and potential problems in student contact and participation. Benefits for advisors involved a compiled assessment of non-agricultural derivations for students from SAE and data to drive program success and implementation.

CHAPTER 4. RESULTS

Purpose of the Study

The purpose of this study was to explore the perceptions of skills gained by students participating in SAE programs to better understand SAE's role in career readiness and soft skill attainment. Given this need for examination into SAE in light of the plethora of skills SAE could potentially offer, this study sought to quantify the soft skill attainment perceived by individuals participating in an SAE program.

Research Objectives

The following research objectives guided the study:

1. Describe selected demographics of high school agricultural education students.
2. Describe the career decision self-efficacy of students.
3. Describe students' perceptions of soft skill development.
4. Describe the relationship between SAE involvement and career decision self-efficacy.
5. Describe the relationship between SAE involvement and perceptions of soft skill development.

Research Objective One

Research objective one was to describe selected demographics of high school agricultural education students enrolled at participating schools. The instrument was distributed to eight schools in Minnesota, one school in each of Minnesota FFA's eight regions. Collectively, 300 surveys were provided and 214 provided completed instruments for the present study. A total of six questionnaires were excluded from the results of the study as those students completed less than half the instrument or completed the instrument twice.

Characteristics of the sample are found in Table 4.1. The greatest number of respondents were of junior standing (47.7%, $n=102$) whereas the fewest represented were sophomore students (13.10%, $n=28$). The distribution of sexes for the sample favored males (64.8%, $n=138$) over females (35.2%, $n=75$). Mean FFA membership was two years; approximately one third of respondents ($n=70$, 32.7%) had never participated in FFA, while 66.6% ($n=142$) reported membership of at least one year. Of the members who had participated in FFA, 80.9% ($n=115$) received an FFA degree. The largest number of students received their chapter degree (27.1%, $n=58$). Of the 213 students sampled, 50.50% ($n=108$) reported having a Supervised Agricultural Experience. The SAE area reported most commonly was placement (20.60%, $n=44$). Approximately one quarter of students participating were enrolled in work-based learning programs (26.6%, $n=57$). Work-based learning programs in Minnesota are collaborative efforts between students, parents, a business, and the school to engage students in supervised work experience. A majority of the population sampled reported plans to attend a post-secondary institution (72.40%, $n=155$).

Table 4.1
Demographic Characteristics of Participating High School Students (n= 214)

	<i>n</i>	<i>%</i>	<i>M</i>	<i>SD</i>	<i>Range</i>
Student Grade					
Freshman	1	0.50			
Sophomore	28	13.10			
Junior	102	47.70			
Senior	82	38.30			
Sex					
Male	138	64.80			
Female	75	35.20			
FFA Membership					
0 Years	70	32.70			
1 Year	15	7.00			
2 Years	34	15.90			
3 Years	42	19.60			
4 Years	30	14.00			
5 Years	15	7.00			
6 Years	6	2.80			
Highest FFA Degree Earned					
Greenhand	39	18.20			
Chapter	58	27.10			
State	18	8.40			
Supervised Agricultural Experience					
Yes	108	50.50			
No	106	49.50			
SAE Area					
Exploratory	20	9.30			
Research	10	4.70			
Placement	44	20.60			
Entrepreneurship	16	7.50			
Combined Program	10	4.70			
No SAE	105	49.10			
Work Based Learning					
Yes	57	26.60			
No	136	63.60			
Attend Post-Secondary					
Yes	155	72.40			
No	18	8.40			
Unknown	25	11.70			

Research Objective Two

Research objective two was to describe the career decision self-efficacy of high school agricultural education students. Student career decision self-efficacy scores are listed in Table 4.2. Students reported a perception of moderate confidence ($M = 3.64$). Within each construct of career decision self-efficacy, students reported mean scores as follows: Self-Appraisal, 3.80; Problem Solving, 3.47; Planning, 3.52; Occupational Information, 3.75; and Goal Selection, 3.67.

Table 4.2
Student Perceptions of Career Decision Self-Efficacy

	<i>n</i>	<i>%</i>	<i>M</i>	<i>SD</i>
Career Decision Self-Efficacy	214		3.34	0.71
Self-Appraisal			3.80	0.75
Problem Solving			3.47	0.77
Planning			3.52	0.78
Occupational Information			3.75	0.80
Goal Selection			3.67	0.82

Research Objective Three

Describing students' perceptions of soft skill development of high school agricultural education students was research objective three. Soft skill development scores are listed in Table 4.3. Soft skill scores are reported by construct as the instrument was not designed to provide a total soft skill score. Levels were defined on a five-point scale. For the purposes of this study, scores of two through four were considered moderate skill level. Anything above four was considered a high skill level. Students were asked to identify their perception of development regarding soft-skills in six constructs. Students reported a moderately-high confidence level across constructs, with leadership abilities reported at the highest confidence level. Within each construct of soft-skill development, students reported construct means as follows:

Communication, M=3.67; Problem Solving, M=3.79; Lifelong Learning, M=3.84; Professional Ethics, M=3.77; and Leadership, M=4.05.

Table 4.3
Student Perceptions of Soft-Skill Development

	<i>N</i>	<i>%</i>	<i>M</i>	<i>SD</i>
Soft Skill Development	213			
Communication	213		3.67	0.74
Problem Solving	214		3.79	0.72
Lifelong Learning	214		3.84	0.77
Professional Ethics	214		3.77	0.75
Leadership	214		4.05	0.71

Research Objective Four

Research objective four sought to describe the relationship between SAE involvement and career decision self-efficacy for high school agricultural education students. Student data was interpreted using an Analysis of Variance (ANOVA) model ($n = 204$) for CDSE among students with and without SAE. A significant ANOVA model ($p < .01$) was rendered for CDSE and the SAE types $F(5, 204) 3.06$. Upon analysis of the post hoc multiple comparison tests, the Mean Difference ($MD = .62$) between Exploratory SAE and Placement SAE was the sole contributor to the significant model ($p < .009$). No other independent variables for SAE type contributed significantly ($p < .05$) to the overall ANOVA model for CDSE. Further, the model revealed there was no difference between those who reported having and not having an SAE within the sample. The significant contribution to the model came from within those who reported having an SAE (Table 4.4).

Table 4.4
The Impact of SAE Involvement on Career Decision Self-Efficacy

Construct	SS_x		Df	F	MS	p	MD^{**}
CDSE	Between	6.97	5, 204	3.06	1.43	0.01*	.62*
	Within	90.59					

Note: *Significance measured at $p < .05$. **Mean Difference between Exploratory and Placement SAE types.

Students who reported a placement Supervised Agricultural Experience showed a positive significant impact on their CDSE ($M=3.92$, $SD=0.58$) compared to those who identified with the exploratory SAE category ($M=3.30$, $SD=0.89$). Student CDSE perceptions by SAE type are outlined in table 4.5. Mean CDSE by SAE Type

Table 4.5
Mean CDSE by SAE Type

	No SAE	Exploratory	Research	Placement	Entrep.	Combined
CDSE	3.60 (0.66)	3.30 (0.89)	3.52 (0.83)	3.92 (0.58)	3.80 (0.51)	3.83 (0.87)

Research Objective Five

Describe the relationship between SAE involvement and perceptions of soft skill development for high school agricultural education students. Student data was interpreted using an Analysis of Variance (ANOVA) model ($n = 204$) for soft skills among students with and without SAE (Table 4.6). A significant ANOVA model ($p < .05$) was rendered for all Soft Skill Constructs and the SAE types, excluding Critical Thinking/Problem Solving $F(5, 204) 1.70$ ($p = 0.14$). Similar to Objective Four, analysis of the post hoc multiple comparison tests revealed the Mean Difference between Exploratory SAE and Placement SAE was the sole contributor to the significant model. No other independent variables for SAE type contributed significantly ($p < .05$) to the overall ANOVA model for soft skill acquisition. Further, the model revealed there was no

difference between those who reported having and not having an SAE within the sample. The significant contribution to the model came from within those who reported having an SAE.

Table 4.6

The Impact of SAE Involvement on Student Soft Skill Abilities Perceptions

Construct		SS_x	Df	F	MS	p	MD^{**}
Communication Skills	Between	6.23	5, 203	2.589	1.33	0.03*	0.60*
	Within	101.39					
Critical Thinking/ Problem Solving Skills	Between	4.14	5, 204	1.70	0.82	0.14	0.39
	Within	96.98					
Lifelong Learning/ Info Management Skills	Between	11.10	5, 204	4.20	2.22	0.001*	0.68*
	Within	105.42					
Professional/ Ethical Decision Skills	Between	9.37	5, 204	3.69	1.87	.003*	0.70*
	Within	101.18					
Team and Leadership Skills	Between	8.03	5, 204	3.62	1.61	.004*	0.66*
	Within	88.40					

Note: *Significance measured at $p < .05$. **Mean Difference between Exploratory and Placement SAE types.

Table 4.7 outlines the mean and standard deviation among student SAE types and reported perceptions of soft-skill constructs. The most notable differences being between exploratory and placement SAE types in the areas of communication, lifelong learning, professional ethics, and leadership. The distinct exception to this pattern is the problem solving construct, which shows no significant difference in the means and standard deviations between exploratory and placement.

Table 4.7

Comparison of Student SAE Type and Reported Perceived Soft Skill Constructs

	n	Communication	Problem Solving	Lifelong Learning	Professional Ethics	Leadership
No SAE	106	3.67(0.69)	3.77(0.67)	3.81(0.73)	3.77(0.73)	4.03(0.63)
Exploratory	20	3.35(0.94)	3.58(0.74)	3.45(0.96)	3.33(1.11)	3.68(0.92)
Research	10	3.34(0.76)	3.50(0.83)	3.33(0.70)	3.48(0.82)	3.73(0.76)
Placement	44	3.95(0.61)	3.98(0.79)	4.13(0.69)	4.04(0.52)	4.33(0.65)
Entrepreneurship	16	3.65(0.64)	3.93(0.47)	4.00(0.52)	3.98(0.39)	4.22(0.53)
Combined	10	3.79(0.94)	4.03(0.61)	4.20(0.59)	4.08(0.63)	4.21(0.53)

CHAPTER 5. CONCLUSIONS, RECOMMENDATIONS & DISCUSSION

Purpose of the Study

The purpose of this study was to explore the perceptions of skills gained by students participating in SAE programs to better understand SAE's role in career readiness in light of a recent rural to urban demographic shift within agricultural education. Given this need for examination into SAE in light of the plethora of skills SAE could potentially offer, this study sought to quantify the soft skill attainment and career decision self-efficacy perceived by individuals participating in SAE programs.

Instrumentation

The instrument was distributed to eight schools in Minnesota; one school in each of Minnesota FFA's eight regions. Student survey took place from May 10-27, 2016. Collectively, 300 surveys were provided and 214 students provided completed instruments for the present study. A total of six questionnaires were excluded from the results of the study as those students completed less than half of the instrument or completed the instrument twice.

Research Objective One

Research objective one sought to describe selected demographics of high school agricultural education students enrolled in high school agricultural education programs. Characteristics of the sample showed most agricultural education students were of junior standing (47.7%) and male (64.8%). Within this sample, a higher percentage of males were represented than the national average of 53%. (National FFA Organization, 2016). Sixty-seven percent of students in the agricultural education programs surveyed had participated in FFA for at least one year, indicating an emphasis on implementation of the three circle model for the programs surveyed. Furthermore, of the students participating in FFA, 80% had received an

FFA degree; indicating that the majority of the students in FFA participated in a wide variety of the programming offered. Participation in Supervised Agricultural Experience programs was claimed by 49.1% of the sample with the most common area being the placement area (19.3%). This aligns with a decreasing trend noted by Retallick & Martin, noting 40% of students with SAEs holding a placement project. This potentially suggests a need for monetary gain on the part of the student that may preclude or incentivize participation in SAE programming (2008). A majority of the population sampled reported plans to attend a post-secondary institution (72.4%).

Given the majority of students with Supervised Agricultural Experience programs participate in placement opportunities, student interest or current employment status would seem a logical place to begin SAE planning. Many students likely have employment that could be an SAE without being aware of the opportunities SAE may offer. Conversations regarding personal responsibility, money management, trade skills, project ownership, individualized application, development of management skills, and career preparation may lead to additional project growth and expansion to research or entrepreneurship over the course of the program (Camp et al., 2000; Phipps et al., 2008).

Research Objective Two

Research objective two was to describe the career decision self-efficacy of students enrolled in high school agricultural education programming. Students reported a perception of moderate confidence ($M = 3.64$). By individual construct, students reported the highest confidence in self-appraisal ($M = 3.80$), and the lowest confidence in problem solving ($M = 3.47$). Self-appraisal is the metacognitive ability of students to identify their ability to make career decisions.

The entire sample was comprised of students participating in agricultural education programming, thus moderately high confidence over the whole sample could suggest that students are gaining career decision skills through participation in some component of an agricultural education program, as suggested by Dailey et al. (2001). The programs sampled may serve as positive examples of integration of the three circle model within their program and could be analyzed further in relation to CDSE to determine implementation examples for other programs. Further research may seek to analyze a difference in career decision self-efficacy relative to a non-agricultural education or non-career and technical education population.

Research Objective Three

Objective three sought to describe high school agricultural education students' perceptions of soft skill development. Students reported a moderately high perception of soft-skill development across constructs (Communication: 3.67, Problem Solving: 3.79, Lifelong Learning: 3.84, Professional Ethics: 3.77, Leadership: 4.05).

Since the entire sample was comprised of students participating in agricultural education programming, moderately high confidence over the whole sample could suggest that students are gaining soft skills through participation in some component of an agricultural education program. The programs surveyed may serve as positive examples of integration of the FFA and classroom experience within their program and could be analyzed further to determine implementation examples for other programs, though additional work is needed for involvement in SAE. Further research may seek to analyze a difference in perception of soft skill attainment relative to a non-agricultural education or non-career and technical education population, urban and higher population areas, and comparison between agricultural education placements and non-agricultural education students with similar jobs.

The current study was the first implementation of the instrument. This study began the process of developing a soft-skills perception instrument to allow individual instructors to better meet the needs of their program and plan their SAE implementation accordingly. This is an important step in planning intentional and relevant programming to the upcoming work force.

Research Objective Four

Objective four sought to describe the relationship between SAE involvement and career decision self-efficacy for high school agricultural education students. There was no significant effect on CDSE ($p = 0.428$) between students who identified having an SAE and those who did not. This could indicate an integrated program; meaning that one component (classroom, FFA, SAE) does not stand out significantly from the other in terms of developing CDSE. This may also be an indication that students are receiving greater levels of CDSE through other components of the agricultural education program or elsewhere in their lives and education.

A significant impact on CDSE ($p = 0.008$) was noted across constructs, with the exception of problem solving, between students who identified as having an exploratory SAE compared to those having a placement SAE. An exploratory SAE requires little input from the student in terms of time, capital, and communication. This experience could be completed in as little as a one-time job shadow. A placement SAE, on the other hand, requires much greater input and investment on the part of the student. The student in a placement SAE program secures employment, manages their schedule, performs the roles of their position, develops a rapport with their employer, earns an income, manages money, and sets goals regarding their skill attainment and outcomes. The placement SAE also lends itself well to parent and advisor involvement in the form of progress reports and SAE visits to determine future goals and outcomes. The significant impact between exploratory SAE and placement SAE would suggest a

higher level of student input correlates to greater levels of career decision self-efficacy attained by students participating in programs at higher levels. Further research may seek to analyze a difference in perception of career decision self-efficacy relative to a non-agricultural education or non-career and technical education population. Consideration of the inputs of time, energy, and money in addition to the outcomes of money for time, interpersonal communication, and potential leadership abilities pose an interesting contrast in what students may perceive they are able to gain from one type of SAE over another.

Research Objective Five

Objective five sought to describe the relationship between SAE involvement and perceptions of soft skill development in high school agricultural education students. There was no significant difference in perceived soft skills among students who had an SAE and those who did not. This would suggest that students have opportunities in addition to those afforded by Supervised Agriculture Experience programming that allow for the development of communication, problem solving, lifelong learning, professional ethics, and leadership.

A significant impact on soft skills was noted, with the exception of problem solving (as also reported by Dyer & Williams, 1997), across constructs among students who identified as having a placement SAE compared to those with an exploratory SAE. In most situations, exploratory SAEs involve very little communication, problem solving, lifelong learning, professional ethics, and leadership are required of the student. At most, students may be required to contact someone working in their field of interest to coordinate a time to interview or job shadow. However, students with placement experiences would need to communicate, problem solve, learn, practice professional ethics, and potentially lead their peers on a daily basis. For example, a student may work at a greenhouse where they would need to exhibit customer

service, money responsibility, manage a schedule, perform the duties of their job, and demonstrate the requisite knowledge to be successful in such a placement. This gap in commitment, purposeful reflection, and responsibility could contribute to the significant difference in the perceived soft skill abilities. This also corroborates suggestions by Dailey et al. (2001), Robinson & Haynes (2011), and Ramsey & Edwards (2004) regarding SAEs role in the development of the soft-skills sought by employers in today's marketplace. Further research may seek to analyze a difference in perception of soft skills relative to a non-agricultural education or non-career and technical education population.

Considering what makes an SAE experience valuable is a necessary step in determining what additional requirements or changes may be necessary for the current SAE model. According to this data, having no SAE seems to be as beneficial as having an exploratory SAE. If this is the case, agricultural education is failing both the students who aren't partaking at all in this necessary component of agricultural education, but also those who are participating in feeble attempts to implement SAE into a total agricultural education program. What can be done to intentionally incorporate the three circle model without losing the benefits of quality programming that require time and resources that no one seems to have available?

Discussion

This study offered a cursory glance at the development of soft skills and career decision self-efficacy through an individual component of agricultural education programming (SAE). These findings show a discrepancy between the claims of SAE aiding students in the consideration of multiple careers, learning the expectations of the workplace, developing industry specific skills, and the application of occupational skills and the perceived soft-skills and career decision self-efficacy of this sample of students. As a whole, this sample is not

participating fully in the “required” component of SAE, and not providing the implementation for those participating to receive the intended benefits of this program. Further research should be conducted to validate comprehensive and integrated programming and look at the skills attained at the classroom and FFA levels. Additionally, since this study only evaluated students participating in agricultural education programs, further research should look more broadly at school populations and compare agricultural education students to non-agricultural education populations. Furthermore, the population of future studies should be expanded to include additional demographics; gender, racial, ethnic, urban, and rural for a more representative sample of national programming to aid in generalizability.

An unfortunate deficit across this sample was the continuing decline in Supervised Agricultural Experience participation. One of the initial goals of this study was to determine a rationale for student participation in SAE programming. However, students won’t be motivated by the skills they are told to attain from a given experience. Students are motivated when the appropriate help and support is in place to aid them in success. When goals are set, a plan of action is created, and follow through ensures completion and success within those goals. Students perceive lower skill attainment when they do not have the support necessary to make the connections between the daily grind and the broader picture of skills used across employment settings. In relation to the theoretical framework for this study, Lent et al. proposed a model that was evident in this sample. Positive learning experiences result in outcome expectations that yield skill development. Additional research may seek to determine the connection of soft skills attained through placement SAEs to interest, choice goals, and choice actions to determine additional motivating factors for student participation in SAE programming.

Within the confines of this instrument and study, further examination may be necessary to explain the low significance of critical thinking and problem solving skills relative to career decision self-efficacy and soft skill attainment within the SAE program model. Additional work could also identify the areas in which programs are lacking regarding development within this construct. A student in a placement SAE necessarily makes decisions regarding their daily duties, yet perceives the lowest confidence in problem solving in both soft-skill attainment and CDSE. The National FFA Organization (2017) identifies SAE as a program that allows students to “consider multiple careers, learn expected workplace behavior, develop specific skills within an industry, and...apply academic and occupational skills to the workplace.” There is a glaring disconnect between perception and the reality of the SAE structure. If students are not making the connection between their daily work and the perception of attainment in the problem solving area, additional consideration should be given to how advisors implement and evaluate SAEs. Consideration should be given to address the skills that are perceived more highly in those with placement, entrepreneurship, or combined SAE program. Regarding the facilitation of SAE programs, additional modification may be needed to address the short comings in the perceived outcomes of exploratory and research SAEs.

Identification of teacher perceptions regarding their programs may give indications regarding program quality and direction regarding skill attainment. According to Lewis et al. (2012), available facilities, teacher encouragement, and frequency of help are essential to students’ perceptions of success through their SAE, but analysis of student SAE knowledge and perceptions would add to the scope of understanding regarding SAE participation. This holds true in the current study as well. Anecdotally, teachers often conduct a visit, set new goals with the student, and move on to the next visit without following through on a plan of action. To take

on additional responsibilities, a student must meet with their employer or parent, but may not take that initiative if a plan has not been outlined for each new goal. The frequency of visits, teacher encouragement, and parental involvement play a key role in whether or not a student perceives success in a given area of their project. The lower perception of attainment in the area of problem solving ability could be as much a result of teacher and parent involvement as it is a difference in SAE area.

Within each SAE area, careful consideration should be given the expectations for teachers, parents, and students within each SAE type. An exploratory SAE should provide greater perceived benefit to students than no SAE would. A student could be deterred early in their experience by a lack of direction, evaluation, and feedback by a requirement that comes across as another hoop to jump through for a grade. Consideration should be given on all levels to providing instruction regarding industry skill, workplace behavior, goal setting, and meaningful project evaluation in exploratory, placement, research, entrepreneurship, and combined SAE areas. Individualized instruction is one of the greatest assets of the Supervised Agricultural Experience, and it is being lost to unintentional programming that doesn't take the full student support system (teachers, parents, potential employers) into consideration.

Regardless of being a required component, in 2005, 55.82% of agricultural education students participated in SAE (Retallick & Martin, 2008). Supervised Agricultural Experience participation continues to be a glaring issue for today's agricultural education programs. The perceived outcomes won't matter if students won't participate in the program. Identifying student motivators compared to teacher motivations may shed light on recruitment shortages for participation in SAE programming and allow more informed practice for teachers regarding the implementation of SAE. Additional knowledge of why non-degree or proficiency seeking

students participate in SAE could better allow teachers to recruit and retain students to participate in the full three-circle agricultural education model.

Finally, an analysis of the impact on perceived soft skill attainment relative to career decision self-efficacy would give an indication to practicing agricultural educators regarding the development of skills within the integrated program. Identifying the relationship between the outcomes of this study may better allow practitioners to plan intentional and directed SAE programming, thus providing students with opportunities to receive the highest potential for perceived benefits. Additionally, understanding the relationship between soft-skill attainment and career decision self-efficacy within the SAE program model will better allow supervisors (teachers, parents, and employers) to prepare students for being employable communicators, problem solvers, learners, leaders, planners, self-evaluators, occupational researchers, and goal setters.

Recommendations for Practice

Regarding the integrated agricultural education program, soft skill attainment, and career decision self-efficacy, the following recommendations are offered to provide direction for the practicing agriculture instructor. First, intrinsic motivators have been shown to be a driving factor for success in agricultural education programming (Bird et al., 2013). Thus, a soft skills instrument should be validated for use in the classroom, FFA programming, and Supervised Agricultural Experience. This would allow practitioners to evaluate the strengths of their own programs to work toward an integrated program model. Additionally, students would have an instrument by which to gauge their skills and abilities relative to the workforce. Teachers would be able to utilize this instrument as a base from which to aid students in setting goals and creating action plans for their individual programs. Finally, this would allow practicing

agricultural educators to be more intentional with their implementation of classroom or school-based SAEs to allow students to derive the greatest perceived benefit.

Practicing agriculture instructors can also work with students to develop Supervised Agriculture Experience programming focusing on entrepreneurship and placement programs. These programs require a greater investment from both the student and teacher, but also result in a greater gain, and can be supplemented with other individual projects (research and exploratory). Guides and lesson plans available through the SAE Explorer or The AET may provide valuable resources for the classroom and a start to integration of a complete three circle model. In addition, students must be given an audience for their work (Clarke & Scanlon, 1996), specific direction from a supervisor (Croom, 2008), and industry relevant classroom experience from the instructor (Roberts, 2006). An audience makes the work important and increases the necessity for accurate and well-contrived reporting. Specific direction from a supervisor aids in accurate completion of daily tasks and a long term action plan for individual goals. Industry relevant classroom experience provides intentionally exchanged integration between the classroom experience and the SAE. For the practicing educator, SAE must be flexible, valuable to their students, and provide usable skills (Camp et al., 2000). Teachers must be intentional and diligent in their evaluation of SAEs to make students aware of the actual skills they are learning through these programs regardless of the SAE area with which the student is involved. Different areas of the state and country have different programmatic focuses based on the training program of the teacher and the teacher's background and interest. Thus, for SAE to remain sustainable, program flexibility should be encouraged to accommodate a growing interest in "non-traditional" agricultural careers at all levels (Myers et al., 2004). A closer look at program versus project models may aid practitioners in more effectively guiding students toward meaningful SAE

opportunities. Requirements must be structured in such a way as to provide the greatest possible opportunity for students to plan, execute, and reflect on their experience. SAE must be shown as a valued component of a program's agricultural education model, rather than a mark in the gradebook or an award application.

Finally, critical thinking and problem solving showed the lowest significance in career decision self-efficacy and soft skill attainment related to SAE. Additional activities and a greater focus may be needed on this construct to best prepare students for the world of work, and solidify attainment in those areas. Consideration should be given to planning and preparing intentional programming with total student achievement and attainment in mind.

Should Supervised Agricultural Experience be a required component of the agricultural education model? That depends on the outcome expectation of the teacher, student, parents, and community. If SAE is integrated as a way to meet a requirement, it is obvious that it is going to provide as little benefit as having no SAE implementation. However, if SAE is implemented to incorporate goal setting, program planning, and skill evaluation with the help of all stakeholders (teachers, parents, employers, and students) it will continue to hold a necessary and vital role in agricultural education programs across the country.

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APPENDIX A. TEACHER LETTER

NDSU

AGRICULTURAL EDUCATION

April 10th, 2016

[TEACHER NAME]
[SCHOOL NAME] High School
Agricultural Education Teacher

Dear [TEACHER NAME]:

Thank you for taking time to consider this important research project. I (the researcher) am inviting all your junior and senior agriculture education students to participate in this research survey questionnaire study. This letter provides information on the study and what will be asked of your students.

Purpose.

The goals of this research includes; to understand how well students perceive their own career decision making abilities and soft skills attainment as a result of the SAE component of your agricultural education program. If we can identify and describe the things that students identify as the most beneficial/valuable in their educational experiences, we can better structure our career technical programs.

Procedures.

This research involves distributing a paper questionnaire during a regularly scheduled school day to your juniors and seniors. Total administration time for the three-part questionnaire should be approximately 15-20 minutes. Your participation, and the participation of your students, is completely voluntary. Responses to all questionnaires will be kept strictly anonymous.

Benefits.

Following completion of this research, you will be given a copy of all findings. Your students may benefit from participating in this research by thinking about new ways to relate career readiness skills in your classroom material.

Permissions and Safeguards.

I (the researcher) place the highest priority on making sure that participation in the study is a positive experience for all and is minimally intrusive to the program. To accomplish this, I, the researcher, will abide by the following guidelines:

1. You can terminate your involvement in the study at any point you wish.
2. All information gathered will be kept strictly anonymous.
3. The researchers will strive to be friendly and aim to make the study as smooth and enjoyable for you and your students as possible.
4. Risks are minimal. Potential risks are not expected to be greater than those that exist in a typical classroom setting.
5. Questionnaires will remain completely anonymous. Any identifying factors will be removed from any portions utilized or quoted in the final product.
6. Once data from the paper questionnaires are entered into the computer, they will be stored in a locked cabinet. Electronic data will be password protected on the researchers' office computer.

Your Participation.

- If you are willing to participate in this study, please return the attached form by [DATE] to Becky Haddad at (612) 619-8771 or email at rebekah.haddad@ndsu.edu or you may call my advisor Dr. Adam Marx at (701) 231-7479 or adam.marx@ndsu.edu.
- If you have further questions you would like addressed, please do not hesitate to contact the researcher by phone at (612) 619-8771.
- The researcher will be happy to provide a copy of the survey questionnaire if needed. Should you have questions about your rights concerning the study, you may also contact the North Dakota State University Review Board at (701) 231-8995 or (855) 800-6717.

I am very excited about the possibilities of this study and what it will tell us about our high school students' ability to make career decisions and their soft skill attainment through SAE. I hope you are interested!

Sincerely,

Becky Haddad
Graduate Student
NDSU Agricultural Education

Teacher Research Permission Form

I understand that all information provided will be kept confidential and that I may have a copy of the permission form. Any questions about this study may be directed to me, Becky Haddad at (612) 619-8771 or email at becky.haddad@ndsu.edu or you may call my advisor Dr. Adam Marx at (701) 231-7479 or adam.marx@ndsu.edu. Questions concerning your rights as a participant can be directed to the North Dakota State University Institutional Review Board (IRB) at (701) 231- 8995 or (855) 800-6717.

PLEASE RETURN THIS DOCUMENT REGARDING YOUR PERMISSION TO PARTICIPATE IN THIS STUDY. AN ADDITIONAL COPY OF THESE DOCUMENTS WILL BE PROVIDED FOR YOUR OWN PERSONAL RECORDS.

I choose to:

Participate _____ Not participate _____

Signature _____

Please print your full name:

First Name

Middle Initial

Last Name

**Return by April 30, 2016 to:
Becky Haddad
847 Quail Ct
Watertown, MN 55388**

APPENDIX B. PRINCIPAL LETTER

[Date], 2016

[NAME] – [SCHOOL NAME] High School Principal

The North Dakota State University Agricultural Education Program and I invite you to take part in a quantitative study describing the self-perceptions of soft skill attainment and career decision abilities of high school students. The North Dakota State University Agricultural Education Department holds your Agriculture Education Advisors – [TEACHER NAME] in high regard, and for that reason students of this agricultural program and all junior/senior students at [SCHOOL NAME] have been identified as potential candidates for my Master’s research project. The perceptions of soft skill attainment and career decision abilities of juniors and seniors in the agricultural education program who identify active SAE programs will be compared to those students who do not have active SAE programs in agricultural education at each participating school in the study.

My name is Becky Haddad, I am currently a graduate student in Agricultural Education, along with currently being an Agricultural Educator at Silver Lake/Glencoe High School. I, along with my Advisor Adam Marx – NDSU Agricultural Education Assistant Professor will be conducting this research project for my master’s thesis. Each junior and senior student enrolled in [SCHOOL NAME] High School will be asked to complete a questionnaire that will take approximately 15-20 minutes to complete.

No identifying information will be collected on the questionnaires. Reporting of the findings will be anonymous and will not reflect upon your school in any way. Disruption of class time will be minimized as much as possible, and would be held at a time convenient for the school district, teacher, and students. The only reason I request meeting in your high school is because this is the most convenient for the students and assures accuracy of questionnaire administration.

Active parental consent is not being sought for this study as it is focusing on student’s perceptions of their soft skill attainment and their perceptions of their career decision abilities. With the help of the agricultural teacher(s), we intend to inform parents of the research via an emailed letter and hard copy sent home with the 11th and 12th grade students. Parents may choose to opt their children out of the study and students may opt out at any time during the survey. There is no treatment and the topic is not believed to be controversial or of emotional/psychological detriment to the participants. Permission will be obtained from [TEACHER], and assent from the students themselves. These assent/consent letters will provide detailed information on the project. You can gain further information regarding this research project by contacting me, Becky Haddad at (612) 619-8771 or email at becky.haddad@ndsu.edu or you may call my advisor Dr. Adam Marx at (701) 231-7479 or adam.marx@ndsu.edu. For more information about the student’s rights as human subjects please contact the NDSU campus Institutional Review board at (701) 231-8995 or (855) 800-6717.

I hereby give my permission for Becky Haddad and Adam Marx to conduct the research survey questionnaire to junior or senior students of the [SCHOOL NAME] School District.

Principal Signature

Date

Sincerely, Becky Haddad &
Dr. Adam Marx, Assistant Professor

APPENDIX C. PARENT LETTER

Student Perceptions of Soft Skills Attained Through Participation in SAE Programs

[DATE], 2016

Dear Parent,

Please read this letter in full. If you DO NOT wish for your child to participate, please contact Becky Haddad (Rebekah.haddad@ndsu.edu or 612-619-8771) or the principal at your child's school [NAME, PHONE, EMAIL] by [DATE]. The Survey will be given to students at [NAME OF SCHOOL] on [DATE].

My name is Becky Haddad. I'm a graduate student in the Agriculture Education program at North Dakota State University. I'm conducting a research study as part of the requirements of a Master of Agricultural Education degree, and I would like to extend an invitation for your child to be a part of the study.

I received permission from [SCHOOL NAME] High School Principal [PRINCIPAL NAME], and Agricultural Education Advisor [TEACHER NAME] to conduct a research questionnaire survey study that was designed by my North Dakota State University Advisor Dr. Adam Marx and myself. The study will survey all junior and senior high school students on their perceptions of their abilities to make career-related decisions and their level of soft skills attained through the agricultural education program and your school. I am inviting all juniors and senior students enrolled in [SCHOOL NAME] High School to take part in this survey research.

Purpose

The goals of this research includes; to understand how well students perceive their own career decision making abilities and soft skills attainment as a result of the Supervised Agricultural Experience (SAE) component of your agricultural education program. If we can identify and describe the things that students identify as the most beneficial/valuable in their educational experiences, we can better structure our career technical programs.

Procedures

This research involves distributing a paper survey during a regularly scheduled school day to junior or senior students. Total administration time for the three section survey should be around 15-20 minutes. Students' participation in this survey is totally voluntary. Your child does not have to take part in the study or can simply just answer the questions you feel comfortable in answering. The survey will not be individually scored, student's data will be combined with all other participant's data to come up with an average. All information will be keep confidential and once all the surveys are evaluated, they will be destroyed.

The results of the study may be published or presented at professional conferences or journals, Participation is once again anonymous and your child's personal answers to the survey questions will not identified. Participation in this study will have no effect on current grades in the agriculture or other classes that your child is presently enrolled in. The student may quit taking the survey at any time.

Benefits:

Participation in this research may benefit your student by challenging them to think critically about how they make career-related decisions and the specific soft skills they possess. The results should provide an opportunity to expose measurable strengths and weakness of the skills developed through agricultural education. The study will give an opportunity for the students to express themselves in a safe environment with no influence on how they choose to respond to the survey questions.

Consents and Safeguards

Confidentiality will be of importance, throughout this study all student information will be confidential. The highest priority will be placed on making sure the study is a positive experience for all that take part. To accomplish this, I (the researcher) will abide by the following guidelines:

- 1) All information will be kept confidential and anonymous.
- 2) Participation in this study should not involve risk beyond what is faces in a typical school day.
- 3) The researcher will be friendly and aim to make this study enjoyable for your child.
- 4) Individual answers to survey questions will remain anonymous, and no identifying factors will be used in the study.
- 5) Once data is collected it will be stored in a locked cabinet. Electronic data results will be password protected, once the research study is finalized data collected results will be destroyed.

More Information and Opt-Out Procedures

I will be happy to answer any questions that you may have on this research study, you may contact me, Becky Haddad, at (612) 619-8771 or email at becky.haddad@ndsu.edu or you may call my advisor Dr. Adam Marx at (701) 231-7479 or adam.marx@ndsu.edu. *If you would prefer that your child not participate in this study, please call or email me (Becky) directly. Or if you prefer, please contact your high school principal and inform them you would prefer your child not participate in the Agricultural Education Career and Soft Skill study.*

For more information about the student's rights as human subjects please contact the NDSU campus Institutional Review board at (701) 231-8995 or (855) 800-6717.

Thank you for your consideration, I am very excited about the possibilities of outcomes this study will hopefully provide to increase awareness of agricultural education programs.

Sincerely,

Becky Haddad &

Dr. Adam Marx – Assistant Professor

APPENDIX D. INSTRUMENT

NDSU

AGRICULTURAL EDUCATION

Dear Student,

The goal of our high schools is to prepare our young people, such as you, to make decisions about their future. Schools with career and technical education programs such as agricultural education are believed to prepare students to an even greater extent toward making good career decisions.

The purpose of this study is to look at the relationship between your participation in a Supervised Agricultural Experience (SAE) Program and your perception of the development of soft skills and ability to make career decisions. Your information will help teachers across Minnesota implement SAE programs more effectively.

Your participation in this study is voluntary and you may choose to withdraw at any time without penalty or consequence. There are no known risks resulting from your participation and no direct benefit from your participation is expected. There is no cost to you except your time. The instrument will take about 15 – 20 minutes to complete.

The information that you provide through the completion of the instrument will be kept secure and separate from your name in the processing and reporting of data. Your answers will reflect only your opinion and will have no bearing on anything related to your grades in school.

Thank you for your time and your willingness to help us better understand your experience as a student of agricultural education.

Sincerely,

Becky J. Haddad
Master's Student
Rebekah.haddad@ndsu.edu

Adam A. Marx
Assistant Professor
adam.marx@ndsu.edu

Youth Informed Assent Form

North Dakota State University Study on Student Perceptions of Soft Skills Attained Through Participation in SAE Programs

You understand that:

1. This study is part of a research effort to learn about youths' perceptions of career decision abilities and soft skills
2. This study is examining your understanding of your own career-related abilities and soft skills you possess.
3. This is being administered during a regular school day.
4. Your participation is voluntary.
5. This survey will take approximately 15-20 minutes to complete
6. You may terminate participation at any point.
7. You will be asked to complete a written questionnaire on career decision abilities and soft skill perceptions
8. Your responses to the questionnaire will be completely anonymous and all potentially identifying information will be removed.
9. The risks associated with this study are no more than you face in a typical day participating in your FFA chapter or in a typical classroom setting.
10. You will not be identified in any way.
11. You may have a copy of this assent form.
12. You may benefit by thinking in new ways about your career decision abilities and soft skills you possess.
13. Once data from the paper questionnaires are entered into the computer, they will be stored in a locked cabinet. Electronic data will be password protected on an NDSU office computer.

You further understand that all information provided will be kept anonymous. Any questions about this study may be directed to Becky Haddad at (612) 619-8771 or email at becky.haddad@ndsu.edu or you may call my advisor Dr. Adam Marx at (701) 231-7479 or adam.marx@ndsu.edu. Questions concerning your rights as a participant can be directed to the NDSU Institutional Review board at (701) 231-8995 or (855) 800-6717.

You choose to:

Participate _____ Not participate _____

Signature _____

Please print your full name:

First Name

Middle Initial

Last Name

Section 1

INSTRUCTIONS:

For each statement below, please read carefully and indicate how much confidence you have that you could accomplish each of these tasks by marking your answer according to the key. Mark your answer by circling the item on the scale that best describes your level of confidence.

Example

No Confidence at All	Very Little Confidence	Moderate Confidence	Much Confidence	Complete Confidence
1	2	3	4	5

Use the scale to describe your level of confidence to the following statements by circling the appropriate number:

HOW MUCH CONFIDENCE DO YOU HAVE THAT YOU COULD:

	No confidence at all	Very little confidence	Moderate confidence	Much confidence	Complete Confidence
1. Tie your shoes with your eyes closed?	1	2	3	4	5
2. Make it to school on-time every day?	1	2	3	4	5

Example Interpretations:

- a. If you selected “Complete Confidence” for “Tie your shoes...” as it shows in the example, that would mean that there is no doubt in your mind you could accomplish that.
- b. For the second question, “Very little confidence” was chosen. In this example, you would be unsure of your ability to actually do that or make that expectation.

Please proceed with answering the questions of Section 1 in the same manner.

SECTION 1 INSTRUCTIONS:

For each statement below, please read carefully and indicate how much confidence you have that you could accomplish each of these tasks by marking your answer according to the key. Mark your answer by circling the item on the scale that best describes your level of confidence.

HOW MUCH CONFIDENCE DO YOU HAVE THAT YOU COULD:	No confidence at all	Very little confidence	Moderate confidence	Much confidence	Complete Confidence
1. Use the internet to find information about occupations that interest you	1	2	3	4	5
2. Select one college major from a list of potential majors you are considering	1	2	3	4	5
3. Make a plan of your goals for the next five years	1	2	3	4	5
4. Determine the steps to take if you are having academic trouble with an aspect of your chosen major	1	2	3	4	5
5. Accurately assess your abilities	1	2	3	4	5
6. Select one occupation from a list of potential occupations you are considering	1	2	3	4	5
7. Determine the steps you need to take to successfully complete your chosen major	1	2	3	4	5
8. Persistently work at your major or career goal even when you get frustrated	1	2	3	4	5
9. Determine what your ideal job would be	1	2	3	4	5

Section 1, Continued

Please complete the following statements by circling the appropriate number using the confidence scale below:

HOW MUCH CONFIDENCE DO YOU HAVE THAT YOU COULD:	No confidence at all	Very little confidence	Moderate confidence	Much confidence	Complete Confidence
10. Find out the employment trends for an occupation over the next ten years	1	2	3	4	5
11. Choose a career that will fit your preferred lifestyle	1	2	3	4	5
12. Prepare a good resume	1	2	3	4	5
13. Change college majors if you did not like your first choice	1	2	3	4	5
14. Decide what you value most in an occupation	1	2	3	4	5
15. Find out about the average yearly earnings of people in an occupation	1	2	3	4	5
16. Make a career decision and then not worry whether it was right or wrong	1	2	3	4	5
17. Change occupations if you are not satisfied with the one you enter	1	2	3	4	5

Section 1, Continued

Please complete the following statements by circling the appropriate number using the confidence scale below:

HOW MUCH CONFIDENCE DO YOU HAVE THAT YOU COULD:	No confidence at all	Very little confidence	Moderate confidence	Much confidence	Complete Confidence
18. Figure out what you are and are not ready to sacrifice to achieve your goals	1	2	3	4	5
19. Talk with a person already employed in a field you are interested in	1	2	3	4	5
20. Choose a major or career that will fit your interests	1	2	3	4	5
21. Identify employers, firms, and institutions relevant to your career possibilities	1	2	3	4	5
22. Define the type of lifestyle you would like to live	1	2	3	4	5
23. Find information about graduate or professional schools	1	2	3	4	5
24. Successfully manage the job interview process	1	2	3	4	5
25. Identify some reasonable major or career alternatives if you are unable to get your first choice	1	2	3	4	5

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Thank you for completing Section 1. Your input is appreciated. Please go to the next page to begin Section 2. →

SECTION 2 INSTRUCTIONS:

For each statement below, please read carefully and indicate how much you agree with each of the “I can” and “I am” statements. Mark your answer by circling the item on the scale that best describes your level of agreement.

Example

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
1	2	3	4	5

Use the scale to describe your level of agreement with the following statements by circling the appropriate number:

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
3. I can tie my shoes with my eyes closed	1	2	3	4	5
4. I can make it to school on-time every day	1	2	3	4	5

Example Interpretations:

- c. If you selected “Strongly agree” for “Tie your shoes...” as it shows in the example, that would mean that there is no doubt in your mind you could accomplish that.
- d. For the second question, “Disagree” was chosen. In this example, you would be unsure of your ability to actually do that or make that expectation.

Please proceed with answering the questions of Section 1 in the same manner.

Section 2, Continued

Please complete the following statements by circling the appropriate number using the agreement scale below:

RATE YOUR LEVEL OF AGREEMENT WITH THE STATEMENTS	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
1. I can convey my thoughts with clarity and confidence in <u>written form</u>	1	2	3	4	5
2. I can convey my thoughts with clarity and confidence <u>orally</u>	1	2	3	4	5
3. I can be an active listener	1	2	3	4	5
4. I can provide the necessary response when listening to someone	1	2	3	4	5
5. I can give presentations with clarity and confidence	1	2	3	4	5
6. I can make presentations with the aid of technology (PowerPoint, Prezi, etc)	1	2	3	4	5
7. I can negotiate and arrive at decisions	1	2	3	4	5
8. I can communicate with others from different cultures	1	2	3	4	5
9. I can develop personal communication skills	1	2	3	4	5
10. I can engage in oral communication (public speaking, presentations, etc)	1	2	3	4	5
11. I can identify and analyze problems in complex situations	1	2	3	4	5

Section 2, Continued

Please complete the following statements by circling the appropriate number using the agreement scale below:

RATE YOUR LEVEL OF AGREEMENT WITH THE STATEMENTS	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
12. I can identify and analyze problems in unclear situations	1	2	3	4	5
13. I can make justifiable evaluations of problems in various situations	1	2	3	4	5
14. I can expand and improve thinking skills to explain, analyze, & evaluate discussions	1	2	3	4	5
15. I can provide ideas and alternative solutions	1	2	3	4	5
16. I can think outside the box	1	2	3	4	5
17. I can make decisions based on concrete evidence	1	2	3	4	5
18. I can give full attention to the responsibilities given to me	1	2	3	4	5
19. I can understand and adapt to new working environments	1	2	3	4	5
20. I can build working relationships with others	1	2	3	4	5
21. I can interact with others in a work setting	1	2	3	4	5
22. I can work effectively with peers to achieve common goals	1	2	3	4	5

Section 2, Continued

Please complete the following statements by circling the appropriate number using the agreement scale below:

RATE YOUR LEVEL OF AGREEMENT WITH THE STATEMENTS	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
23. I can easily switch between the roles of leader and follower	1	2	3	4	5
24. I understand the role of a leader	1	2	3	4	5
25. I understand the role of a group member (follower)	1	2	3	4	5
26. I appreciate and respect other's attitude, behavior, and beliefs	1	2	3	4	5
27. I can contribute to planning & coordinating group efforts in group work settings	1	2	3	4	5
28. I can take responsibility for the group's actions in group work settings	1	2	3	4	5
29. I can search for and manage relevant information from various sources	1	2	3	4	5
30. I can receive new ideas and engage in independent learning	1	2	3	4	5
31. I can look for answers rather than memorize a set of rules	1	2	3	4	5
32. I can identify business opportunities	1	2	3	4	5
33. I can prepare a business plan	1	2	3	4	5

Section 2, Continued

Please complete the following statements by circling the appropriate number using the agreement scale below:

RATE YOUR LEVEL OF AGREEMENT WITH THE STATEMENTS	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
34. I can build, explore, and take business opportunities	1	2	3	4	5
35. I can work independently	1	2	3	4	5
36. I can apply economic principles in practical situations	1	2	3	4	5
37. I can aid in creating a positive work environment	1	2	3	4	5
38. I can connect with people with different thoughts, feelings and behaviors from my own in the work place	1	2	3	4	5
39. I can analyze and arrive at decisions in matters concerning the beliefs of myself or others	1	2	3	4	5
40. I can make decisions based on moral principles	1	2	3	4	5
41. I can find opportunities to serve my community	1	2	3	4	5
42. I am knowledgeable on basic leadership theories	1	2	3	4	5
43. I can take the lead on projects	1	2	3	4	5
44. I can supervise team members	1	2	3	4	5

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Section 3

Section 3 is designed to collect some information about you. It will not be tied to you but will let us know a few things about you as an individual. It will allow you to give a few more specifics about yourself and your specific Supervised Agricultural Experience.

Please proceed. Thank you for your continued participation!

1. Please circle your current year in high school:

Sophomore Junior Senior

2. Gender:

Male Female

3. Including the current year, how many years have you been an FFA member?

0 1 2 3 4 5 6

If yes, please complete question 4. If no, please skip to question 5.

4. Please circle the highest FFA degree you have earned as of today:

Greenhand Chapter State American

5. Are you currently enrolled in a work based learning program?

Yes No

6. Do you have an SAE?

Yes No

If yes, please complete questions 7-11. If no, please skip to question 12.

7. Describe your SAE: _____

8. How do you keep track of Ag Ed/SAE records? _____

9. Date of most recent SAE visit: _____

10. What is your SAE area:

Exploratory Research Placement Entrepreneurship

11. What is your SAE proficiency (check all that apply):

- Agricultural Communications
- Agricultural Education
- Ag Mechanics
- Agricultural Processing
- Agricultural Sales
- Agricultural Services
- Agriscience Research
- Beef Production
- Dairy Production
- Diversified Agricultural Production
- Enviro Sci. & Nat. Resources
- Equine Science
- Fiber and/or Oil Crop Production
- Food Science and Technology
- Forage Production
- Forest Management and Products
- Fruit Production
- Goat Production
- Grain Production
- Home/Community Development
- Landscape Management
- Nursery Operations
- Outdoor Recreation
- Poultry Production
- Sheep Production
- Small Animal Production and Care
- Specialty Animal Production
- Specialty Crop Production
- Swine Production
- Turf Grass Management
- Vegetable Production
- Veterinary Science
- Wildlife Production & ~~Mgmt~~

12. What are your future career plans? _____

13. Do you plan to attend a college/technical school? Yes No

a. If yes, where: _____

Thank you for your time!

NDSU

APPENDIX E. IRB APPROVAL



May 17, 2016

Dr. Adam Marx
Agricultural Education (HC&E)

IRB Approval of Protocol #AG16247, "Student Perceptions of Soft Skills Attained Through Participation in SAE Programs"

Co-investigator(s) and research team: Rebekah Haddad

Approval period: 5/17/2016 to 5/16/2017

Continuing Review Report Due: 4/1/2017

Research site(s): various high schools Funding Agency: n/a

Review Type: Expedited category # 7

IRB approval is based on the protocol submission received 4/27/2016, with revised: parent notification letter (received 5/16/2016).

Additional approval is required:

- o prior to implementation of any changes to the protocol (Protocol Amendment Request Form).
- o for continuation of the project beyond the approval period (Continuing Review/Completion Report Form). A reminder is typically sent 4-6 weeks prior to the expiration date; timely submission of the report is your responsibility. To avoid a lapse in approval, suspension of recruitment, and/or data collection, a report must be received, and the protocol reviewed and approved prior to the expiration date.

A report is required for:

- o any research-related injuries, adverse events, or other unanticipated problems involving risks to participants or others within 72 hours of known occurrence (Report of Unanticipated Problem or Serious Adverse Event Form).
- o any significant new findings that may affect risks to participants.
- o closure of the project (Continuing Review/Completion Report Form).

Research records are subject to random or directed audits at any time to verify compliance with IRB regulations and NDSU policies.

Thank you for cooperating with NDSU IRB procedures, and best wishes for a successful study.

Sincerely,

A handwritten signature in black ink that reads "Kristy Shirley".

Digitally signed by Kristy Shirley
DN: cn=Kristy Shirley, o=NDSU,
ou=Institutional Review Board,
email=kristy.shirley@ndsu.edu,
c=US
Date: 2016.05.17 08:01:00 -0500

Kristy Shirley, CIP, Research Compliance Administrator

For more information regarding IRB Office submissions and guidelines, please consult www.ndsu.edu/irb. This Institution has an approved FederalWide Assurance with the Department of Health and Human Services: FWA00002439.

INSTITUTIONAL REVIEW BOARD

NDSU Dept 4000 | PO Box 6050 | Fargo ND 58108-6050 | 701.231.8995 | Fax 701.231.8098 | ndsu.edu/irb

Shipping address: Research 1, 1735 NDSU Research Park Drive, Fargo ND 58102

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