

THE RELATIONSHIP BETWEEN INVOLVEMENT IN THE NATIONAL FFA
ORGANIZATION AND THE CAREER DECISION SELF-EFFICACY OF COLLEGE OF
AGRICULTURAL AND LIFE SCIENCES STUDENTS

A Thesis

Presented in Partial Fulfillments of the Requirements for the

Degree of Master of Science

with a

Major of Agricultural Education

in the

College of Graduate Studies

University of Idaho

by

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August 2017

Authorization to Submit Thesis

This thesis of Travis L. Hoyle, submitted for the degree of Master of Science with a Major in Agricultural Education and titled “THE RELATIONSHIP BETWEEN INVOLVEMENT IN THE NATIONAL FFA ORGANIZATION AND THE CAREER DECISION SELF-EFFICACY OF COLLEGE OF AGRICULTURAL AND LIFE SCIENCES STUDENTS,” has been reviewed in final form. Permission, as indicated by the signatures and dates below, is now granted to submit final copies to the College of Graduate Studies for approval.

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Abstract

Students receiving degrees in agricultural fields can expect to have ample career opportunities and satisfaction of working in a career that addresses some of the world's most pressing challenges. This descriptive relational study described College of Agricultural and Life Sciences upperclassmen ($N=513$) learning activities (including involvement in the National FFA Organization) and the relationship between career decision self-efficacy (Taylor & Betz, 1983). Based on Bandura's (1977) social cognitive theory, one instrument with the Career Decision Self-Efficacy Short-Form scale (CDSE-SF) and three additional sections were developed for this study. Overall, students indicated moderate to high career decision self-efficacy. Some low positive correlations were shown between academic performance activities and CDSE-SF scores. No direct relationship was found between the National FFA organization and CDSE, but students' diverse backgrounds and learning experiences have built their confidence in selecting a career in agriculture. Career development opportunities and implications were discussed. Recommendations are made for faculty and staff at the post-secondary level to improve student's career skills and exploration.

Acknowledgements

The completion of this research project would not have been possible without the support of the following individuals:

Dr. Kattlyn Wolf- Thank you for the opportunity to develop as your graduate student. It was a humbling experience to work with an advisor who values student success. Thank you for pushing me to pursue my passion and encouraging me to teach agriculture.

Dr. Kasee Smith- Thank you for being a great researcher, mentor, and committee member. Your assistance in all aspects of my project was so valuable. I know that I can count on you to drop what you are doing and help.

Dr. John Foltz- Thank you for always providing a new outlook. Your stories and encouragement have gone a long way in completing my project and my graduate schoolwork. I feel that I can always turn to you for a good laugh and inspiration.

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Chapter 1: Introduction

“Those receiving degrees in agricultural fields can expect to have ample career opportunities. Not only will those who study agriculture be likely to be well paid upon graduation, they will also have the satisfaction of working in a field that addresses some of the world’s most pressing challenges” (Gifford, 2015, para. 2). Tom Vilsack, the former United States Secretary of Agriculture, articulated the need for confident and knowledgeable agricultural graduates to meet the challenges of a growing nation and world in a press release in Washington D.C. May, 2015. “These jobs [agriculture occupations] will only become more important as we continue to develop solutions to feed more than 9 billion people by 2050” (Gifford, 2015, para. 2).

Between 2015 and 2020, an estimated 57,900 average annual employment opportunities for graduates with a bachelor’s degree or higher in the areas of food, agriculture, renewable natural resources, or the environment will be available (Goecker, Smith, Fernandez, Ali, & Theller, 2015). “An average of 35,400 new U.S. graduates with expertise in food, agriculture, renewable natural resources, or the environment are expected to fill 61% of the expected 57,900 average annual openings” (Goecker et al., 2015, p. 1). Goecker et al. (2015) estimated a 50 percent deficit of qualified agriculturalists to fill anticipated occupations. Therefore, many jobs are filled by graduates with little to no agricultural experience; These degree areas will include biology, business administration, engineering, education, communication, and consumer sciences to accommodate the abrupt deficit (Goecker et al., 2015). The steep decline in the available qualified graduates means that less skilled and experienced employees will be required to accommodate the large number of annual openings in the agricultural industry (Swan & De Lay, 2014). In Idaho,

more than 82,000 square miles are dedicated to maintain a plentiful and diverse agricultural system. The agricultural industry in the state of Idaho provides an annual \$8.4 billion to the state's economy, and encompasses 24,000 farms (Idaho State Department of Agriculture, 2014). In Idaho, nearly 48,000 jobs are filled by various agricultural workers (Idaho Department of Labor, 2015) the need to develop qualified agriculturalists is imperative to the industry as a whole.

Bridging the gap between the student and the agricultural industry, higher education institutions are faced with exceptional pressure to deliver quality educational experiences to students (Selingo, 2013). Common attitudes towards higher education hold that institutions are not sufficiently preparing individuals to meet the demands of enhanced agricultural occupations (Campbell, 1998; National Research Council, 2009). A similar observation from Lewis (2000) articulates the purpose of education is to foster student development while socializing youth for future occupational positions. Blickenstaff, Wolf, Falk, and Foltz (2015) reported on the skills considered most valuable for higher education as perceived by faculty members. They reported the most valuable skills that students should possess to be successful in agricultural careers are problem solving, critical thinking, and writing (Blickenstaff et al., 2015). According to the faculty surveyed, focusing on transferable skills and experiences is important to create quality graduates moving into agricultural careers.

“There is a great divide between employers' beliefs and high school and college students' perceptions about what it means to be workforce ready” (Roberts, Harder, & Brashers, 2016, p.31). Bridging the gap between high school and post-secondary education to careers in agriculture requires a combined effort from students, faculty, departments and universities as a whole (Blickenstaff et al., 2015). “Secondary agricultural education

programs are essential to provide exposure to the broad array of career paths available in agriculture” (Thieman, Rosch, & Suarez, 2016, p. 30). Individuals with technical and professional skills have opportunities to find employment in multiple states and in international agricultural job markets (Goeckner et al., 2015).

Career Decision Making theories purport that people make decision based on self-characteristics (Krumboltz, 1996) and interaction between the job environment and self-characteristics (Holland, 1997). With the growing need for agricultural graduates, it is important to consider reasons behind the choice individuals make in agriculture careers (Roberts, Harder, & Brashers, 2016). The higher an individuals perceived efficacy to achieve career roles, the greater the attentiveness they have in them, and the more successfully they perform their career roles (Bandura, 1999). Branching from Bandura’s (1977) foundational concept of self-efficacy, career decision self-efficacy (Betz & Hackett, 1981; Taylor & Betz, 1983) is defined as a person’s belief that they can complete career choice tasks.

Given the multiple exposures to agricultural related fields, it seems that former FFA members should have experiences which build efficacy, but little evidence supports FFA involvement as a factor in career decision self-efficacy (Priest, 2008). The National FFA Organization mission states “FFA makes a positive difference in the lives of students by developing their potential for premier leadership, personal growth and career success through agricultural education” (The National FFA Official Manual, 2016, p. 7). This mission articulates the overarching goal in agricultural education to encourage success in careers within the agricultural industry. Factors influencing career success are an important topic for consideration for agricultural educators as many educators feel that career guidance

is a part of their responsibility as an agricultural teacher (Priest, 2008). The mission of the National FFA to prepare students to pursue careers in agriculture could be vital in providing learning experiences to foster interest in agricultural-related occupations.

“Secondary agricultural education programs purport to provide students with career-founded and career-directed experiences” (Marx, Simonsen, & Kitchel, 2014, p. 215). According to the National FFA Organization, agricultural teachers are encouraged to follow a three-part model, which consists of classroom instruction, experiential education, and participation in a student organization. Roberts and Ball (2009) suggest an agricultural education program produces students with an observable set of skills that can be used for successful transition between the classroom and employment. Agricultural education programs must have adequate learning time in the classroom, supervised agricultural experience (SAE) projects, and participate in the National FFA Organization, including the opportunity to participate in Career Development Events (CDEs) to build necessary experiences (Croom, 2008; Priest, 2008). CDE’s are specific opportunities for agricultural education students to apply the knowledge and skill gained in the classroom and apply it to real world situations (Priest, 2008). Twenty-four CDEs cover a multitude of agriculturally related skills (The National FFA Official Manual, 2016). These events “allow agricultural students to think critically, correspond clearly, and perform efficiently” (The National FFA Official Manual, 2016, p. 61).

With a wide reach and impact on youth development, the National FFA Organization’s high level of exposure to the diverse agricultural system may positively influence student’s temperaments toward the agricultural industry as career choice (Fraze, Wingenbach, Rutherford, & Wolfskill, 2011). “However, the empirical evidence supporting

the success of these programs vocational/career thrust is not clear” (Marx et al., 2014, p. 215). Further evidence is needed to support the influence of the National FFA Organization in filling the current deficit of occupations in the agricultural industry. The researcher sought to describe the relationship between College of Agricultural and Life Science (CAL S) students’ participation in the National FFA Organization and the potential career building experiences related to the individual’s career decision self-efficacy (CDSE).

Significance of the Study

Understanding the obstacles individuals have towards career decisions could help educators more accurately integrate career-related activities (Marx, Simonsen, and Kitchel, 2014). If career decision self-efficacy adds to career choice behavior, then the potential for career success could be measured by the career decision self-efficacy (Priest, 2008).

Students indicating confidence in their career decision in agriculture could provide further evidence of the National FFA Organization and instruction at the University of Idaho in preparation of the future agricultural workforce.

Priority three from the National FFA Organization research agenda emphasizes the need to promote the examination of FFA student participation and the implications on member’s career choice (Crutchfield, 2013). Further support is provided from the American Association for Agricultural Education (AAAE) Research Agenda 2016-2020, “Priority Three: Sufficient Scientific and Professional Workforce That Addresses the Challenges of the 21st Century-Workforce Preparedness” (Roberts, Harder, & Brashers, 2016, p.30). An investigation of the career decision of students in the College of Agricultural and Life Sciences at the University of Idaho could have implications in providing a prepared,

confident, and knowledgeable workforce to fill the careers that provide the intricate network of food and fiber to a robust nation and world.

Albert Bandura, a foundational researcher in the field of social cognitive theory, focused on the importance of self-efficacy in early adulthood. Social cognitive theory explains how people obtain and retain certain behavioral patterns. Social cognitive theory views individuals as progressive persons in their personal development by making events happen through their actions (Pajares & Urdan, 2006). Bandura rationalized that adulthood is a period of transition where individuals must adjust to new social demands, partnerships, parenthood, vocational careers, and financial burdens (Bandura, 1999).

A sizeable body of research (Betz & Hackett, 1981; Taylor & Betz, 1983; Lent, Brown, & Hackett, 1994) provided evidence that efficacy plays a key role in career development. Bandura (1977) described the concept of self-efficacy, within the domains of social cognitive theory, as an individuals' capability to perform a given behavior or task. Self-efficacy theory suggests individuals' with low self-efficacy may avoid tasks, whereas others with high self-efficacy are motivated to engage in certain tasks. Therefore, if the goal is to have an individual complete a given task, increasing an individuals' efficacy should allow for completion of the task at hand (Bandura, 1986).

Taylor and Betz (1983) were the first researchers to bridge the concepts of Bandura's self-efficacy and applied it to the area of career growth. Career decision self-efficacy (CDSE) as defined by Taylor and Betz, "is an individual's belief in their capacity to successfully complete tasks to make a career decision" (Taylor & Betz, 1983, p. 69). Their beliefs lead to the construction of the CDSE scale to map the student's confidence in performing career related tasks.

Identification of the difficulties that students have towards making a career decision could help faculty and staff more accurately incorporate career-directed activities (Marx et al., 2014). Applying the concepts of career decision self-efficacy, faculty and staff at the University of Idaho will be informed of the student's occupational confidence. In turn, this information may illustrate the influence of the National FFA Organization leading to confident graduates pursuing agriculturally related careers.

Purpose

The purpose of this study was to describe the relationship between students participation in the National FFA Organization and their perceived career decision self-efficacy. The objectives for this study were:

1. Describe the career decision self-efficacy (CDSE) of College of Agricultural and Life Sciences students.
2. Describe the level of involvement in the National FFA Organization among College of Agricultural and Life Sciences students.
3. Describe the relationship between students' career decision self-efficacy and their involvement in the National FFA Organization.
4. Describe the level of involvement in College of Agricultural and Life Science students in collegiate and high school activities.
5. Describe the relationship between students' career decision self-efficacy and their involvement with collegiate and high school activities.

Definitions

- **Agricultural Education-** An instructional program, which prepares students for careers in food, fiber, and natural resource system utilizing the three-circle model (Classroom instruction, SAE, and FFA) (Priest, 2008; Official FFA Manual, 2016).
- **Self-Efficacy-** individuals' capability to perform a given behavior or task (Bandura, 1977, 1986).
- **Career Decision Self-Efficacy (CDSE)-**“Is an individual's belief in their capacity to successfully complete tasks to make a career decision” (Taylor & Betz, 1983, p. 69).
- **Career decision-** Theoretical foundations explaining occupational choice among individuals (Betz & Hackett, 1981; Betz & Klein, 1996; Lent et al., 1994; Taylor & Betz, 1983).
- **Career Development Event (CDE)-** Competitive developmental events that focus on student success that explore several areas of the estimated 300 agricultural related career opportunities (The National FFA Official Manual, 2016; Priest, 2008).
- **National FFA Organization-** Formerly known as the Future Farmers of America “A dynamic youth development organization with agricultural education that prepares students for premier leadership, personal growth and career success” (The National FFA Official Manual, 2016, p.8).
- **Supervised Agricultural Experience (SAE)-** “Year-round student projects that are made up of projects or enterprises where the student applies agricultural skills and knowledge” (The National FFA Official Manual, 2016, p.10).

- **Agricultural major-** Majors including Agricultural Economics and Rural Sociology, Agricultural and Extension Education, Animal and Veterinary Science, Biological and Agricultural Engineering, Family and Consumer Sciences, Food Science, and Plant, Soil and Entomological Sciences at the University of Idaho (College of Agricultural and Life Sciences, 2014).
- **Agricultural-related occupation-** Careers found in the food, fiber, and natural resources industries.
- **College major choice-** A decision for an individual to enroll into a planned four-year institutional program.
- **FFA Involvement Score-** the total operationalized involvement score that a CALS student self reported having while participating in the National FFA Organization (Marx et al., 2014; Priest, 2008).
- **Learning Activity-** secondary or post-secondary experiences with potential for performance success and personal accomplishments (Priest, 2008).

Summary

Career opportunities in the areas of agriculture, food, and natural resources are expected to grow in the next five years (Goeckner et al., 2015). Current positions in the agricultural industry are being filled by individuals with little agricultural knowledge leading to occupations filled by less skilled and experienced graduates (Swan & De Lay, 2014). According to Selingo (2013), the general public perceives college graduates as lacking in the real world skills needed for professional careers. Marx et al. (2014) suggested in order to meet the needs of a globalized and diversified agricultural industry, students must be

provided with the tools and resources to support the requirements of a growing nation and world. Student's choice of agriculturally related careers and the self-efficacy associated with their career pursuit could impact filling vital agriculturally related occupations (Goecker et al., 2015). Students with productive experiences, tools, skills, and confidence in their abilities as agriculturalists, could result in a more productive and sustainable agricultural system across the globe.

Chapter 2: Review of Literature

Chapter two discusses theoretical foundations, background information, and relevant literature related to the research objectives. The areas include: (a) Theoretical foundations (b) General information on career decision, (c) Career decision in agriculture, (d) High school and college learning experiences, (e) National FFA experiences, (f) Enrollment of agricultural colleges, and (g) Additional career influences.

Theoretical Foundations

The theoretical foundation of this study was grounded in Social Cognitive Theory (Bandura, 1986). This theory is used to rationalize how individuals acquire and sustain specific behavioral patterns. Self-efficacy theory (Bandura, 1977) is part of Social Cognitive Theory and is defined as an individual's belief in his or her own ability to perform behaviors necessary to produce performance achievements. Social Learning Theory of Career Decision Making or SLTCDM explains the origins of career choice and justifies the factors that influence individuals to pursue various occupations (Krumboltz, Mitchell, & Jones, 1976).

Closely related to SLTCDM, is the Social Cognitive Theory of Career Development, which provides similar disposition to rationalize influential factors that lead to career decision (Lent, Brown, & Hackett, 1994). Within these theories, influences of personal experiences comes into play. Connecting the intricate learning experiences that persons have, is Astin's (1984) Student Involvement Theory. Astin's (1984) theory suggests involvement of students is closely tied to motivation factors and behavioral patterns that shape the students' experiences. Student Involvement Theory further rationalizes that involvements play influential role in career decisions.

Social Cognitive Theory

Bandura (2004) developed four concepts of human agency: intentionality, forethought, self-reactiveness, and self-reflectiveness ingrained in social cognitive theory. The human agencies principal informs how individuals sustain certain behavioral patterns. “This theory proposes that human functioning results from interactions among personal factors (e.g., cognitions, emotions, behaviors, and environmental conditions)” (Pajares & Urdan, 2006, p. 72). Albert Bandura’s (1986) concepts of human functioning are illustrated in the model of triadic reciprocity (Figure 2.1) where behavior, cognitive, personal factors, and external environmental influences act as a fluid model of an individual’s basic capabilities (Bandura, 1986, p. 18).

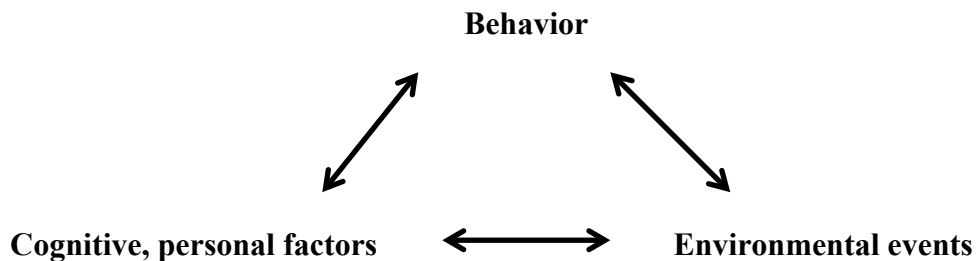


Figure 2. 1 *Model of triadic reciprocity in Bandura (1986) Social Cognitive Theory.*

This theory suggests that persons are managers of change, if individuals are proactively engaged in their development they can make things change (Bandura, 1986). People have self-beliefs that allow them to employ control over thoughts, feelings, and actions; in turn allowing the individual to guide change (Pajares, 2002). Social cognitive

theory serves as the overarching theory guiding this research because of the multiple aspects that guide human behavior and in turn career decisions.

Social Learning Theory of Career Decision Making

Related to Bandura's (1986) theory; SLTCDM rationalizes the origins of career choice and articulates the factors that influence individuals to pursue various occupations (Krumboltz et al., 1976). An individual's pursuit of particular educational programs and preferences are related to occupational activities at different points (Mitchell & Krumboltz, 1990). SLTCDM theory supplements this studies theoretical underpinnings, "SLTCDM links the casual learning experiences with subsequent choices and actions" (Mitchell & Krumboltz, 1990, p. 244). Similar to the model of triadic reciprocity (Figure 1) SLTCDM relates four influential factors; genetic endowments, environmental conditions, learning experiences, and task approach skills that affect an individual's career path. Each factor provides individual opportunities to constitute reflection and potential alteration of occupational related tasks (Krumboltz et al., 1976). The factors include:

Genetic endowment and special abilities. This factor is related to the specific abilities or inherent qualities that affect people's ability to acquire educational and occupational experiences. "Genetic characteristics may include ethnicity, gender, physical appearance, and physical disabilities" (Mitchell & Krumboltz, 1990, p. 237). Abilities including intelligence or talent may affect their interactions and career pursuits.

Environmental conditions and events. Mitchell and Krumboltz's (1990) describe environmental conditions as cultural, political, and economic forces that are generally out of individual's control; these events also include natural disasters and location of natural

resources. Environmental experiences encompass other aspects surrounding individuals; including training and work opportunities available in the vicinity of the person, technological developments, family training experiences, social, and financial resources (Mitchell & Krumboltz, 1990).

Learning experiences. Individuals have a unique history of learning experiences, indicated by two types, *instrumental* and *associative*. Instrumental learning experiences occur when an individual acts from their environment to produce positive consequences. Associative learning experiences occur from a perceived connection between stimuli in the environment. Individuals observe and associate positive or negative characteristics with an occupational decision (Mitchell & Krumboltz, 1990). “Factors are usually outside the control of any one individual...environmental conditions may be due to human action (social, cultural) or natural forces (natural resources or natural disasters)” (Krumboltz et al., 1976, p. 71). Environmental conditions can come in many forms to influence the individual, leading to subsequent career decisions. Krumboltz et al. (1976) suggests the nature and complexity of learning experiences accounts for infinite variations that influence the development of career preferences and skills that dictate career selection and decision.

Task approach skills. A task approach skill refers to interaction among learning experiences resulting in skills. The skills include: performance standards, work habits, perceptual and cognitive processes as an outcome of learning experiences, and environmental conditions. Task approach skills are elements that impact outcomes and are outcomes themselves (Mitchell & Krumboltz, 1990; Priest, 2008).

“To say that peoples’ current personalities and skills are a result of their learning experiences does not imply that people are passive organisms controlled by environmental

conditioning events” (Mitchell & Krumboltz, 1990, p.234). Individuals strive to understand environmental conditions that surround them and in turn control their environments to suit their needs. SLTCDM suggests individuals should be exposed to a wide array of learning experiences in order to expand career development (Mitchell & Krumboltz, 1990).

Social Cognitive Theory of Career Development

Lent, Brown, and Hackett’s (1994) social cognitive theory of career development was developed based on Bandura’s (1986) social cognitive theory. Lent et al.’s (1994) developments encompass Krumboltz et al.’s (1976) influential factors (genetic endowments, environmental conditions, learning experiences, and task approach skills) resulting in a conceptual framework (Figure 2.2) to illustrate the process through which an individual will develop career interest and reach a career decision (Lent et al., 1994).

The separate influences in the conceptual framework were referred to as *sociocognitive determinants*; for the scope of this study, the main focus will remain on four individual components found in the left-hand side of the model: person inputs, background affordances, learning experiences, and self-efficacy. The sociocognitive determinants represent a manner in which interests promote career-related activity and involvement.

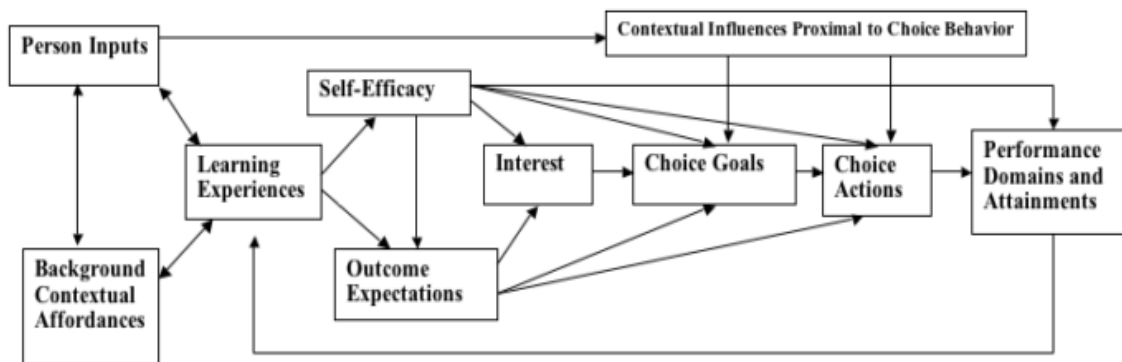


Figure 2. 2
Model of personal, contextual, and experiential factors related to career decision. (Lent, Brown, & Hackett, 1994).

The researchers note that the directional arrows in the framework show the predominate pathways in which a person may move through their career decisions (Lent et al., 1994). The sociocognitive determinants are:

Person Inputs. Social cognitive theory of career development encompasses areas of personal inputs. Personal inputs as described by Lent et al. (1994) includes aspects of gender, race/ethnicity, biological and psychological predispositions attributes, or disability/health status.

Background Contextual Affordances. Background contextual affordances refers to the environmental influences or contexts offering support to experiences that develop career choice within the Social Cognitive Career Decision model; factors include external inputs including financial supports, emotional support, and family or other social inputs (Lent et al., 1994; Priest 2008).

Learning Experiences. Figure 2.2 illustrates how past experiences guide efficacy and outcome expectations of an individual. Lent et al. (1994) view the effects of learning

experiences as they shape future career behavior; learned experiences create opportunity for an individual to interact and react with their environment to develop choice and performance. Bandura (1986) suggested repeated activity engagement, modeling, and feedback from others develops an individual's confidence in particular tasks. Past learning experiences--both education and occupational decision making--create patterns of stimuli and reinforcement. "Therefore, overt behaviors that provide opportunities for exposure to these sources of information would be considered learning experiences" (Priest, 2008, p. 25). Learning experiences in Lent et al.'s (1994) model informs the work of Astin's (1984) student involvement theory which is based on expressing the role of learning experience through involvement contexts. For the scope of this study, learning experiences included academic experiences, school events, community activities, and influences from the National FFA Organization.

Self-Efficacy. Providing interactions between learning experience, self-efficacy, and expected outcomes may develop a sense of self-efficacy in a career decision (Lent et al., 1994). Over the course of an individual's lifespan they will be exposed to a wide array of potential activities--learning experiences that have career relevance (Lent et al., 1994). Through activity and engagement, individuals will refine their efficacy in particular tasks and develop expectations based on past learning experiences.

Outcome expectations. Lent et al. (1994) explain that outcome expectations are an additional important factor in the model of social cognitive theory of career development. Efficacy is the belief in an individuals' capabilities, whereas expected outcomes are the self-satisfaction of an individual that may influence career behavior. "Social cognitive theory assumes that human ability is a dynamic (rather than fixed) attribute, and that competent

performance at complex or challenging tasks generally requires both component skills and a strong sense of efficacy” (Lent et al., 1994, p. 83). There are instances where individuals anticipate outcomes accruing from a given action, but may avoid the action in the first place if they doubt their abilities. Therefore, it is assumed that self-efficacy can guide outcome expectations included in the interlocking model (Lent et al., 1994).

Choice Goals. “People are more than just clinical responders to deterministic forces; by setting goal, people help organize and guide their behavior.” (Lent et al., 1994, p. 84). Goal setting focuses an individual’s efforts over long periods of time. Goals are generally implicit; they encompass concepts of career plans, decisions and aspirations. Therefore, goals can be an additional factor in the specified career choice of an individual (Lent et al., 1994). Choice goals often increase subsequent practice, an individual’s practice efforts allows a patten of attainment that reinforces self-efficacy and outcome expectations (Lent et al., 1994).

Self-Efficacy Theory

Self-efficacy theory is derived from and grounded in the larger theoretical framework of social cognitive theory (Bandura, 1986). Social cognitive theory is built on the rationale that self-efficacy is not static, but a dynamic set of beliefs that are specific to performance and interactions with other contextual factors (Bandura, 1986). Self-efficacy beliefs are one of the strongest predictors in human motivation and behavior. “Self-efficacy is hypothesized to affect individual’s task choices, effort, persistence, and achievement” (Pajares & Urdan, 2006, p. 73). A strong sense of self-efficacy may enhance achievement and personal wellness because the individual is confident in their own potential to influence

the outcome of the expected task. Bandura (1994) theorizes that individuals with a high sense of self-efficacy advance to a given task with greater confidence to obtain goals. In contrast, individuals with low efficacy tend to show hesitation about their abilities, resulting in avoidance of specific situations where the individual does not feel that they can complete the task (Bandura, 1994). Bandura (1994) offered four sources of information that may sway self-efficacy beliefs: mastery experiences, emotional states, vicarious learning experience, and social persuasions.

The first source of information is a mastery experience. A mastery experience refers to the practice of developmental tasks to build efficacy. Successful completion of tasks leads to a stronger sense of efficacy. However, failure of tasks may reduce an individual's confidence resulting in lower self-efficacy (Bandura, 1994). An additional source of information that builds efficacy is emotional states. "In judging their capabilities, people rely partly on somatic information conveyed by physiological and emotional states" (Bandura, 1997, p. 106). Individuals respond to situations which can hinder their self-efficacy when stress sets in, or increase their self-efficacy when reducing stress and facing adversity. Further, vicarious learning experience is a factor referring to an individual's response when visualizing or imagining themselves performing successfully for mastery, such as modeling a behavior (Bandura, 1994). The final source of efficacy source is social persuasion. Social persuasion materializes when an individual is convinced that they have the capabilities to complete task, leading to an increased sense of self-efficacy (Bandura, 1994).

By changing these sources of information, individuals can alter their self-efficacy beliefs to become confident in their performance (Bandura, 1977). An individual controls

the mass amount of their actions; often self-efficacy is regarded as one of the most important facets of an individuals' behavior (Bandura, 1994).

Career Decision Self-Efficacy

Betz and Hackett (1981) were the first investigators to apply Bandura's concepts of self-efficacy to the area of career counseling. The term career self-efficacy is meant to summarize the likelihood that low beliefs of self-efficacy with respect to some aspect of career behavior may serve as a disadvantage to optimal career choice and development (Betz & Hackett, 1986). Fitting in with the domain specifications of self-efficacy theory, Betz and Hackett (1981) proposed career choice process domains coincide with behavioral choice domains that are important to the decision and implementation of the career choice process (Crites, 1978; Betz & Luzzo, 1996). Betz and Hackett (1981) hypothesized that self-efficacy would influence career choice. Taylor and Betz (1983) developed the Career Making Decision Self-Efficacy scale; a deliberate name change due to a trademark term of "Career Decision Making." The scale is currently known as CDSE (Betz & Klein, 1996; Betz & Taylor, 2006).

Crites' (1978) model of career maturity provided a framework for Taylor and Betz (1983) on how to define and operationalize the skills needed in career decision-making. Crites' (1978) model of career maturity hypothesized that good career decisions would be facilitated with respect to five career choice processes. Further, because self-efficacy theory is defined as the relationship to competence in behavioral domains, Crites' model provided five career choice competencies of career decision-making (Betz & Hackett, 1981; Taylor & Betz, 1983; Betz et al., 1996). Other researchers have adapted the application of CDSE to

additional fields. Studies of science and engineering (Lent, Brown, & Larkin, 1984; Hackett, Betz, Casas, & Rocha-Singe, 1992) discuss the utilization of the self-efficacy theory for career assessment in a variety of populations.

Holland (1985) suggested career choice and accomplishment rely on a proper fit between a person's interests in their occupation and the environmental impacts of the career. Lent, Brown, and Hackett (1994) suggested that individuals are open to diverse activities that can differentiate an individual's experiences. Individuals exposed to differentiated experiences and involvement can become more confident in career related decisions and interests in activities where individuals view themselves to be efficacious, which may foster positive outcomes (Lent et al., 1994; Marx et al., 2014).

Theory of Student Involvement

Bandura (1977) Krumboltz et al. (1976) and Lent et al. (1994) articulated the importance of learning experiences on individuals' behaviors and decisions; Student involvement is often tied to motivation and emphasis of behavioral aspects shaping experience. Student involvement is defined as "The amount of physical and psychological energy that students devote" (Astin, 1984, p. 518). Student involvement theory suggests interactions in activities, especially ones closely associated with academic outcomes, enhance achievement (Astin, 1984). Linking student involvement theory to social cognitive theory, an individual expressing interest or changing behavior to diverse learning experiences can further shape their career decision. Five components guide the theorem:

1. Involvement refers to the investment of physical and physiological energy in various objects; objects are highly generalized and usually known as the student experience.

Investment may be specific in terms of preparation for an event such as an exam or sporting event.

2. Student involvement occurs along a continuum; students may discern different degrees of involvement in different objects at different time.
3. Involvements can have qualitative and quantitative features; for instance involvement may be measured in hours spent studying or comprehension of a reading assignment.
4. Personal development associated with educational programs is proportional to the quality and quantity of student involvement in a program. The student gains through the output effort.
5. The effectiveness of any educational policy or practice is related to the capacity of the policy or practice to increase student involvement; student involvement is correlated with academic performance.

Astin (1984) concluded that student involvement emphasized the student as an active participant; the student is encompassed in the developmental process through actions and involvements. Astin's (1984) theory describes the process in which students become involved, exposure to a variety of involvements leads to diversified learning experiences to inform an individual of career related skills and knowledge relating to occupational choice. From an occupational standpoint, student involvement in career preparation actions is theorized to result in educated and credible career selections (Talbert & Balschweid, 2006).

Career development theories purport why individuals make career related decisions and the process that they undergo while selecting a career (Astin, 1984; Krumboltz et al., 1976; Lent et al., 1994). Career decision theories may be applied to agricultural education students to suggest selection in an agricultural occupation (Priest, 2008). Further review of

career decision in agriculture, recruitment of students, high school experiences, and college involvement will be discussed.

Measuring Career Decision Self-Efficacy

As first operationalized in 1983, the career decision self-efficacy (CDSE) scale is an instrument used to gauge perceptions of efficacy with regards to five separate levels of career decision-making (Taylor and Betz, 1983). The originators of the CDSE scale hypothesized that moderate decision-making abilities could hamper career exploratory behavior and the development of decision-making skills. Increased career decision self-efficacy has been linked to lower career indecision (Betz, Klein, & Taylor, 1996; Betz & Sterling, 1995); while increased career decision self-efficacy has been linked to greater career maturity. Career maturity is defined as an individual's readiness to make an informed, age appropriate career decision and manage career development (Luzzo, 1995).

Taylor and Betz (1983) expanded the research base of career decision self-efficacy. Taylor and Betz (1983) original CDSE 10-level continuum "was initially validated in a sample of 346 college students, 156 students attending a private liberal arts college and 193 students attending a large state university" (Betz & Klein, 1996, p.13). The CDMSE scale incorporated a 50-item questionnaire. These items were organized into five subscales from Crites' (1978) Career Choice Competencies. The subscales are used to associate behavioral domains of participants. Behavioral subscales included: (a) accurate self-appraisal, (b) gathering occupational information, (c) goal selection, (d) planning for the future, and (e) problem solving. Taylor and Betz assigned ten items written to reflect each subscale for a total of 50-items. Responses were obtained on a 10-level continuum ranging from 0 (*No*

Confidence) to 9 (*Complete Confidence*). Betz and Klein (1996) note this scale as a 10 level-continuum; larger numbers indicated the subjects' perception of their career decision self-efficacy as more confident, whereas a lesser number indicated a lower overall confidence (Taylor & Betz, 1983; Betz & Klein, 1996). A total score for the scale is calculated by summing all the confidence values for all 50 items (Luzzo, 1995). Taylor and Betz (1983) observed some differentiation between males and females, with females reporting a higher level of self-efficacy in goal setting and planning using the 10-level continuum. Overall totals for the CDSE scale were not significantly different between self-efficacy with regard to career decision between males and females. These examinations led Taylor and Betz (1983) to conclude "college students, in general, express confidence in their abilities to complete tasks necessary to make career decision" (p.78).

Career Decision in Agriculture

Bakar and McCracken's (1994) examined the relationship between career maturity and participation in the National FFA Organization, and student participation in a supervised agricultural experience or SAE. As defined by Crites' (1978) and Luzzo (1995), career maturity is an individual's readiness to make career decisions. The researchers reported an association between career maturity and FFA participation, although a supervised agricultural experience did not yield a relationship with the students' career maturity. They found that 47.5% of the examined agricultural students participated in as many as 15 other extracurricular activities, but the majority of the agricultural students (60.4%) did not participate in additional activities. The researchers concluded that career maturity is associated with several factors including FFA participation, participation in career

development events (CDE), grade point average, educational aspirations, and years of involvement with agricultural education (Bakar & McCracken, 1994).

Marx, Simonsen, and Kitchel (2014) examined comprehensive secondary agricultural education programs and the relationship between students' FFA involvement and career choice self-efficacy. Data was collected using CDSE-SF questionnaire (Betz, Klein, & Taylor, 1996). Marx et al. (2014) evaluated the participation of high school juniors and seniors in two separate high schools in order to represent two different types of agricultural programs. The research team examined (a) student involvement operationalized with CDE (Career Development Event) participation, (b) FFA membership, (c) student involvement in agricultural education and CDSE, (d) agricultural education's influence on students, (e) students' career decisions (Marx et al., 2014).

Marx et al. (2014) reported "students had moderately high confidence (efficacy) in their abilities to make decisions in career related activities" (p.223). As suggested by Betz and Taylor (2006) a scale score of 3.5 or above indicates moderate to high confidence in making career decisions. Students felt confident in their ability to work through adversity and gather information for their career decisions. Respondents indicated the highest mean scores in the self-appraisal domain with a mean of 4.02 ($SD=.59$) followed by occupational information ($M=4.0$, $SD=.57$), goal selection ($M=3.94$, $SD=.58$), planning ($M=3.74$, $SD=.65$), and problem solving ($M=3.65$, $SD=.66$).

Marx et al. (2014) found the majority of seniors and juniors (90.7%) reported FFA membership of at least three years. The researchers reported students' Career Development Event (CDE) participation and years of FFA membership related to their CDSE scores. The largest correlations were reported between occupational information ($r=.28$), goal selection

($r=.27$), followed by planning ($r=.24$), and self appraisal ($r=.23$). This lead the research team to conclude that participation in the National FFA Organization's Career Development Event (CDE) had a stronger relationship with the individuals' career decision self-efficacy. The supervised agricultural experience (SAE) was reported to have the smallest relationship with students' CDSE (Marx et al., 2014). The highest influence of career choice among the agricultural students was the student's mother, followed by professionals in the career interest area. Fathers, followed by the agricultural education teachers were indicated as lower influences on agricultural career pursuits (Marx et al., 2014).

Priest (2008) reported the importance of National FFA Involvement to high school career decision self-efficacy for student in Georgia. Priest (2008) reported low, positive relationships between the high school students' involvement with the National FFA Organization and their self-reported career decision self-efficacy scores. The highest means were reported in the occupational information domain with a mean of ($M=4.11$, $SD=.74$) followed by accurate self-appraisal ($M=4.10$, $SD=.71$), goal selection ($M=3.93$, $SD=.70$), planning ($M=3.83$, $SD=.78$), and problem solving ($M=3.75$, $SD=.73$) with a total CDSE mean score of 3.94 ($SD=.66$).

Evidence from these findings (Marx et al., 2014; Priest, 2008) implies that the students' involvement in FFA may not provide a strong influence on the student's career decision self-efficacy, but the influences and experiences obtained while participating in FFA may be association with their career decision (Marx et al., 2014).

High School Learning Experiences

“Factors other than students' involvement in agricultural education could influence career decision making” (Marx et al., 2014, p. 216). In an examination of benefits and

threats associated with external influences of high school students, Eccles and Barber (1999) examined a longitudinal cohort of sixth grade students in ten separate school districts. Using a categorical list of 48 high school activities organized into five types of involvements: prosocial activities (church activities), sports teams, performing arts, school involvement, and academic clubs, participants indicated their involvement to link positive and negative development of students and involvement with the different activities (Eccles & Barber, 1999).

The researchers found “participation in extracurricular activities during the high school years provides a protective context in terms of both academic performance and involvement in risky behaviors” (Eccles & Barber, 1999, p. 25). Thus, activities can facilitate adolescent developmental need for social readiness and can contribute to an individual’s identity as a valued member of a school community (Eccles & Barber, 1999). Similar findings from Hansen, Larson, and Dworkin (2003) examined learned experiences among adolescents in youth activities. Students self-reported that they had higher experiences in goal setting, problem solving, and time management in their associated youth organizations than traditional academic courses (Hansen et al., 2003).

National FFA Organization

The National FFA Organization is an organization dedicated to fulfilling the necessities of the diverse agriculture, food, and natural resources demands. Agricultural education supports student’s experiences in various areas of agriculture so the individuals can make informed career-oriented decisions. Priest (2008) states the National FFA Organization is considered an *intracurricular* aspect of agricultural education. For the

purpose of this study, any experience including youth development, collegiate involvement or National FFA participation were considered involvement activities.

Park and Dyer (2005) reported that 88 percent of the student leaders in the College of Agriculture and Life Sciences at the University of Florida were former FFA members. Park and Dyer (2005) concluded that former FFA membership among students made important contributions to leadership, recruitment efforts, and communication skills at the collegiate level.

Simonsen, Velez, Foor, Birkenholz, Foster, Wolf, and Epps (2014) investigated first-time students attending colleges of Agriculture at seven major universities from across the nation. Students reported their self-perceived leadership characteristics and described their secondary student activity participation. Simonson et al. (2014) reported that most respondents were active in their community and deemed service to be important. It was also suggested that students who reported serving as an officer or team leader during their high school experiences were likely to have higher perceptions of their leadership efficacy and charisma (Simonsen et al., 2014).

Researchers have also found FFA involvement to have relationships with success and retention at the collegiate level. Risenberg and Lancaster (1990) examined students who were operationally defined by the Idaho State Division of Vocational Education as completers and non-completers of secondary agricultural education programs. A random stratified sample of 1,235 students at the University of Idaho yielded no significant difference between the two groups in regards to collegiate success and retention. Similarly Smith, Garton, and Kitchel (2010) found in a longitudinal investigation of freshman students entering the University of Missouri, that there was no significant difference between the

academic performance of students who enrolled or did not enroll in secondary agricultural programs. The important aspects of leadership development, recruitment, self-efficacy, retention, and education of students in their secondary school experiences may play an important role in examining participation in the National FFA Organization. “When questioning the value of FFA and 4-H to a college of agriculture one source of contribution is the leadership of student organization” (Park & Dyer, 2005, p. 92).

Student organizations provide valuable practices for the students and contribute to the entire collegiate experience (Kellogg Commission of the Future State and Land Grant Universities, 1997). Agricultural education programs may play vital roles in the interest of student development in a multitude of areas such as leadership efficacy, recruitment, and communication (Park and Dyer 2005; & Simonsen et al., 2014; Brick, 1998).

College Learning Experiences

According to the Leadership National Association of Colleges and Employers (2011) skills are generally a desired trait for individuals to possess. These skills also play a key role in a professional workforce that addresses the challenges of the 21st century (Doerfort, 2011). Rosch and Coers (2013) recommended, “students need to maintain a strong level of involvement in leadership development throughout their high school and collegiate experience” (p. 92). Dugan and Komives (2007) found that 80 percent of students participate in at least one college organization by the end of their undergraduate programs. Astin (1984) defined student involvement as “the quantity and quality of the physical and psychological energy that students invest in the college experience” (p. 528).

Dugan (2013) examined involvement among post secondary students at different colleges across the United States. Twenty-one types of cocurricular experiences (e.g. academic/departmental/professional clubs, honor society, religious groups, social fraternities and sororities, sports, student government, etc.) were identified to depict collegiate involvement. Dugan (2013) concluded that an increased understanding of student involvement in these 21 experiences may have an influence on critical college outcomes. Involvement measures also have shown positive effects on the student's psychological well-being (Kilgo, Mollet, & Pascarella, 2016). Therefore, student development and their occupational decision may draw on opportunities presented to them during their undergraduate years.

Foreman and Retallick (2012) identified and described experiences of senior students in the College of Agriculture and Life Sciences at Iowa State University, and also examined leadership scores for these students. The research team noted the average time students spent in extracurricular clubs and organizations ranged from 0 to 20 or more hours per week. Further, it was found that students who held positional leadership roles spent more time involved with the clubs and organizations; the College of Agriculture and Life Sciences students scored higher on the leadership scales than their counterparts in other colleges (Foreman & Retallick, 2012).

Enrollment Factors among Agricultural Students

Dyer, Beja, and Wittler (2002) explained that involvement in secondary agricultural programs were strong predictors of learner retention within the College of Agriculture at Illinois and Iowa State. Understanding why students enroll in CALS gives an indication into their prior experience in agriculture influencing them towards a agriculturally-related career.

Wildman and Torres (2001) examined factors associated with students selecting a major within agriculture. Their efforts resulted in a questionnaire that identified five principle factors that helped determine student's choice of an agricultural major: (a) Exposure to agriculture; (b) Family and friends, (c) College of agriculture recruitment activities, (d) Professionals, and (e) Job considerations. The results of the questionnaire led the researchers to conclude that "prior experience in agriculture" was the highest ranked influence on choice of an agricultural major. This category was further described as having experiences through the National FFA Organization or being associated with people involved in agriculture. They also noted other attributes that influenced student major choices including family impacts and the environmental impacts in the form of interactions and overall friendly environment of the College of Agriculture (Wildman & Torres, 2001).

Rayfield, Murphrey, Skaggs, & Shafer (2013) examined factors that influence student enrollment in the College of Agriculture at Texas A&M. Of the 581 students examined, ($n=105$) reported their parent or guardian as a very influential reason for selection of a major in agriculture. Forty-five percent of the Texas A&M students indicated participation in 4-H or FFA career development events, which were noted as not influential in their decision to pursue an agricultural major; and ($n=176$, 30.9%) reported involvement with the National FFA involvement in high school. Further, ($n=209$, 36.7%) of the agricultural students reported no prior agricultural work experiences. This study led researchers to state, "If indeed 4-H and FFA events are not influencing nearly half of the students to choose a major in the College of Agriculture and Life Sciences, consideration should be given to how funds for recruitment are spent." (Rayfield et al., 2013, p. 92). The research team at Texas A&M highlighted the importance of prior agricultural experience

and the impact that it may have when students are considering a career pathway within the College of Agriculture.

Swan and De Lay (2014) described the experiences of undergraduates enrolled at the Cal-Poly College of Agriculture. The purpose of their study was to describe agricultural leadership experiences and determine what influential factors caused the students to enroll in the College of Agriculture. This was in an attempt to highlight student's agriculture experiences and relate them to its influence on the students' career path in agriculture. Thirty-four percent of enrolled students indicated involvement in secondary agricultural courses; this was reflected in the number of students ($n=189$, 21.6%) who indicated past involvement with the National FFA. The researchers suggested further efforts be geared to recruit secondary agricultural education students and increase experience and skills gained in organization such as the FFA to further develop industry-ready graduates (Swan, & De Lay, 2014).

Ball, Garton, and Dyer (2001) examined Freshman Interest Groups (FIG) program at the University of Missouri College of Agriculture, Food, and Natural Resources and participation in agricultural youth programs, 4-H and FFA, they examined the impacts on academic performance and retention of students. Academic performance was examined through the student's cumulative grade point average and retention rates were observed based on enrollment of the students at the beginning of their sophomore year. The researchers noted that involvement in an agricultural youth organization had a relationship to retention rates for students returning their sophomore year. It was further concluded, in order to continue to educate high quality students, that colleges of agriculture should

continue to recruit and retain students with important influences from agricultural youth organization participation (Ball et al., 2001).

Additional Career Choice Factors

Rocca and Washburn (2005), from the University of Florida, addressed the issues of declining enrollment in an effort to more effectively attract students. Students indicated that the influence of a degree program depended on several factors. Among the top influencers for degree programs included: career opportunities provided, the reputation of courses, the reputation of faculty, quality of facility and students, and finally the size and number of courses within the degree program (Rocca & Washburn, 2005). Respondents articulated that high school agriculture teachers were among one of the lowest factors influencing a degree choice in the college of agriculture for both high school and transfer students. Parents and guardians ranked as one of the highest factors in pursuit of a degree in agriculture (Rocca & Washburn, 2005). Finally the researchers noted the influence of agricultural educators and their encouragement to push students towards a degree in agriculture (Rocca & Washburn, 2005).

Jones and Larke (2001) at Texas A&M identified and described the factors that African American and Hispanic graduates face when selecting a career in agriculture. 62 percent of the respondents did not enroll in an agricultural related course until their undergraduate education. Respondents indicated that family, particularly their father's occupation, had the most significant impact on the Texas A&M alumni's professional career decision (Jones & Larke, 2001).

A 2009 study examining ethnic minority students pursuing careers in food and agricultural sciences generated a solution to attempt to impact enrollment and the pursuit of careers within the agricultural field (Faulkner, Baggett, Bowen, & Bowen, 2009). Researchers provided a professional development workshop that included discussion, hands-on activities, demonstrations, and labs to build interest in agriculture noted as a Food and Agricultural Sciences Institute (FASI) program.

Faulkner et al. (2009) reported after the FASI program, “respondents exhibited positive attitudes toward the food and agricultural sciences” (p. 49). Participants expressed the highest agreement in the acknowledgement of the importance of food and agricultural science as well as the influence that being raised around agriculture has on careers in agriculture. Students expressed positive attitudes after completing the FASI; Faulkner et al. (2009) suggested positive outlooks towards agriculture is necessary to entice minority students to major in agricultural sciences. Therefore, it is suggested that students experiencing educational opportunities and gaining insight can lead to informed decision-making concerning careers. Researchers found participants within the FASI program indicated that the program formulated positive attitudes, but only marginally influenced their career choice in food and agricultural science (Faulkner et al., 2009).

Summary

Individuals make career related decisions for many reasons; individuals come from diverse backgrounds with differentiated experiences, personal inputs, goals, and expectations (Lent et al., 1994). Students in the College of Agricultural and Life Sciences have diverse agricultural backgrounds; supported from past literature, students enroll in

college of agriculture for a variety of reasons. Student involvement in various learning experiences may give further indication into their career decision self-efficacy as confidence is built from positive learning experiences (Bandura, 1986). As supported by Marx et al. (2014) and Priest (2008), further consideration for the factors that influence students' career decision self-efficacy can offer educators information in order to provide students with career-oriented experiences to educate and motivate students to fill vital food, agriculture, and natural resources positions across the nation and world. The CDSE-SF is an important aspect in examining why students pursue an agricultural career and what influences solicit a occupation in agriculture.

Chapter 3: Methods

This chapter reviews the purpose of this study and includes further information about the research design, population, instrumentation, data collection procedures, analysis and limitations of the study.

Purpose

The purpose of this study was to describe the relationship between students' participation in the National FFA Organization and their perceived career decision self-efficacy. The objectives for this study were:

1. Describe the career decision self-efficacy (CDSE) of College of Agricultural and Life Sciences students.
2. Describe the level of involvement in the National FFA Organization among College of Agricultural and Life Sciences students.
3. Describe the relationship between students' career decision self-efficacy and their involvement in the National FFA Organization.
4. Describe the level of involvement in College of Agricultural and Life Science students' in collegiate and high school activities.
5. Describe the relationship between students' career decision self-efficacy and their involvement with collegiate and high school activities.

Type of Research

The design of this study was a descriptive-relational survey. Fraenkel, Wallen, and Hyun (2012) define descriptive research as seeking an existing relationship between variables. This study sought to describe the relationship between College of Agricultural and

Life Science (CALs) students' participation in the National FFA Organization and the potential career building experiences related to the individual's career decision self-efficacy (CDSE).

Population and Subject Selection

This study was a census of all undergraduate juniors and seniors in the CALS at the University of Idaho during the Spring 2017 semester ($N=513$). Students were identified from four University of Idaho education centers: Boise, Twin Falls, Coeur d'Alene, and Moscow. Upperclassmen were selected for the population as they were recognized to have the most exposure to potential career orientated experiences (Marx et al., 2014). To be considered for junior class standing, 58-89.9 credits must be accounted for and 90 or more credits for seniors (Office of Registrar, 2016). Contact information was obtained through the Office of the Registrar on February 2, 2017. CALS is divided into seven different departments with student population as illustrated in Table 3.1.

Table 3. 1

University of Idaho College of Agricultural and Life Sciences Junior and Senior population breakdown by department (N=513), Spring 2017

CALS Department	Number of Students
Agricultural Economics and Rural Sociology	58
Agricultural and Extension Education	53
Animal and Veterinary Science	98
Biological and Agricultural Engineering	29
Family and Consumer Sciences	214
Food Science	26
Plant, Soil and Entomological Sciences	35

Instrumentation

Data was collected using a four-part questionnaire: (a) CALS students' Career Decision Self-Efficacy (Betz et al., 1996), (b) CALS students' past involvement with high school activities and their involvement with the National FFA Organization, (c) Students' involvement at the University of Idaho, and (d) Demographics. The instrument contained a total of 86 items if students indicated participation in the National FFA Organization and 68 items if they indicated no participation in the National FFA (Appendix 3). Section one consisted of the CDSE-SF scale (Betz et al., 1996). Section two was designed to gather further information on the students' high school experience including involvement with the National FFA Organization (Priest, 2008; Marx et al., 2014). Section three described the students' collegiate involvements. Section four of the instrument collected demographic information.

Section One

Section one of the instrument used the 25-item career decision making self-efficacy short form scale (CDSE-SF) to measure the CALS students confidence in making career related decisions (Betz & Klein, 1996). CDSE-SF (Appendix 3) is a contemporary development of Taylor and Betz' (1983) original CDSE scale. The CDSE-SF scale was achieved by eliminating half of the items from each of the five CDSE scale resulting in a total of 25 items (Betz & Klein, 1996). Crites' (1978) behavioral domains: (a) accurate self-appraisal, (b) gathering occupational information, (c) goal selection, (d) planning for the future, and (e) problem solving were used for the CDSE-SF scale.

Two formats of the CDSE-SF exist. One format incorporates the use of a 10-level confidence continuum 1 (*no confidence at all*) to 10 (*complete confidence*) and the second format uses a 5-level continuum 1 (*no confidence at all*) to 5 (*complete confidence*) to measure career decision self-efficacy; it is specified researchers may elect to use either format in regards to the 10-level or 5-level scale (Betz & Klein, 1996). Twenty-five items are allocated among the five subscales; each subscale score is the sum of the responses given to each item, and a total score is computed from the sum of the five scales then divided by 5 to return the score to the unit of the response scale. Table 3.2 indicates the instrument items associated with each subscale in the CDSE-SF (Betz & Klein, 1996).

Table 3. 2
Scales, Subscales, and Corresponding Items CDSE-SF

Scale Number	Subscale	Corresponding Questions
Scale 1	Self-Appraisal	5,9,14,18,22
Scale 2	Occupational Information	1,10,15,19,23
Scale 3	Goal Selection	2,6,11,16,20
Scale 4	Planning	3,7,12,21,24
Scale 5	Problem Solving	4,8,13,17,25

Note. The sum is divided by 5 to return the score to the units of the response continuum (Betz & Klein, 1996).

For this study, the 5-level response continuum was used. Respondents rated their confidence on a confidence continuum of, 1 (*no confidence at all*) to 5 (*complete confidence*) the higher scores indicating greater levels of career decision self-efficacy (Betz & Klein, 1996; Betz, Hammond, & Multon, 2005). A sample item from the CDSE-SF asked “Make a plan of your goals for the next five years?” (Betz & Klein, 1996).

Section Two

Section two of the instrument was developed from Eccles and Barber (1999) in-school out-of-school activity questionnaire. CALS students reported their involvement in different high school activities. Students indicated their involvement from the list of 27 activities categorized into three separate learning experiences: (a) academic clubs, (b) performance activities, (c) community clubs/activities (Eccles and Barber, 1999). Each activity selected by the respondents counted as one point. The purpose of breaking the high school activities into the categories was to create a comparison to the CDSE scale to highlight existing relationships; a correlation was conducted to further describe the relationship. Respondents selected from a binary choice matrix (*Yes, I was involved*) or (*Not applicable to me*) for each of the 27 high school activities. An overall involvement score from section two was calculated by summing the total number of organizations a student indicated they were involvement in.

In section two, CALS students indicated involvement with the National FFA Organization. Students indicating involvement were directed to 18 questions to gather National FFA participation data. The FFA involvement score was calculated based on Priest's (2008) key variables that illustrated CALS students' involvement in several areas of agricultural education. The National FFA variables included: (a) degree information, (b) officer information, (c) years of involvement, (d) leadership activities, (e) State and National conventions attended, (f) career development event (CDEs), (g) supervised agricultural experience (SAE), (g) proficiency awards, and (h) star awards. To calculate the total National FFA participation score, points were applied to the items. FFA involvement score was calculated by taking the highest level of involvement for each FFA activity. Students

could score a maximum of 29 points depending on their indicated involvements. For example, if a student indicated involvement in being a Chapter Officer the individual would receive one point; if the student indicated a higher office held such as a State Officer three points would be added to their overall score (see Table 3.3).

FFA Leadership activities (see Table 3.3) were categorized as events and conferences that FFA members attend to gain leadership skills and character development to employ in their future leadership roles (National FFA Organization, 2016). The 212/360 conferences is for introductory members that focuses on chapter leadership and development. Washington Leadership Conference (WLC) is a conference that provides hands on experiences for leadership including concepts of diversity, advocacy, and service (National FFA Organization, 2016). Chapter Officer Leadership Training (COLT) builds members at the chapter level. District Officer Training (DOT) is designated for officers looking to reach further in their regional leadership roles. National Leadership Conference for State Officers (NLC SO) is a rigorous training for state FFA officers, which places emphasis on interpersonal communication and presentation delivery (National FFA Organization, 2016). State Presidents Conference (SPC) is the final conference for state FFA officers offering training to promote agricultural education and share ideas from the across the nation (National FFA Organization, 2016). Finally, New Century Farmer is a conference for college students pursuing a career in production agriculture; this conference further focus on global agricultural topics surrounding the intricate agricultural industry.

Table 3. 3

National FFA Participation Scoring for CALS Students Spring, 2017

FFA Category	Criteria	Points for Each Item
FFA Leadership	<u>Leadership Activities:</u>	
	212/360	1 point
	WLC	
	COLT	
	DOT	
	NLCSO	
	SPC	
	New Century Farmer	
	<u>Conventions Attended:</u>	
	State Convention	1 point
Total CDE Participation	National Convention	2 points
	<u>Highest level of CDE:</u>	
	Chapter	1 point
	District	2 points
Officer Information	State	3 points
	National	4 points
	<u>Highest Office:</u>	
	Chapter Office	1 point
	District Office	2 points
Years of Involvement	State Office	3 points
	National Office	4 points
	<u>Years in the National FFA:</u>	
	1 year	1 point
	2 years	2 points
	3 years	3 points
SAE Score	4 years	4 points
	5+ years	5 points
	<u>Years of SAE:</u>	
	1 year	1 point
	2 years	2 points
	3 years	3 points
	4 years	4 points
	5+ years	5 points
	<u>Star Award:</u>	
	Chapter	1 point
State	2 points	
National	3 points	
Max. FFA Score	<u>Proficiency Award:</u>	
	Chapter	1 point
	District	2 points
	State	3 points
	National	4 points
Max. FFA Score		29 points

Section Three

Section three collected information on the CALS students' collegiate involvement. Based on Astin (1984) questionnaire involving 80 different student outcomes. Respondents were asked to indicate their involvement with 13 separate activities (Appendix 3) found at the University of Idaho. The 13 activities were tailored for the CALS students asking relevant information specifically students at the University of Idaho. Students indicated their perceived level of involvement on a Likert-type scale: 1 (*very little involvement*) to 5 (*very high involvement*). Comparable to Eccles and Barber (1999), the collegiate involvements were grouped into one of three categories including academic, performance, and community activities so strength of the relationship could be described (Davis, 1971) between a the students perceived involvement and their CDSE scores.

Section Four

Section four asked the CALS students to select personal items including gender (male, female, and prefer not to respond) and ethnicity based on the United States Census Bureau (listed in alphabetical order)--African American, American Indian/Alaskan Native, Asian, Hawaiian Native and Pacific Islander, Hispanic or Latino, White, and other ethnic identification.

Instrument Validity and Reliability

Face and content validity were established for section two and three by a panel of experts within the Department of Agricultural and Extension Education at the University of Idaho. The panel consisted of three faculty members and two graduate assistants ($N=5$). The panel assessed instrument formatting, readability, clarity, and quality of the items. The panel

suggested the addition of items in section two, regarding the students' involvement with high school opportunities tailored to students at the University of Idaho. These additions included other youth organization falling under Career and Technical Education: FBLA, DECA, FCCLA, and BPA.

Betz, Hammond, and Multon (2005) reported the range of reliability coefficients for the CDSE-SF as $\alpha=.73$ to $\alpha=.83$ for the five subscales and a mean coefficient of $\alpha=.94$ for the 25-item total score. Additionally, Betz et al. reinforced the reliability of the CDSE-SF Scale by comparing the past reliability studies and examining the coefficient alphas for the ten and five-level response continuum. The five-level response continuum was administered in three separate samples with more than 1,800 participants. Betz et al. (2005) concluded the five-level response continuum yielded similar coefficient alphas $\alpha=.78$ to $\alpha=.87$ to the ten-level continuum predecessor $\alpha=.69$ to $\alpha=.83$. This provides evidence that the five-level response continuum provides comparable reliability relative to the original CDSE scale. Overall the CDSE-SF has been reported to have excellent reliability (Betz et al., 2005).

To assess the reliability of the instrument, a pilot study ($n= 82$) was conducted in an Animal and Vet Science (AVS) 209 course taught at the University of Idaho in the Spring 2017 semester. The pilot study consisted of freshman and sophomore students in the College of Agricultural and Life Sciences; this course was selected to eliminate overlap between the populations of the two studies. In addition to the reliability addressed in the pilot test, a post-hoc reliability analysis was conducted (see Table 3.4).

Table 3. 4
Reliability Estimates in Betz, Hammond, and Multon Research, Pilot Study, and Post Hoc-Analysis.

Study	Behavioral Domains	Reported Reliabilities
Betz et al. (1996)	Self-Appraisal	.73
	Occupational Information	.78
	Goal Selection	.83
	Planning	.81
	Problem Solving	.75
	Total	.94
Pilot	Self-Appraisal	.72
	Occupational Information	.70
	Goal Selection	.76
	Planning	.69
	Problem Solving	.70
	Total	.92
Post-Hoc	Self-Appraisal	.76
	Occupational Information	.72
	Goal Selection	.77
	Planning	.68
	Problem Solving	.61
	Total	.91

Data Collection Procedures

University of Idaho Institutional Review Board approval was obtained for this study (Appendix 5) on December 21, 2016. The program Qualtrics® was used for data collection. The electronic mail addresses of the class standing junior and senior students in the CALS were obtained from the Office of the Registrar ($N=513$).

Data were collected based on the Dillman et al. (2009) *Tailored Design Method* when asking for CALS students' participation. Dillman et al.'s (2009) methods call for five points of contact: (a) a pre-notice email, (b) a request for participation through the use of a cover

letter in the email, (c) a reminder via email, (d) a secondary request for participation, (e) a final contact email.

Students were sent a personalized pre-notice (Appendix 1) on March 3, 2017 through university email notifying them that they would receive the instrument within the next three days via a hyperlink in the email text to access the web-based questionnaire through the Qualtrics® program. CALS students were instructed to complete all four sections to the best of their ability. The Qualtrics® system provided a cover letter (Appendix 2) with informed consent to the participants. The system also provided access to the instrument (Appendix 3) for the students to complete. Data collection was concluded on March 30, 2017. Points of contact are outlined in Table 3.5.

Table 3. 5
Points of Contact for Junior and Senior Students (N=513) Spring, 2017

Date of Contact	Reason for Contact
March 3, 2017	Pre-notice email- notice of study and background.
March 7, 2017	Request for Participation email- purpose, consent information, and link to the instrument.
March 14, 2017	Follow-up email to non-respondents-reminder of the study.
March 21, 2017	Follow-up reminder of participation to non-respondents.
March 30, 2017	Final contact to non-respondents- information and link to instrument.

Data Analysis

The data were analyzed by using the computer software IBM® Statistical Package for Social Science (SPSS) version 24. A total high school participation score was calculated by summing all points representing the 27 different activities. Students indicating their involvement with the National FFA Organization had an additional 18 response items that were totaled for a separate FFA involvement score. The total FFA involvement was divided into five separate areas to describe the relationship between CDSE and level of indicated involvement with the National FFA. The categories for the total FFA score were: (a) FFA Leadership, (b) Total CDE Participation, (c) FFA Officer Information, (d) Years of FFA Involvement, (e) Total SAE Involvement. The summation of the points gives indication to the level of involvement that the student achieved while participating in the National FFA Organization. Students with lower scores, therefore less activities, were less involved than members with higher scores.

Students total collegiate involvement scores were described by their self-reported level of involvement; means and standard deviations were calculated for the students' involvement score. This scoring indicated the level of involvement in each of the activities. The remaining items that CALS students responded to were in the form of demographic information further described with frequencies and percentages to obtain a full scope of the students' ethnic and gender identification.

Non-response error was controlled by comparing early respondents, who completed the instrument in the first within the first two reminders, to late respondents who completed the instrument after the last two reminders (Linder, Murphy, & Briers, 2001). An

independent sample t-test was used to compare the two groups. No significant difference was found between the early and late respondent, therefore the data were collapsed.

Limitations

An important limitation in this study was to the small number students in the College of Agricultural and Life Sciences at the University of Idaho. Although the students have diverse backgrounds, other factors may have affected the students' career decision self-efficacy. This study is not generalizable to a larger population. Krumboltz et al. (1976) suggested the nature and complexity of learning experiences accounts for infinite variations that influence the development of career preferences and skills dictate career selection and decision. Students in CALS may gain experiences through different pathways, additional to the concepts presented in the agricultural education mission to prepare them for careers and life-long informed choices in the diverse agricultural system.

Summary

Chapter three explained the methods and procedures used to conduct this descriptive-relational study regarding CALS student's career decision self-efficacy and other student involvement from high school programs (Eccles & Barber, 1999) as well as collegiate experiences (Astin, 1984; Dugan, 2013). Relationships between CDSE score and involvement in high school and collegiate activities were discussed. Further, a National FFA involvement score was calculated through 18 additional items based on Priest (2008) and Marx et al. (2014). Threats to internal validity were discussed and controlled by a panel of experts and a pilot study to ensure face and content validity. The research methods utilized involved the *Tailored Design Method* (Dillman et al., 2009). Data collection took place

during the Spring Semester 2017 at four separate University of Idaho locations. Non-response error was addressed by comparing early to late respondents.

Chapter 4: Findings

This chapter discusses the findings of the five research objectives:

1. Describe the career decision self-efficacy (CDSE) of College of Agricultural and Life Sciences students.
2. Describe the level of involvement in the National FFA Organization among College of Agricultural and Life Sciences students.
3. Describe the relationship between students' career decision self-efficacy and their involvement in the National FFA Organization.
4. Describe the level of involvement of College of Agricultural and Life Science students in collegiate and high school activities.
5. Describe the relationship between students' career decision self-efficacy and their involvement with collegiate and high school activities.

Data was collected using a valid and reliable instrument based on CDSE-SF and the development of an instrument by the researcher.

Objective One: Describe the career decision self-efficacy (CDSE) of College of Agricultural and Life Sciences students.

290 respondents started the survey instrument; respondents were juniors and seniors from each of the seven departments in the College of Agricultural and Life Sciences at the University of Idaho. 250 usable questionnaires (response rate of 48%) were used to analyze objective one. According to National Survey of Student Engagement (2016) researchers across multiple disciplines of social science are witnessing a steady erosion of response rates. NSSE reported in 2016 the average response rate from postsecondary institutions was 29%, citing that response rate was heavily dependent on the size and campus context of the

institutions (National Survey of Student Engagement, 2016). The 40 responses that were not complete were not included in the final analysis due to the amount of missing data. Junior and senior students in this study closely mirror the total demographics for all of CALS.

Demographic information of the juniors and seniors are reported in Table 4.1.

Table 4. 1

Enrolled CALS Demographics at the University of Idaho, Spring Semester 2017

Demographics	<i>f</i>	%
CDSE Study		
Male	72	28.8
Female	169	67.6
Prefer not to Respond	9	3.6
White	216	86.4
Hispanic or Latino	21	8.4
Asian	8	3.2
American/Alaskan Native	2	.008
African American	2	.008
Pacific Islander/Native Hawaiian	1	.004
Total Students	250	
CALS Total		
Female	585	65.9
Male	302	34
White	705	79.4
Hispanic Latino	72	8.1
Asian	11	1.2
American/Alaskan Native	9	1.0
African American	7	.7
Pacific Islander/Native Hawaiian	1	.001
Total Students	887	

The students reported the highest scoring behavioral domains in the area of self-appraisal ($M=4.03$, $SD=.57$). Students reported gathering occupational information ($M=4.00$, $SD=.62$) as the second highest area of confidence, followed by goal selection

($M=3.99$, $SD=.62$), planning ($M=3.96$, $SD=.59$), and finally problem solving ($M=3.89$, $SD=.58$). The total score for this population was $M=3.97$ ($SD=.50$) as reported in Table 4.2.

Table 4. 2

Mean Career Decision Self-Efficacy Short Form Scores (n=250)

Behavioral Domain	Mean	SD
Self-Appraisal	4.03	.57
Occupational Information	4.00	.62
Goal Selection	3.98	.62
Planning	3.96	.59
Problem Solving	3.89	.58
Total CDSE-SF Score (25-item)	3.97	.50

Note. 1 = No Confidence, 2 = Very little confidence, 3 = Moderate confidence, 4 = Much confidence, 5 = Complete confidence.

Former FFA members reported CDSE was compared with Non-FFA members (see Table 8). There were negligible differences between Former FFA members and Non-FFA members CDSE scores. The greatest difference was in the area of Planning; former FFA members reported higher confidence ($M=4.03$, $SD=.53$) than Non-FFA members ($M=3.89$, $SD=.63$).

Table 4. 3

Difference Between Former and Non-FFA members Career Decision Self-Efficacy Scores (n=250)

Behavioral Domain	Former FFA Member (n=102)	SD	Non-FFA Member (n=148)	SD
Self-Appraisal	4.03	.55	4.05	.59
Occupational Information	4.00	.56	3.99	.66
Goal Selection	4.01	.58	3.97	.65
Planning	4.03	.53	3.89	.63
Problem Solving	3.89	.58	3.88	.58
CDSE Total Score	3.99	.47	3.96	.53

Objective Two: Describe the level of involvement in the National FFA Organization among College of Agricultural and Life Sciences students.

Of the 250 usable responses, 40% ($n=102$) indicated involvement with the National FFA Organization, 51% ($n=148$) indicated no participation in FFA. Of the 102 who indicated FFA participation, 95% ($n=97$) completed the 18 items for a National FFA score. The Total FFA scores for each student ranged from 0 to 25 points. The higher the score determined the more involvement in the National FFA; students reported their involvement in the National FFA Organization (see Table 4.4). The average score reported by students indicating participation was $M=16.58$ ($SD= 5.54$). Seven students indicated they never obtained a degree through the FFA. 6 (6.1%) earned a Greenhand degree, 31 (30.9%) obtained a Chapter degree, 33 (34.0%) earned a State degree and 22 (22.6%) earned an American degree. The total number that indicated having an officer position was 94 (96%). CALS students indicated the number of years they participated in the National FFA Organization, on average, reporting 3.81 years ($SD=1.12$). Students reported their highest level of Office held in the National FFA Organization with the highest frequency reported being a Chapter Officer ($f=64$, 65.9 %).

Table 4. 4
College of Agricultural and Life Sciences Students' National FFA Degrees Earned, Years of Membership, and Officer Information (n=97)

FFA Component	<i>f</i>	%
Highest Degree Earned		
None	7	7.2
Greenhand	6	6.1
Chapter	31	31.9
State	33	34.0
American	22	22.6
Years in FFA		
1	5	5.1
2	8	8.2
3	12	12.3
4	45	46.3
5+	27	27.8
Officer Information		
Chapter	64	65.9
District/Regional	23	23.7
State	7	7.2
National	0	0.0

FFA Leadership Activities

College of Agricultural and Life Sciences students who indicated former FFA membership were asked to report which leadership conferences, career development events (CDE), State and National conventions they attended, and their supervised agricultural experience (SAE) projects. Table 4.5 illustrates the former FFA member's experiences based on the National FFA list of leadership conferences available to members. Twenty-four (24.7%) students reported they did not attend State convention ($n=32$, 32.9%) students attended four conventions. ($n=19$, 19.5%) students indicated they attended one National convention. ($n=50$, 51.5%) of CALS students reported attending the 212/360 leadership conference. Students also indicated involvement in other leadership events including: District Officer Training (DOT), Washington Leadership Conference (WLC), Chapter

Officer Leadership Training (COLT), National Leadership Conference for State Officers (NLCSO), State Presidents' Conference (SPC), and New Century Farmer as described in Table 4.5.

Table 4. 5

College of Agricultural and Life Sciences Students' National FFA Years of Conventions Attended and Leadership Conferences Attended (n=97)

Leadership Activity	<i>f</i>	%
State Conventions		
0	24	24.7
1	10	10.3
2	10	10.3
3	10	10.3
4	32	32.9
5+	11	11.3
National Conventions		
0	27	27.8
1	19	19.5
2	14	14.4
3	9	9.2
4	5	5.1
5+	3	3.09
Leadership Conferences		
212/360	50	51.5
COLT	30	30.9
WLC	24	24.7
DOT	23	20.6
NLCSO	10	10.3
SPC	6	6.1
New Century Farmer	5	5.1

Career Development Events

CALS students reported their highest level of involvement in Career Development Events (CDE's). Among the top CDE's, Creed Speaking, Livestock Evaluation, and Parliamentary Procedure rated the highest frequencies. Students indicated the lowest participation in the areas of Poultry Evaluation and Dairy Cattle Handling. In total, there

were 25 CDEs that the former FFA members reported competing in at the Chapter, District, State, and National. Students' CDE participation is shown in Table 4.6.

Table 4. 6

College of Agricultural and Life Sciences Students' highest Career Development Event at the Chapter, District, State, and National level (n=97)

Career Development Event	Chapter	District	State	National	Total Participants (n)
	f/%	f/%	f/%	f/%	
Ag. Communications	18(18.5)	5(5.1)	5(5.1)	2(2.1)	31
Ag. Issues	12(12.3)	2(2.1)	4(4.1)	0(0.0)	19
Ag. Tech./Mechanics	9(9.2)	8(8.2)	9 (9.2)	4(4.1)	31
Ag. Sales	10(10.3)	11(11.3)	8(8.2)	1(0.1)	31
Agronomy	11(11.3)	3(3.1)	11(11.3)	2(2.1)	27
Creed Speaking	27(27.8)	17(17.5)	6(6.1)	2(2.1)	52
Dairy Cattle Evaluation	11(11.3)	14(14.4)	11(11.3)	2(2.1)	38
Dairy Cattle Handling	10(10.3)	1(1.0)	2(2.1)	0(0.0)	13
Dairy Foods	12(12.3)	7(7.2)	11(11.3)	2(2.1)	32
Environmental Science	12(12.3)	1(1.0)	4(4.1)	4(4.1)	22
Extemporaneous Speaking	12(12.3)	9(9.2)	8(8.2)	4(4.1)	33
Farm Business Management	12(12.3)	3(3.1)	8(8.2)	4(4.1)	27
Floriculture	10(10.3)	2(2.1)	11(11.3)	1(1.0)	24
Food Science and Tech.	11(11.3)	0(0.0)	5(5.1)	1(1.0)	17
Forestry	9(9.2)	5(5.1)	15(15.4)	0(0.0)	29
Horse Evaluation	12(12.3)	8(8.2)	6(6.1)	2(2.1)	28
Job Interview	8(8.2)	9(9.2)	3(3.1)	1(1.0)	21
Livestock Evaluation	5(5.1)	15(15.4)	26(26.8)	1(1.0)	47
Marketing Plan	7(7.2)	1(1.0)	9(9.2)	3(3.1)	20
Meats Evaluation	5(5.1)	10(10.3)	17(17.5)	2(2.1)	34
Nursery/Landscape	11(11.3)	1(1.0)	9 (9.2)	1(1.0)	22
Parliamentary Procedure	9(9.2)	18(18.5)	14(14.4)	7(7.2)	48
Poultry Evaluation	9(9.2)	0(0.0)	1(1.0)	2(2.1)	12
Prepared Public Speaking	12(12.3)	10(10.3)	5(5.1)	3(3.1)	30

Supervised Agricultural Experiences

CALS students were asked to report their supervised agricultural experience (SAE) projects while involved with the National FFA Organization. Students reported their type of SAE project, years of SAE while in the FFA, and the type of SAE with which they were involved with. Ownership/Entrepreneurship SAE's were rated as the highest ($n = 67$, 69.0%). Students indicated the number of years they participated in their SAE projects as illustrated in Table 4.7.

Table 4. 7
College of Agricultural and Life Sciences Students' Type and Years of Supervised Agricultural Experiences (n=97)

SAE Variable	<i>f</i>	%
Type of SAE		
Ownership/Entrepreneurship	67	69.0%
Placement/Internship	26	26.8%
Research	13	13.4%
Exploratory	8	8.2%
School-Based Enterprise	6	6.1%
Service Learning	8	8.2%
Years of SAE		
0-1	20	20.6%
1-2	15	15.4%
3-4	39	40.2%
5+	22	22.6%

CALS students were asked to indicate any Proficiency awards they received with their SAE projects and any Star Awards earned while participating in the National FFA Organization. National FFA Organization notes that Star awards are given to outstanding members. Students reported winning awards in the areas of Chapter Star in Agribusiness (37.1%) and received Chapter Star Greenhand (4.1%). No other Star or Proficiency awards were reported; Proficiency and Star awards are further outlined in Table 4.8.

Table 4. 8

College of Agricultural and Life Sciences Students' Proficiency and Star Awards (n=97)

Type of Award	<i>f</i>	%
Proficiency Award Type		
Chapter	17	17.5%
District	5	5.1%
State	13	13.4%
National	4	4.1%
Star Awards		
Chapter Star in Agribusiness	36	37.1%
Chapter Star Greenhand	4	4.1%

Overall students indicated involvement in many areas of the National FFA. Students overall National FFA Involvement score was a sum of the weighted score for participation in different aspects of the National FFA. This score was reported as: FFA leadership activities, total CDE participation, FFA Officer total, Years of FFA and total SAE involvement.

Objective Three: Describe the relationship between students' career decision self-efficacy and their involvement in the National FFA Organization.

To describe the relationship between participation in National FFA Organization and the students' career decision self-efficacy, a Pearson Product Moment correlation was calculated to describe the relationship. The total FFA involvement was divided into five separate areas. CDSE scores were compared with the level of indicated involvement. Positive low relationships between CDSE total and total years of FFA participation ($r = .20$), FFA Officer Total ($r = .115$) and Total SAE involvement ($r = .126$) was found. All other relationships were negligible.

Table 4. 9
Total Career Decision Self-Efficacy Score and Relationship to FFA Involvement (n=97)

FFA Variable	1	2	3	4	5	6	7
1. CDSE Total		-.015	-.030	.115	0.20	.126	.074
2. FFA Leadership Activities			.573	.705	.539	.553	.820
3. Total CDE participation				.581	.356	.417	.598
4. FFA Officer Total					.568	.532	.705
5. Years of FFA						.523	.795
6. Total SAE Involvement							.680
7. Total FFA Score							

Note. .01 to .09 = negligible association, 0.10 to .29 = low association, .30 to .49 = moderate association, .50 to .69 = substantial association, and .70 or higher = very strong association, Davis (1971).

Objective Four: Describe the level of involvement of College of Agricultural and Life Science students in collegiate and high school activities.

As part of this research, students were asked to report their high school experience. CALS students indicated the highest involvement in high school sports ($n = 166$, 66.4%), followed by church groups ($n = 98$, 39.2%) and FFA ($n = 97$, 40.8%). The lowest involvement activity was Computer club ($n = 1$, 0.4%) as reported in Table 4.10.

Table 4. 10
Frequency of High School Involvements among CALS Students (n=250)

High School Activities	<i>f</i>	%
School Team Sport	166	66.4%
FFA	102	40.8%
Church Groups	98	39.2%
4-H	94	37.6%
Club Sport	90	36.0%
Band/Orchestra/Choir	90	36.0%
Art	66	26.4%
Student Government	62	24.8%
Tutoring	46	18.4%
Science Fair	40	16.0%
Peer Counseling	37	14.8%
Other	32	14.4%
Drama	34	13.6%
Dance	28	11.2%
BPA	26	10.4%
Foreign Language Club	25	10.0%
Boy/Girl Scouts	24	9.6%
Pep Club/ Cheerleading	21	8.4%
FCCLA	17	6.8%
Cheerleading as a team sport	15	6.0%
Math Club	11	4.4%
DECA	6	2.4%
Boys and Girls Club	5	2.0%
FBLA-PBL	5	2.0%
ROTC	4	1.6%
Chess Club	2	0.8%
Computer Club	1	0.4%

Note. Other Involvements included: Skills USA, HOSA, Science Club, and Honor Society.

Students were asked to describe their level of involvement in activities while attending the University of Idaho. CALS students indicated their highest perceived involvement was in Greek Involvements ($M= 3.47$, $SD= 1.78$), Greek Officer/Executive member positions ($M= 2.94$, $SD= 1.82$), followed by their perceived involvement with CALS internships ($M= 2.78$, $SD= 1.72$). Additional information on the students' collegiate involvements indicated in Table 4.11.

Table 4. 11
Collegiate Involvement Activities (n=250)

Learning Experience	Mean	SD
Greek Involvements	3.47	1.78
Greek Officer/Executive Member	2.94	1.82
Intramural Sports Club(s)	2.80	1.53
CALS internship	2.78	1.72
Sports Team(s) (basketball, baseball, track, etc.)	2.59	1.72
Church Groups	2.52	1.57
CALS ambassador	2.27	1.78
Marching Band/Jazz/Choir	1.62	1.33
Academic Peer Mentoring (APM)	1.62	1.33
Resident Assistant (RA)	1.52	1.12
Student Council (ASUI)	1.48	1.27
Alumni Board (SArB)	1.39	.95

Note. 1= No Involvement, 2 = Very little involvement, 3 = Moderate involvement, 4 = Much involvement, 5 = Very high involvement

Objective Five: Describe the relationship between students' career decision self-efficacy and their involvement with collegiate and high school activities.

Collegiate and high school activities were categorized into three separate learning experiences: (a) academic clubs, (b) performance activities, (c) community clubs/activities.

A negligible association was identified between CDSE and high school activities (See Table 4.12).

Table 4. 12
Total CDSE Score and Relationship to High School Involvements (n=250)

High School Learning Experience	1	2	3	4
1. CDSE Total		.062	.074	.005
2. Academic Clubs Total			.286	.266
3. Performance Activities Total				.112
4. Community Involvement Total				

Note. 01 to .09 = negligible association, 0.10 to .29 = low association, .30 to .49 = moderate association, .50 to .69 = substantial association, and .70 or higher = very strong association, Davis (1971)

CDSE and College Activities

A low positive relationship was identified between students CDSE score and Academic clubs total. All other collegiate activities had a negligible association to CDSE.

The relationships are outlined in table 4.13.

Table 4. 13
Total CDSE score and Relationship to College Involvements (n=250)

College Involvement	1	2	3	4
1. CDSE Total		.172	.046	-.019
2. Academic Clubs Total			.173	.323
3. Performance Activities Total				.356
4. Community Involvement Total				

Note. 01 to .09 = negligible association, 0.10 to .29 = low association, .30 to .49 = moderate association, .50 to .69 = substantial association, and .70 or higher = very strong association, Davis (1971).

Summary

Chapter four discussed results and relationships from this study's five objectives; Students reported moderate to high confidence in their career decision self-efficacy. CALS students reported involvement in the National FFA Organization with 40% of the students indicating former membership. A negligible difference was reported between Former FFA members and non-FFA members although, former members reported higher confidence in most of the CDSE subscales compared to and non-FFA members. Students also indicated involvement in other areas in regards to their high school and colligate learning experiences. Low associations were reported between high school involvements and CDSE score. According to Davis (1971) .30 to .49 correlation coefficient is a moderate association; a moderate association was shown between students' academic club totals and their CDSE scores.

Chapter 5:

Implications, Conclusions, and Recommendations

Career opportunities in the areas of agriculture, food, and natural resources are expected to grow in the next five years (Goeckner et al., 2015). Current positions in the agricultural industry are being filled by individuals with little agricultural knowledge leading to occupations filled by less skilled and experienced graduates (Swan & De Lay, 2014). According to Selingo (2013), the general public perceives college graduates as lacking in the real world skills needed for professional careers. In order to meet the needs of a globalized and diversified agricultural industry, students must be provided with the tools and resources to support the requirements of a growing nation and world (Marx et al., 2014).

The National FFA Organization mission states “FFA makes a positive difference in the lives of students by developing their potential for premier leadership, personal growth and career success through agricultural education” (The National FFA Official Manual, 2016, p. 7). The National FFA Organization’s mission articulates the overarching goal in agricultural education to encourage success in careers within the agricultural industry. “Secondary agricultural education programs purport to provide students with career-founded and career-directed experiences” (Marx, Simonsen, & Kitchel, 2014, p. 215). Further evidence is needed to support the influence of the National FFA Organization in filling the current deficit of occupations in the agricultural industry. This study sought to describe the relationship between College of Agricultural and Life Science (CALS) students’ participation in the National FFA Organization and the potential career building experiences related to the individual’s career decision self-efficacy (CDSE).

Purpose and Objectives

The purpose of this study was to describe the relationship between students' participation in the National FFA Organization and their perceived career decision self-efficacy. The objectives for this study were:

6. Describe the career decision self-efficacy (CDSE) of College of Agricultural and Life Sciences students.
7. Describe the level of involvement in the National FFA Organization among College of Agricultural and Life Sciences students.
8. Describe the relationship between students' career decision self-efficacy and their involvement in the National FFA Organization.
9. Describe the level of involvement in College of Agricultural and Life Science students in collegiate and high school activities.
10. Describe the relationship between students' career decision self-efficacy and their involvement with collegiate and high school activities.

Review of Methods

A total of 290 junior and seniors in CALS started the questionnaire, yielding 250 usable responses. Data collection took place during the Spring 2017 Semester at the University of Idaho. The questionnaires were administered through Qualtrics® using *Tailored Design Method* (Dillman et al., 2009).

Students completed an instrument with four sections, utilizing the Career Decision Self-Efficacy Scale Short-Form (CDSE-SF) (Betz, Klein, & Taylor, 1996). High school involvement items, which described the students' involvement in different learning

experiences (Eccels & Barber, 1999), the National FFA Organization involvement items (Priest, 2008; Marx et al., 2014), collegiate involvement items (Astin, 1984; Dugan, 2013) were included. Finally, demographic characteristics were collected. Responses were analyzed in SPSS. Descriptive statistics were used to calculate means and frequencies of activities and Pearson product moment correlation were used to examine relationships between CDSE items and student involvements.

Summary of Conclusions

Objective One: Describe the career decision self-efficacy (CDSE) of College of Agricultural and Life Sciences students.

Of the 250 usable responses, 72 (28.8%) were male, 169 (67.6%) were female and 9 (.03%) preferred not to respond to indicating their gender. 210 (84%) of the respondents identified as White, 15 (6.25%) identified as Hispanic or Latino, 6 (2.5%) identified their ethnicity as Asian; 6 (2.5%) identified as American/Alaskan Native; 2 (.008%) students indicated as African American; and 1 (.004%) student identified as Pacific Islander or Native Hawaiian.

The total CDSE mean was 3.97 ($SD=.27$). Bandura (1994) theorized that individuals with a high sense of self-efficacy advance to a given task with greater confidence to obtain goals. In contrast, individuals with low efficacy tend to show hesitation about their abilities, resulting in avoidance of specific situations where the individual does not feel that they can complete the task (Bandura, 1994). Betz and Klein (1996) suggest a scale score of 3.5 or above indicates moderate to high confidence which indicates students will be willing to approach or try the behavior in question; whereas a score below 3.0 proposes inadequate

confidence to complete career oriented tasks. Students in the CALS at the University of Idaho indicated they had moderate to high self-efficacy.

Students displayed the highest confidence in the area of Self-Appraisal with a mean score of ($M = 4.03$, $SD = .19$). This is consistent with Marx et al. (2014) in their examination of high school agricultural students who indicated Self-Appraisal as their most confident behavioral domain, signifying that the CALS students were confident in their ability related to obtaining information related to their career interests. Students indicated other scores including: Gathering Occupational Information ($M = 4.00$, $SD = .38$), followed by Goal Selection ($M = 3.99$, $SD = .38$), Planning ($M = 3.96$, $SD = .23$). Students had the lowest confidence in the behavioral domain of problem solving ($M = 3.89$, $SD = .23$). Students indicating high confidence in the areas of Self Appraisal and Gathering Occupational information may seem to give an indication that students have adequate exposure to career oriented experiences. “The nature of goal selection involves both cognitive and affective processes, as an individual is encouraged to consider personal beliefs and values (which are determined through accurate self appraisal), against potential career options” (Priest, 2008, p. 77). As the students accurately assess their personal strengths through the behavioral domain of Self Appraisal their goals may better be oriented to confidence building experiences.

The ranking of the behavioral domains are consistent with Marx et al.’s (2014) study. Priest (2008) also reported students had the lowest confidence in Problem Solving. This indicated that students were less confident in their ability to successfully navigate hardships experienced when making career related decisions. Blickenstaff et al. (2015) reported on the skills considered as most valuable for higher education as perceived by faculty members.

They reported the most valuable skill that students should possess to be successful in agricultural careers are problem solving, critical thinking, and writing (Blickenstaff et al., 2015).

In this study students in the College of Agricultural and Life Sciences reported being less confident in the areas of Problem Solving; further focus on developing problem solving skills may be beneficial for both faculty and students at the University of Idaho. In order to continue to build confidence in career decision among students at the University of Idaho it is recommended that student engage in activities that enhance areas of low confidence. To build confidence in the area of problem solving students may benefit from taking unfamiliar courses or expanding into different content areas to challenge and build problem solving skills needed to address problems they will face in their future careers.

Objective Two: Describe the level of involvement in the National FFA Organization among College of Agricultural and Life Sciences students.

Social Learning Theory of Career Development, SLTCDM, rationalizes the origins of career choice and articulates the factors that influence individuals to pursue various occupations (Krumboltz et al., 1976). An individual's pursuit of particular educational programs and preferences related to occupational activities at different points in a person's life (Mitchell & Krumboltz, 1990). A core concept included in SLTCDM is learning experiences; Learning experiences occur from perceived connection between stimuli in the environment. Individuals observe and associate positive or negative characteristics with occupational decision (Mitchell & Krumboltz, 1990).

The National FFA Organization is an organization dedicated to fulfilling the necessities of the diverse agriculture, food, and natural resources demands. Agricultural

education supports students' experiences in various areas of agriculture so the individuals can make informed career-oriented decisions. The National FFA Organization is considered an *intracurricular* aspect of agricultural education (Priest, 2008). Intracurricular refers to the agricultural education three-circle model encompassing classroom instruction, SAE, and FFA. For the purpose of this study, any experience including youth development, collegiate involvement or National FFA participation were considered involvement activities.

FFA Membership

The National FFA Organization suggests development of personal development and career interest in agriculture. Of the 250 useable responses, 102 (40%) students indicated past involvement with the FFA; the number of students involved was less than what was reported by Priest (2008) and more closely reflects the national average at randomly selected sites of FFA members (62.25%) enrolled in agricultural education courses (Lawrence, Rayfield, Moore, & Outley, 2013). The CALS students responded to 18 items to indicate their learning experience in the National FFA Organization.

Overall students reported being active in the organization. Of the respondents 7 (7.2%) indicated they did not earn a degree through the National FFA Organization, where as 6 (6.1%) earned a Greenhand degree, 31 (31.9%) earned a Chapter degree, 33 (34.0%) State, and 22 (22.6%) earned an American degree. The average number of years students were involved in FFA was 3.81 years. This finding implied the positive impact of the National FFA Organization suggesting that students once enrolled in FFA tended to stay members throughout their high school career. Retention of high school students indicates more exposure to agricultural opportunities that enhance and build the students interest in

agriculturally related careers. The number of students reporting involvement in the National FFA Organization is a positive impact for the College of Agricultural and Life Sciences at the University of Idaho. Students bring their diverse background experiences, as suggested by Lent et al. (1994), to their post-secondary education. Students may better inform instruction at the university to create positive impacts on clubs, instruction, and involvements within their educational experience.

The majority of the students who were FFA members indicated they were past officers in the FFA. 64 students indicated they were chapter officers; less than half of the students were District Officers, and seven indicated they were state officers, and there were no national officers attending the University of Idaho during the period covered by this survey. Simonson et al. (2014) reported that most respondents were active in their community and deemed service to be important. Students who reported as serving as an officer or team leader during their high school experiences were likely to have higher perceptions of their leadership efficacy and charisma (Simonsen et al., 2014).

Leadership Activities

Students were asked to indicate their involvement with leadership activities offered through the National FFA Organization. Of the 97 respondents, 50 (51.5%) reported attending the 212/360 leadership conference which was among the most well attended of all the leadership activities. The 212/360 leadership conferences provide high school students with an introductory experience in the National FFA Organization. 23 (23.7%) students attended District Officer Training (DOT), 24 (24.7%) indicated they attended Washington Leadership Conference (WLC), 30 (30.9%) attended Chapter Officer Leadership Training

(COLT), 10 (10.3%) reported attending National Leadership Conference for State Officers (NLCSO), 6 (6.1%) attended State Presidents' Conference (SPC), 5 (5.1%) attended New Century Farmer. Similarly to findings in this study, less than half of the former FFA members attended leadership activities beyond 212/360, is consistent from Priest (2008) and a prior study by Talbert and Balschweid (2004). Alternatively, over half of the CALS students indicated attended the 212/360 leadership conference, which fosters further interest in the National FFA and possible career options in agriculture. It may be beneficial to note the impact of these leadership activities in future studies. 24 (24.7%) of the 97 FFA students noted that they had never attended a State convention. Similarly, 27 (27.8%) students indicated that they had never attended a National FFA convention. Participation in State and National conventions may provide students with further opportunity to develop as agriculturalists.

Career Development Events

Career development events are another component of the National FFA; CDE's are specific opportunities for agricultural education students to apply their knowledge and skills gained in the classroom and apply it to real world situations (Priest, 2008). Twenty-four CDEs cover a multitude of agriculturally related skills (The National FFA Official Manual, 2016). These events allow agricultural students to think critically, correspond clearly and perform efficiently (The National FFA Official Manual, 2016, p. 61). CDE's are considered learning experience for student members in the National FFA Organization. Nearly all students at the University of Idaho indicated participation in in at least one Career Development Event. Priest (2008) found that 56.7% of high school students competed in a

CDE event. The highest participation indicated by the students was in Parliamentary Procedure, Creed Speaking, Livestock Evaluation and Agricultural Communications CDE's. This may give further insight into what common CDE events are coached in the State of Idaho. Among the lowest participation was Poultry Evaluation, and Dairy Cattle Handling events.

“Ideally the act of preparing for CDE's at the district state or national level gives students a deeper knowledge in segments of specific career areas around which the events are designed” (Marx et al., 2014, p. 224). Students indication of high participation in only a few CDE events may indicate that former FFA members in the college of agriculture have limited experiences with only a handful of Career Development Events offered through the National FFA Organization. Agricultural educators at the secondary and post secondary level may benefit from diversifying the amount of CDE participation that each student has.

Supervised Agricultural Experience

Croom (2008) indicated that Supervised Agricultural Experiences (SAE) are independent learning experiences for students enrolled in agricultural programs. They require substantial time and cooperative development by the students, teacher, parents, and employer (Croom, 2008). Students reported a high amount of involvement in SAE's with 92 of the 97 students indicating involvement in an SAE project. The number of years that students indicated having an SAE varied; 20 (20.6%) of students indicated just one year of SAE; 39 (40.2%) indicated they had an SAE enterprise for three to four years during their high school experience. Among the reported SAE's, Ownership/Entrepreneurship was rated

as the highest frequency with 67 (69.0%) of students reporting involvement. The lowest frequency of SAE was in the area of Service Learning with only 8 (8.2%).

The Ownership/Entrepreneur findings were accompanied by most of the students indicating SAE projects in the areas of beef, swine, and sheep production. This gives an indication that students in Idaho are involved in the animal production aspects of SAE projects. It is recommended that high school and collegiate agricultural educators introduce a variety of hands on projects that are available to students. Diversified experience in multiple aspects of the agricultural industry could foster career decision in agriculture.

Objective Three: Describe the relationship between students career decision self-efficacy and their involvement in the National FFA Organization.

The student's involvement is described by leadership activities that includes degrees earned in the FFA, national and state conventions attended, and leadership activities. Further, student involvement includes years involved with the National FFA Organization, CDE participation, and total SAE involvement that encompasses Star and Proficiency Awards. The Total FFA scores for each student ranged from 0 to 25 points. The higher the score determined the more involvement in the National FFA. The average score obtained by students indicating participation was $M=16.58$ ($SD= 5.54$). The average score indicated that students in CALS were involved in many different areas of the National FFA Organization.

Although their participation in the National FFA was important for building diversified agricultural experience, results indicated that there is little to no relationship between FFA involvement and career decision self-efficacy. This finding reflects Riesenberg and Lancaster (1990) examination of students at the University of Idaho who were completers and non-completers of secondary agricultural education programs. A

random stratified sample of students yielded no significant difference between the two groups in regards to collegiate success and retention (Riesenberg and Lancaster, 1990). This finding was also reflected in a similar finding from Smith et al. (2010) found in a longitudinal investigation, that there was no significant difference between the academic performance of students who enrolled or did not enroll in a secondary agricultural programs.

The relationship between confidence in selecting an agricultural major and prior learning experiences through the National FFA may give insight into the selection of an agricultural major. Wildman and Torres (2001) concluded that “prior experience in agriculture” was the highest ranked influence on choice of an agricultural major. Similarly, Rayfield et al. (2013) found 45.3% of the Texas A&M students indicated participation in 4-H or FFA career development events, which were noted as not influential in their decision to pursue an agricultural major.

There was a negligible relationship between former FFA members and Non-FFA members CDSE score. CALS students reported moderate to high career decision self-efficacy in this study; as supported by Krumboltz et al. (1976) the nature and complexity of learning experiences accounts for infinite variations that influence the development of career preferences and skills that dictate career selection. No direct relationship was found between the National FFA organization and CDSE, but students’ diverse backgrounds and learning experiences have built their confidence in selecting a career in agriculture. Moreover, Lent et al. (1994) purposed the process guiding career development can be applied over an individual’s lifespan; this suggests that students will continually adapt to their environment and situation to build confidence in their careers. When students begin building confidence

through agricultural youth organization, such as the National FFA, individuals will continually build knowledge and create positive interactions through agricultural education.

Objective Four: Describe the level of involvement in College of Agricultural and Life Science students' in collegiate and high school activities.

Overall students indicated that they were involved in a wide variety of activities during their high school and college experiences. CALS students indicated the highest involvement was in high school sports ($f=166$, 66.4%), church groups ($f=98$, 39.2%), followed by FFA ($f=97$, 38.8%). Similar findings from Priest (2008) noted high indication in team sports, church organization, and FFA participation. Students' experience in different activities demonstrates aspects of Krumboltz et al. (1976) theory that expresses environmental conditions encompass aspects surrounding individuals' experience; these conditions include training and work opportunities available in the vicinity of the person, technological developments, family training experiences, social, and financial resources (Mitchell & Krumboltz, 1990).

Further, students indicated involvement during their experience at the University of Idaho Students indicating their highest perceived level of involvement in each of the activities. CALS students indicated their highest perceived involvement was in Greek Involvement ($M = 3.47$, $SD = 1.78$), Greek Officer/Executive member positions ($M = 2.94$, $SD = 1.82$), followed by their perceived involvement with CALS internships ($M = 2.78$, $SD = 1.72$). Similarly Foreman and Retallick (2012) identified and described experiences of senior students at Iowa State University. The research team noted the average time students spent in extracurricular clubs and organizations ranged from 0 to 20 or more hours per week. Students who held positional leadership roles spent more time involved with the clubs and

organizations; the College of Agriculture and Life Sciences students scored higher on the leadership scales than their counterparts (Foreman & Retallick, 2012). It is clear that students feel that their involvement in a variety of activities gives a diversified experience in high school and college. Students reporting high involvement in their Greek organizations indicates that students feel a strong sense of belonging at the University of Idaho willing to improve and communicate within their respected communities. Further research may seek to further describe the collegiate involvements have on the students career decision self-efficacy.

Objective Five: Describe the relationship between students career decision self-efficacy and their involvement with collegiate and high school activities.

Dugan and Komives (2007) found that 80 percent of students participate in at least one college organization by the end of their undergraduate programs. Astin (1984) defined student involvement as “the quantity and quality of the physical and psychological energy that students invest in the college experience” (p. 528). Bandura (1986) suggested that persons are managers of change, if individuals are proactively engaged in their development they can make things change (Bandura, 1986). People have self-beliefs that allow them to employ control over thoughts, feelings, and actions; in turn allowing the individual to guide change (Pajares, 2002).

A moderate association was found between the students’ CDSE score and Academic clubs total. A moderate correlation was identified between the CALS students CDSE score and their performance activities. Overall there was little evidence to support that high school and collegiate activities impact student’s career decision self-efficacy in this study. Students were involved in many extra curricular involvements that provided many learning

experiences for CALS students. Further examination on student involvement in developing career decision self-efficacy should be conducted.

Implications and Recommendations

Results of this study suggest that students in the College of Agricultural and Life Sciences at the University of Idaho have moderate to high career decision self-efficacy. This implies that students are confident in their ability to make career related decisions through the five behavioral domains outlined by Taylor and Betz (1983). There was no evidence to support that specific learning activities influence CALS students' CDSE scores. This holds true for involvement in the National FFA Organization, despite the multitude of experiential activities through CDE and SAE participation. Because of the low response rate, and the ethnic homogeneity of the students, findings from this study cannot be generalized beyond this study's population. Based on these findings we can draw the following conclusions:

- CALS student's career decision self-efficacy showed moderate to high confidence in making career decision. This indicates that students have the opportunity to expand on their career related experiences and tasks to build self-efficacy in decisions pertaining to their future occupations.
- CALS students reported high involvement in many different areas of the National FFA Organization. Students were exposed to a wide variety of career development events, supervised agricultural experiences, and other influential activities provided through the National FFA. This indicates that CALS students did gain experience through the FFA, of the relationship between level of involvement and students' CDSE score was negligible.

- CALS students' collegiate involvements ranged widely, giving the students a wide variety of learning experiences and opportunity to build connections and occupational interest in an agriculturally related career. Students gained experience through many opportunities presented from the University of Idaho and their collegiate involvement.

The following recommendations are provided in an effort to guide further practice in the agricultural education profession and provide further guidance to develop agricultural occupational interest in students:

- Additional research should be conducted to relate personal inputs, environmental conditions, and other influences on students in the College of Agricultural and Life Sciences at the University of Idaho to further describe the relationship between CDSE and other important factors of career choice.
- Further research should move to validate measures of leadership activities, FFA officer involvement, years of FFA, CDE participation, SAE participation and other FFA activities that may influence career decision self-efficacy.
- Among recommendations for students in CALS, students should seek out opportunities to communally build their career decision self-efficacy in both high school and at the University level to gather information and guide occupational selection.
- Agricultural Educators at the secondary level should seek to implement career related activities, job shadowing, and opportunities to further guide students to vital careers in agriculture.

- Faculty and Staff at the University level may need to implement requirements allowing students to become more confident in their occupational decisions; these opportunities could be further outlined by items included in the CDSE-SF scale.
- Additional research should be conducted to investigate the empirical support of the National FFA Organizations' mission to provide career interest in agricultural occupations. Further research may guide other variables of career success in addition to career decision self-efficacy.

Summary

Students at the University of Idaho will find an interactive and productive environment that seeks to prepare students for successful careers in all pursuits. Students' diverse perspectives, learning experiences, and networks further inform and guide educational opportunities at the university. Findings from this study indicate that upperclassmen at the University of Idaho had moderate to high confidence in their career decision self-efficacy. Outcomes from this study support prior findings that FFA may have some impact on students career decision in agriculture. Students that are given a wide exposure to many different areas in agriculture are likely to foster strong connections with a career in agriculture to meet the demands of a growing nation and world.

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Appendix 1

Pre-Notice

Good Afternoon CALS student,

March 3rd 2017

I am writing you as a pre-notice to ask for your help with a study being conducted by the Department of Agricultural and Extension Education at the University of Idaho. This study is part of an effort to learn more about students past involvements and career decision in an agricultural related field.

Results from this survey will be used to help faculty and staff in the College of Agricultural and Life Sciences to guide and improve career decision opportunities for students. Please be on the look out for the survey **in the next three days**.

Thank you for your time and consideration. It is only with your generous help that our research can be successful. If there are any further questions feel free to contact me at the Agricultural and Extension Education phone: (208) 885-6358 or directly via email at: hoyl1000@vandals.uidaho.edu

Thank you,

Travis Hoyle
Graduate Assistant
Agricultural and Extension Education
University of Idaho

Faculty supervisor
Kattlyn J. Wolf
Associate Professor
kwolf@uidaho.edu

Appendix 2

Cover Letter

Good Afternoon CALS student,

March 7th 2017

Introduction

The purpose of this study is to look at the relationship between your involvement in the College of Agricultural and Life Sciences and your ability to make career decisions. Your responses will help inform potential areas of growth in the Vandal community.

What is involved?

Your participation in this study is voluntary and you may choose to withdraw at any time without penalty to your academic status, GPA, or standing with the University of Idaho. There are no known risks resulting from your participation. There is no cost to you except your time. If you decide to participate, you will complete four sections taking no more than 10 minutes. To protect your identity and contact information the responses you provide will be kept secure and separate from your name in the processing and reporting of data.

Compensation

There is no direct compensation, although upon completion of the survey your name will be entered in a drawing for one of 5 items from the University of Idaho Bookstore.

Questions about the research

If you have further questions regarding this study, you may contact Travis Hoyle, at 208-885-6368 or at hoyl1000@vandals.uidaho.edu about the further procedures and information.

Questions about your rights as research participant

If you have questions you do not feel comfortable asking the researcher, you may contact Dr. Kattlyn J. Wolf, 208-885-6368, kwolf@uidaho.edu. Or Dr. Kasee Smith, klsmith@uidaho.edu. Or contact the University of Idaho's Institutional Review Board, 208-885-6340, irb@uidaho.edu. for further information regarding procedures and participation.

Thank you for your time and willingness to help gather information, as your responses are valuable to building the College of Agricultural and Life Science's at the University of Idaho.

Sincerely,

Travis Hoyle
Graduate Student
hoyl1000@vandals.uidaho.edu

Appendix 3

Questionnaire Content

Career Decision Self-Efficacy Short Form Scale

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 filling in the correct circle on the answer sheet.

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

over the next ten years.					
Choose a career that will fit your preferred lifestyle.	1	2	3	4	5
Prepare a good resume.	1	2	3	4	5
Change majors if you did not like your first choice.	1	2	3	4	5
Decide what you value most in an occupation.	1	2	3	4	5
Find out about the average yearly earnings of people in an occupation.	1	2	3	4	5
Make a career decision and then not worry whether it was right or wrong.	1	2	3	4	5
Change occupations if you are not satisfied with the one you enter.	1	2	3	4	5
Figure out what you are and are not ready to sacrifice to achieve your career goals.	1	2	3	4	5
Talk with a person already employed in a field you are interested in.	1	2	3	4	5
Choose a major or career that will fit your interests.	1	2	3	4	5
Identify employers, firms, and institutions relevant to your career possibilities.	1	2	3	4	5
Define the type of lifestyle you would like to live.	1	2	3	4	5
Find information about graduate or professional schools.	1	2	3	4	5
Successfully manage the job interview process.	1	2	3	4	5
Identify some reasonable major or career alternatives if you are unable to get your first choice.	1	2	3	4	5

HIGH SCHOOL INVOLVEMENT

1. INSTRUCTIONS: Reflecting on your high school experiences, please indicate your involvement in the following activities:

School Activities	Yes, I was involved	Not Applicable to me
School team Sport (Softball, Basketball, etc.)		
Dance		
Band/Orchestra/Choir		
Drama		
Art		
Student Government		
Pep Club/ Cheerleading		
Cheerleading as a team sport		
Church Groups		
Tutoring		
Science Fair		
Math Club		
Computer Club		
Chess Club		
Foreign Language Club		
4-H		
National FFA Organization (FFA)		
Family, Career, and Community Leaders of America (FCCLA)		
ROTC		
Boy Scouts/Girl Scouts		
Boys and Girl's Club		
Business Professionals of America (BPA)		
DECA		
Future Business Leaders (FBLA-PBL)		
Other Career Related Club		

INSTRUCTIONS: Section 2 is designed to collect further information on your FFA experiences. Reflecting back to your FFA experiences indicate your involvement with the following:

Please indicate the highest FFA degree earned:

- Greenhand
- Chapter
- State
- American
- None

How many years did you participate in the National FFA Organization?

Were you a Chapter FFA Officer?

- Yes
- No

Were you a District Officer?

- Yes
- No

Were you a State Officer?

- Yes
- No

Please indicate which Leadership Conferences you participated in from the National FFA Organization:

- 212/360 Conference
- District Officer Training
- Washington Leadership Conference (WLC)
- Chapter Officer Leadership Training (COLT)
- National Conference for State Officers (CSO)
- State Presidents' Conference (SPC)
- New Century Farmer

As a high school member did you attend State or National FFA Conventions?

- Yes
- No

As a high school member did you attend State or National Convention?

How many State Conventions in total?

How many National Conventions in total?

What type of SAE did you have?

- Ownership/Entrepreneurship
- Placement
- Research

- Exploratory
- School-Based Enterprise
- Service-Learning

How many years did you have an SAE project?

Please indicate all your supervised agricultural experience (SAE) enterprise(s):

SAE Enterprise	Check if involved:
Ag. Education	
Ag. Mechanics Design and Fabrication	
Ag. Mechanic Repair and Maintenance	
Ag. Processing	
Ag. Sales	
Ag. Services	
Agriscience Animal System Research	
Agriscience Plant Systems Research	
Agriscience Integrated Systems Research	
Beef Production	
Diary Production	
Diversified Agricultural Production	
Diversified Crop Production	
Diversified Horticulture	
Diversified Livestock Production	
Environmental Science and Natural Resource Management	
Equine Science	
Fiber and Oil Crop Production	
Food Science and Technology	
Forage Production	
Forestry Management	
Fruit Production	
Goat Production	
Grain Production	
Home and/or Community Development	
Landscape Management	
Nursery Operations	
Outdoor Recreation	
Poultry Production	

Sheep Production	
Small Animal Production/Care	
Specialty Crop Production	
Swine Production	
Turf Grass Management	
Vegetable Production	
Veterinary Science	
Wildlife Production and Management	

Did you win a Proficiency award for your SAE project?

- Yes
- No

Please indicate the highest level your proficiency award achieved:

- Chapter
- District
- State
- National

Have you been awarded a Star Award? Please indicate all your Star award(s):

- Chapter Star Greenhand
- Chapter Star Farmer
- Chapter Star in Agribusiness
- Chapter Star in Agriscience
- State Star Farmer
- State Star in Agribusiness
- State Star in Agriscience
- American Star Farmer
- American Star in Agribusiness
- American Star in Agricultural Placement
- American Star in Agriscience

Please check your highest level of involvement with the following career development events (CDE's) you participated in:

CDE Event	Chapter	District	State	National
Ag. Communications				
Ag. Issues				
Ag. Mechanics				
Ag. Sales				
Agronomy				
Creed Speaking				
Dairy Cattle Evaluation				
Dairy Cattle Handler's Event				
Dairy Foods				
Environmental and Natural Resources				

Extemporaneous Public Speaking				
Farm Business Management				
Floriculture				
Food Science and Tech.				
Forestry				
Horse Evaluation				
Job Interview				
Livestock Evaluation				
Marketing Plan				
Meats Evaluation and Tech.				
Nursery/Landscape				
Parliamentary Procedure				
Poultry Evaluation				
Prepared Public Speaking				
Other CDE Event				

COLLEGE INVOLVEMENTS AND DEMOGRAPHICS

INSTRUCTIONS: Reflecting on your involvement during your present and past college experiences, please indicate your perceived level of involvement from the following:

Activity:	No Involvement 1	Very Little Involvement 2	Moderate Involvement 3	Much Involvement 4	Complete Involvement 5
Sports Team(s) (basketball, baseball, track, etc.)	1	2	3	4	5
Intramural Sports Club(s)	1	2	3	4	5
Church Groups	1	2	3	4	5
Greek Involvements	1	2	3	4	5
Greek Officer/Executive Member	1	2	3	4	5
Resident Assistant (RA)	1	2	3	4	5
Student Council (ASUI)	1	2	3	4	5
CALS internship	1	2	3	4	5
CALS ambassador	1	2	3	4	5
Alumni Board (SArB)	1	2	3	4	5
Marching Band/Jazz/Choir	1	2	3	4	5
Academic Peer Mentoring (APM)	1	2	3	4	5
Other	1	2	3	4	5
Other Activities Officer Duties	1	2	3	4	5

Please tell us more about yourself:

1. What is your Gender?
 - Male
 - Female
 - Prefer not to Respond
2. What is your Ethnic Identification?
 - African American or Black
 - Asian
 - Hispanic or Latino
 - Native American or Alaskan Native
 - Native Hawaiian or Pacific Islander
 - White

Appendix 4

Reminder Letter

Good Morning CALS Upperclassmen,

March 30 2017

I wanted to contact you as a reminder for a study to learn more about student's past involvements and career decision in an agricultural related field. Upon completion you will be entered into a drawing from the University bookstore.

Please follow this link for the career survey:

SurveyLink

Remember it will take **less than 10 minutes** to complete! It is only with your generous help that our research can be successful. If there are any further questions please contact me at the AEE phone: (208) 885-6358 or directly via email at: hoy11000@vandals.uidaho.edu

Thank you,

Travis Hoyle | Graduate Assistant
Agricultural and Extension Education
College of Agricultural and Life Sciences
University of Idaho

Kattlyn J. Wolf
Faculty supervisor
Associate Professor
kwolf@uidaho.edu

Appendix 5

Institutional Review Board Outcome Letter

University of Idaho

Office of Research Assurances
 Institutional Review Board
 875 Perimeter Drive, MS 3010
 Moscow ID 83844-3010
 Phone: 208-885-6162
 Fax: 208-885-5752
irb@uidaho.edu

To: Kattlyn J Wolf

Cc: Travis Hoyle

From: Jennifer Walker, IRB Coordinator

Approval Date: December 21, 2016

Title: Career Decision Self-Efficacy among College of Agriculture and Life Science Student's at the University of Idaho

Project: 16-142

Certified: Certified as exempt under category 2 at 45 CFR 46.101(b)(2).

On behalf of the Institutional Review Board at the University of Idaho, I am pleased to inform you that the protocol for the research project Career Decision Self-Efficacy among College of Agriculture and Life Science Student's at the University of Idaho has been certified as exempt under the category and reference number listed above.

This certification is valid only for the study protocol as it was submitted. Studies certified as Exempt are not subject to continuing review and this certification does not expire. However, if changes are made to the study protocol, you must submit the changes through [VERAS](#) for review before implementing the changes. Amendments may include but are not limited to, changes in study population, study personnel, study instruments, consent documents, recruitment materials, sites of research, etc. If you have any additional questions, please contact me through the VERAS messaging system by clicking the 'Reply' button.

As Principal Investigator, you are responsible for ensuring compliance with all applicable FERPA regulations, University of Idaho policies, state and federal regulations. Every effort should be made to ensure that the project is conducted in a manner consistent with the three fundamental principles identified in the Belmont Report: respect for persons; beneficence; and justice. The Principal Investigator is responsible for ensuring that all study personnel have completed the online human subjects training requirement.

You are required to timely notify the IRB if any unanticipated or adverse events occur during the study, if you experience and increased risk to the participants, or if you have participants withdraw or register complaints about the study.