

THE INFLUENCE OF EXTRACURRICULAR INVOLVEMENT ON HIGH SCHOOL
STUDENTS' ACADEMIC ACHIEVEMENT AND ENGAGEMENT IN SCHOOL

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Title

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North Dakota State University's regulations and meets the accepted
standards for the degree of

MASTER OF SCIENCE

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ABSTRACT

The purpose of this study was to examine the relationship between specific extracurricular activities and the outcomes of student achievement and student engagement. The target population was 11th -12th grade student enrolled in high schools purposely selected for having FFA. Total study participants included 237 (N) student from a purposive sample. Participants completed an instrument that combined the Student Engagement Instrument (Appleton, Christenson, Kim, & Reschly, 2006), the Student Engagement versus Disaffection: Student Report (Skinner, Kindermann, & Furrer, 2009), and self-reported extracurricular involvement and Grade Point Average(s) GPAs and ACT scores. The results of the study indicate that students who participated in Career and Technical Student Organizations (CTSOs) have practically the same self-reported engagement and achievement as students who participated in non-CTSO activities.

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Goals and ambitions do not come easy, but the blood, sweat, and tears (lots and lots of tears) make the finish line that much more satisfying. However, without the help and support from the following people, this journey would have been substantially harder.

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DEDICATION

To my parents and grandparents: for teaching me some of life's most important lessons and values at a young age. I would not be the person I am today without you. Thank you.

To my siblings Cole, Chandler, Calli, and Casitee: thank you for always being there for some of the hardest obstacles in my life so far. You continue to push me in all aspects of my life, and I have loved growing up beside you. I am sorry that I am so bossy, but let's be real, that probably is not going to change. Thank you for accepting me for who I am anyway.

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CHAPTER 1. INTRODUCTION

Most American schools have a trophy case full of plaques, trophies, and awards proclaiming the sporting and academic accomplishments past students have achieved. There is no doubt those students must have devoted considerable time and energy to earn those recognitions. The key here is that these honors are for school-sponsored student work done outside the classroom, i.e., they are extracurricular. Currently, this paradigm of student engagement through extracurricular activities is under assault from the need to teach to test-driven standards and from diminishing budgets. While these constraints are both real and ongoing, the effect of removing these popular avenues on student learning engagement inside the classroom is only now being explored.

Engagement

Student engagement is a measure of how invested a student is in his or her learning (Axelson, 2010). Students can be engaged behaviorally, emotionally, and cognitively (Fredricks, Blumenfeld, & Paris, 2004). These facets, although separated categorically, represent different layers of the learning process, and thus each facet is needed for a student to achieve what could be considered model student engagement (Jimerson, Campos, & Greif, 2003; Klem & Connell, 2004; Skinner, Furrer, Marchand, & Kindermann, 2008).

Other aspects of students' lives such as external and internal influences often affect these facets of engagement. External influences include socioeconomic status, cultural background (Newman, 1991), gender (Thijs & Verkuyten, 2009), and grade level (Marks, 2000). However, students and the students' life experiences are not the only considerations when examining external influences on student engagement; the teacher is also responsible for ensuring that his or her classroom fosters student engagement (Klem & Connell 2004). When the teacher is

successful in developing an engaging learning environment, this environment fosters student success (Klem & Connell, 2004).

In addition to external factors, internal factors affect student engagement (Alderman, 2008; Barkley, 2010; Dicke, Elling, Schmeck, & Leutner, 2015). Student motivation is an example of an internal factor; it primes students for engagement (Ryan & Deci, 2000) and is the driving internal influence that keeps students' attention on content and, ultimately, keeps them engaged in the classroom (Barkley, 2010).

Extracurricular involvement fosters student success because students who participate in extracurricular activities have higher student achievement and engagement in school than students who do not participate in extracurricular activities (Eccles & Barber, 1999; Eccles, Barber, Stone, & Hunt, 2003; Kronholz, 2012; Lipscomb, 2007; Massoni, 2011). For example, extracurricular activities help advance soft skill development such as "leadership, teamwork, problem solving, and time management" as well as contribute to higher academic achievement (Massoni, 2011, p. 86). In addition, the skills and behaviors learned in extracurricular activities can be positively correlated to student achievement, as measured by grade point average, because extracurricular activities prime students for engagement in school (Eccles & Barber, 1999; Eccles, Barber, Stone, & Hunt, 2003). Furthermore, extracurricular involvement increases student motivation to attend and succeed in school partly due to positive peer pressure from other students in those extracurricular activities (Reeves, 2008). When students are part of a team, the fear of disappointing their peers has more weight than disappointing an adult (Reeves, 2008). For example, a student may find that being assigned to after-school detention a bit amusing because ultimately, the teacher has to give up his or her time to watch the student. However, if that same student is assigned to after-school detention, and it interferes with a sports practice, the student is

now affecting his or her teammates' practice and potentially the success of the team. The student's fear of being chastised or ostracized and affecting the student's social standing among peers is the source of motivation for the student to refrain from receiving after-school detention, not the actual act of receiving detention. Extracurricular activities dependence on teamwork and peer accountability ultimately help keep the students accountable for their actions and decisions within the classroom which can ultimately lead to their engagement and achievement in school.

Extracurricular Activity

Extracurricular activities include a plethora of choices that students can participate in beyond the immediate school hours (Eccles & Barber, 1999; North Dakota Department of Career and Technical Education, 2016; North Dakota High School Activities Association, 2016).

Benefits of student participation in extracurricular activities include physical and mental health, character development, and a larger social network of peers and adults as compared to students who do not participate in extracurricular activities (Eccles, Barber, Stone, & Hunt, 2003; Massoni, 2011).

In addition, extracurricular activities are not housed solely within the school system. Churches, community centers, and other organizations that are not tied directly to the school can sponsor extracurricular activities. However, researchers should not be concerned with where the activities are housed because, as Eccles and colleagues found (1999; 2003), academic success is consistent in both school- and community-related extracurricular activities, as well as in the categories within these two venues, such as team sports, service organizations, performing arts, and academic clubs (Eccles & Barber, 1999; Eccles, Barber, Stone, & Hunt, 2003). In addition, the type of activity is not the only influence on how extracurricular activities impact engagement outcomes. The "breadth" (meaning number of activities) and "intensity" (meaning number of

hours spent in the activity weekly) of extracurricular activities affect the degree of influence extracurricular involvement has on achievement and engagement (Farb & Matjasko, 2012, p. 5). This is because a greater time commitment is required of the participants in the extracurricular activity that has “breadth” and/or “intensity” as compared to those extracurricular activities that do not (Farb & Matjasko, 2012, p. 5). However, research is still unclear on what specific characteristics or components of extracurricular activities lead to student engagement and student achievement (Eccles, Barber, Stone, & Hunt, 2003; Farb & Matjasko, 2012; Fredricks, 2012).

Extracurricular Activities and Engagement Research in the FFA

An extracurricular activity that will be of particular interest for this study is the student National FFA Organization, a Career and Technical Student Organization (CTSO) that focuses on agriculture. However, it is important to note that FFA is also considered intracurricular because it is directly associated with agricultural education classes. Students who participate in FFA develop leadership skills, life skills, job skills, and content knowledge related to other school subjects (Johnson, 1991; Ricketts, Duncan, & Peake, 2006; Wingeback & Kahler, 1997). Student involvement in FFA fulfills some basic human needs associated with Maslow’s Hierarchy of Needs such as self-confidence and self-esteem (Rose et al., 2016). Students who actively participated in FFA reported that involvement in the organization gave them the feeling of being accepted into a group, provided meaningful experiences such as public speaking that boosted their self-confidence, and allowed them to explore possible areas of interest that could influence their future career decisions (Rose et al., 2016). The National FFA Organization strives to provide students with opportunities that will benefit the student in the future (National FFA Organization, 2017a).

These research findings align with the National FFA’s goal for their students, which are found in the FFA Code of Ethics. The FFA Code of Ethics states that students will “develop [their] potential for leadership, personal growth, and career success;” “communicate in an appropriate, purposeful and positive manner;” and “strive to establish and enhance my skills through agricultural education in order to enter a successful career” (National FFA Organization, 2017a, p. 26). Indeed, agricultural education advocates often point to the National FFA Organization as the source of their students’ successes (e.g., FFA Mission, National FFA Organization, 2017a, p. 7). However, although the FFA and its advocates claim a positive relationship between FFA involvement and subsequent student success, the reality is that little empirical evidence exists that specifically links student engagement or academic success to student involvement in the National FFA Organization. Because previous research reports the positive relationship of extracurricular activities to positive student engagement (Eccles, Barber, Stone, & Hunt, 2003; Fredricks, 2012) and because of these claims to this positive relationship by the FFA, this lack of empirical data needs to be addressed.

The National FFA Organization has cited this lack of data in FFA engagement and academic performance as a potential problem and has made the issue a priority area of interest in research (Crutchfield, 2013). Having research to support the National FFA Organization’s quest in student success as stated in its mission statement would help the organization’s decision-making process to ensure the mission is becoming a reality for its members (Crutchfield, 2013).

Theoretical Framework

This study utilized the Expectancy-Value Theory (Wigfield & Eccles, 2000). Expectancy-Value Theory indicates that past experiences and perceptions drive people’s motivation to perform certain tasks and not others. This drive ultimately leads to the individual

having success in a specific area, which then further motivates the individual to continue to strive to achieve more with that particular area. Figure 1.1 shows how value and expectancy influence achievement. For example, perhaps a student has high expectancy-value for his or her ability to read. This value may have first been instilled in the child by the parent reading to the child at a young age. By reading to the child, the parent is setting the example that reading is important. Perhaps the parent reads the child a bedtime story every night before bed. This routine becomes a fond memory for the child as a way to spend valuable time with the parent (affective memory). The more the parent reads to the child, the more the child values reading. Eventually the child begins to read on his or her own. As the child advances in his or her ability to read, the child expects to be successful at reading harder material. Successfully reading difficult material continues to increase the child's expectation for reading. As the child continues to read, he or she also develops a stronger love for reading, and becomes somewhat of a bookworm. At this point, the child would have a high expectancy value for reading.

This study uses expectancy-value theory (Wigfield & Eccles, 2000) to explain the relationship between student participation in extracurricular activities and engagement and achievement in school. Due to the age of participants, this study focused on "Child's interpretation of experiences, child's affective memory, child's goals and self-schemata, task-value, expectation of success, and achievement" portions of the model (p. 69). The junior and senior students in this study should have already have had "previous achievement related choices" (p. 69). Following the model to student achievement, the constructs mentioned are identified in the model as affecting achievement.

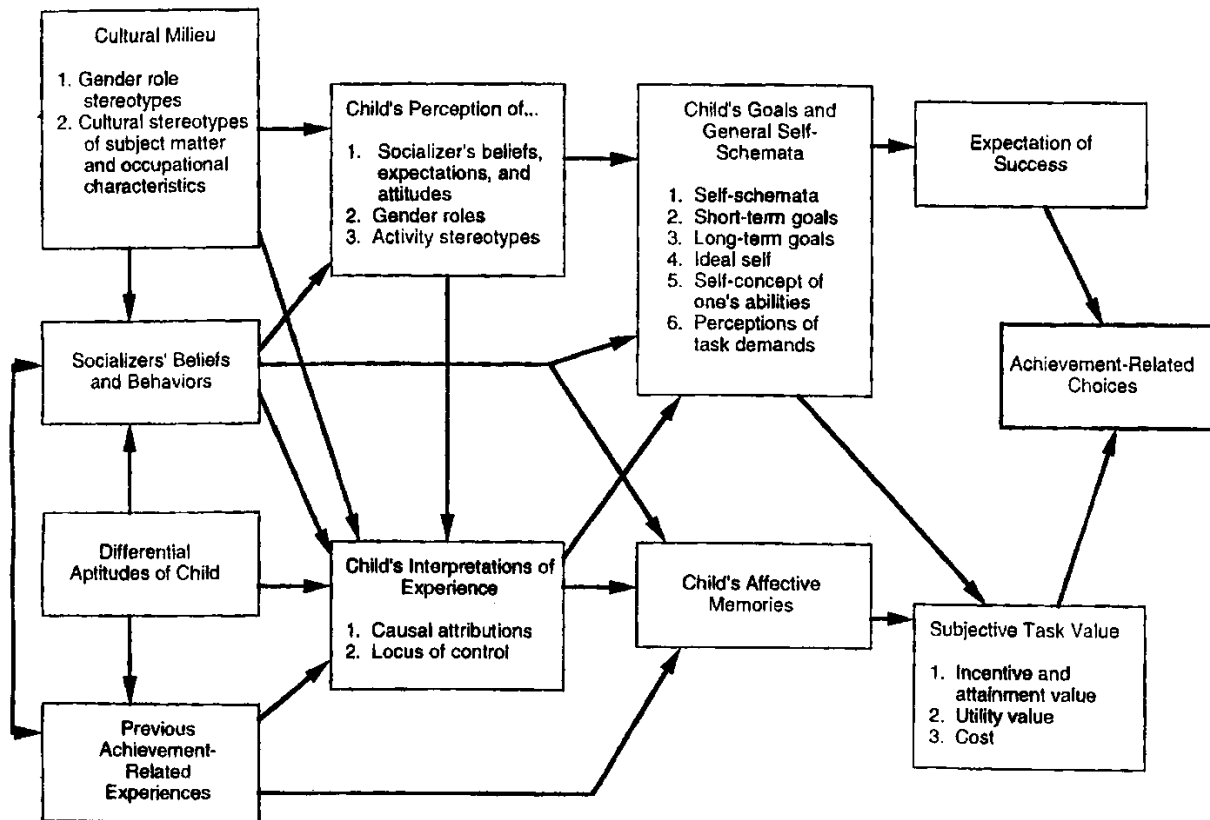


Figure 1.1. Expectancy-Value Theory of Achievement Motivation Model. Flow chart depicting factors that influence expectancy and value. Model is a cyclical process that continues to be influenced by achievement experiences. From Wigfield, A., & Eccles, J. S. (2000). Expectancy–value theory of achievement motivation. *Contemporary Educational Psychology*, 25(1), 68-81.

Statement of Problem

Although student engagement and achievement research has been conducted to differentiate which types of activities are linked to these outcomes— increases in student engagement and achievement (Eccles & Barber, 1999; Eccles, Barber, Stone, & Hunt, 2003; Martinez, Coker, McMahon, Cohen, & Thapa, 2016) — how activities are grouped and categorized by researchers creates major discrepancies between outcomes, activities, and research findings. Studies have generally used the grouping of sports, academic clubs, and arts (Eccles & Barber, 1999; Martinez, Coker, McMahon, Cohen, & Thapa, 2016). The problem with categorizing extracurricular activities in this way is that the purpose of activities within the

groups is inconsistent. For example, Career and Technical Student Organizations (CTSO) and the National Honor Society both fall into the category of academic clubs. However, while CTSOs aim to give students a head start in their careers by aligning them with career pathways (CTSO, 2016), the National Honor Society aims to recognize student achievement (National Honor Society, 2016). Because of the differences in these organizations' purposes, it is reasonable to assume that student outcomes in regards to achievement and engagement would vary between the two types of organizations. Thus, the need to further distill these extracurricular activities and their relationship with student engagement and student achievement continue to add clarity to research in this area.

Purpose of Study

The purpose of this study was to examine the relationship between specific extracurricular activities and the outcomes of student achievement and student engagement.

Research Objectives

The following research objectives guided this study:

1. Describe student involvement in extracurricular activities.
2. Describe student engagement: emotional, behavioral, and cognitive.
3. Compare student self-reported achievement scores between students involved in Career and Technical Student Organization (CTSO) extracurricular activities and other groups of extracurricular activities.
4. Compare student engagement levels between students involved in CTSO extracurricular activities and other groups of extracurricular activities.

5. Compare student self-reported achievement scores and student engagement levels between students involved in extracurricular activities and students not involved in extracurricular activities.

Significance of the Study

Research shows that extracurricular activities are correlated to engagement and achievement (Eccles & Barber, 1999; Eccles, Barber, Stone, & Hunt, 2003). However, it is still to be determined which specific extracurricular activities are most strongly correlated to engagement and achievement. While the simple answer may be to link each activity to student engagement and achievement levels, there becomes a problem when students are involved in several different extracurricular activities in various departments of the school. How could one successfully attribute the gain engagement or achievement to the corresponding activity? Using expectancy-value theory of motivation, we can decipher which extracurricular activity gives the student the most value and thus would be most correlated to the engagement and achievement.

Limitations of the Study

This research project is utilizing survey research methods. As such, the information provided from these surveys applies only to the time period and population utilized for the research. Furthermore, students self-reported their grades, which may have been inaccurately reported.

Definitions

American Degree: degree given to top FFA members at the National Association level (see FFA degree)

Career and Technical Education (CTE): courses within the secondary school system that are aligned with career pathways outside the school system

Career and Technical Student Organizations (CTSO): extracurricular activities that are directly tied to content in the CTE class associated with the organization

Career Development Event (CDE): contests that are aligned with a specific agriculture career in which FFA members can participate

Chapter Degree: degree given to the top FFA members in the chapter (see FFA degree)

Class A School: a classification given by the North Dakota Athletic Association to help sort schools so that similar sized schools play each other. Currently, these school's enrollment is greater than 324 students.

Class B School: a classification given by the North Dakota Athletic Association to help sort schools so that similar sized schools play each other. Currently, these school's enrollment is 324 or fewer students

DECA: previously known as Delta Epsilon Chi and Distributive Education Clubs of America; DECA is a CTSO that focuses on entrepreneurship and in various sectors of the workforce

Family, Career, and Community Leaders of America (FCCLA): a CTSO that focuses on family bonds, careers, and participation in the community

FFA: previously known as Future Farmers of American; FFA is a CTSO that focuses on agriculture literacy, careers in the field of agriculture, and leadership opportunities

FFA degrees: show the level of advancement FFA members have made in their leadership, academic, and career skill development

Future Business Leaders of America (FBLA): a CTSO that focuses on business, marketing, finance, and general business knowledge

Grade Point Average (GPA): the numerical score given to student that reflects the grades they received in the classes they have taken

Greenhand Degree: the lowest level of FFA degree given at a chapter level (see FFA degree)

Self-schemata: the beliefs one has about one's self

Skills USA: a CTSO that focuses on providing students with skills needed to be successful in technical education and industry

State Degree: degree given to the top FFA members at the state association level (see FFA degree)

Statistician: an extracurricular activity where the student helps keep track of the team's points, penalties, and other records needed for that particular sport

Student achievement: the performance of a student as measured by GPA and ACT scores

Student engagement: a student actively participates and immerses himself or herself in the classroom and learning environment

Supervised Agricultural Experience (SAE): some sort of experience outside of the normal school hours that can involve a job, research, or entrepreneurial pursuit and is also agricultural related

Technology Student Association (TSA): a CTSO that focuses on engaging students in science, technology, engineering, and mathematics

CHAPTER 2. LITERATURE REVIEW

Purpose of the Study

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Research Objectives

The following research objectives guided this study:

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4. Compare student engagement levels between students involved in CTSO extracurricular activities and other groups of extracurricular activities.
5. Compare student self-reported achievement scores and student engagement levels between students involved in extracurricular activities and students not involved in extracurricular activities.

Theoretical Framework

The root of the expectancy-value theory is found in Atkinson's (1957) work, in which he sought to understand why people choose one task over another task. He identified "motive, expectancy, and incentive" as the factors that affect motivation (Atkinson, 1957, p. 360). Atkinson (1957) was ultimately interested in how these constructs influence people's ability to advance their social standing within society. Fishbein's (1963) work built on Atkinson's (1957) expectancy construct; however, Fishbein (1963) focused on the relationship between people's perceptions and their expectations. Fishbein (1963) found an individual's "attitude" to be a result

of both “belief” and “evaluation” (p. 238). Fishbein’s (1963) work laid the foundation for understanding the expectation component of the modern expectancy-value theory. Then, Eccles’s as cited in Eccles (1985) model built upon the work of Atkinson, expanding this theory into the field of education through examining the work of belief and culture. Eccles and colleagues’ (Eccles, 1984; Wigfield & Eccles, 1992; Wigfield & Eccles, 2000) expectancy-value model culminated previous work in expectancy value theory and examined the application of the theory towards adolescents.

Once expectancy-value theory made its way into education, the focus of academic success guided the theory’s use within the field. Expectancy-value theory’s ability to predict people’s success (Wigfield, Tonks, & Kluda, 2009) aligned itself with academic achievement because motivation is the internal factor that drives academic success (Martin, 2007; Skinner, Kindermann, Connell, & Wellborn, 2009). However, it was engagement that provided the missing link between student desire to achieve and student actions that result in achievement (Martin, 2007; Skinner, et al., 2009). While any of the three constructs (motivation, engagement, or academic achievement) can be present without the other two constructs, constructs in isolation are unsustainable (Saeed & Zyngier, 2012). For example, a student can receive good grades on a test and not study or think about the content, but in the long term, this will catch up with the student and achievement will suffer. Examining achievement through the lens of expectancy-value theory helps to ensure engagement and achievement is sustained long term.

In the expectancy-value theory model of motivation (see Figure 2.1), people’s choices are shaped by their “past experiences, affective memories, goals, expectation of success and task value” (Wigfield & Eccles, 2000, p. 69). Worded more simply, people make decisions about their futures based on what they have been successful with in the past and by how much they

value that task. This value begins as something that piques a child's interest. For example, perhaps a student has high expectancy-value in playing basketball. The root of these perceptions could be from watching an older sibling or sports star perform at a high level and wanting to be able to have those same abilities. This shapes the child's perception of what it means to be a basketball player (e.g. cool people are basketball players; basketball players have lots of friends, etc.). Eventually, the child has some sort of physical contact with the interest. Perhaps, the child's parent bought the child a hoop for the child to practice, or the child's sibling started teaching the child basic basketball skills. A positive physical experience with the activity is stored into the child's memory. At this point, the child talks about basketball constantly (i.e. child's affective memories). As more positive experiences with playing basketball occur through time, playing basketball becomes the child's long-term goal and eventually, it may become part of the child's identity. At this point, the child is motivated to continue pursuing playing basketball because the child is continuing to expect to be successful in the pursuit as well as receiving some sort value from the experience. The student's value and expectancy led to long-term engagement and achievement in the sport of basketball.

In education, students must prioritize school as something valuable and expect to be successful in order to obtain long-term engagement and achievement in school (see Figure 2; Wigfield & Eccles, 2000). Within the present study, the researcher is interested whether or not long-term engagement and achievement in school is affected by extracurricular activities. The researcher hypothesized that different types of activities provide different levels of either value or expectancy in school because of the difference in connection to classroom material. For instance, sports have relatively no direct connection to classroom material, band and choir can connect directly to those classes (band and choir) and some humanity type classes, and Career

and Technical Student Organization(s) (CTSOs) can connect to science, math, humanities, Career and Technical (CTE), and even some areas in the humanities such as public speaking. Using the expectancy-value model of achievement, “goals and self-schemata, subjective task value, and expectation of success” are the focus of this study (Wigfield & Eccles, 2000, p.69). The independent variable is student experience in different types of extracurricular activities. The dependent variables are student engagement influenced by the goals and schemata, expectations, and values and whether or not this type of engagement ultimately influences student achievement.

The researcher focused on the student interpretation of experience, student goals and general self-schemata, and student subjective task value. It is assumed that the student has previous perceptions, beliefs, cultural influences, and attitudes that have all lead to the student’s current interpretation and experiences. Furthermore, it is assumed that student interpretation of experience within extracurricular activities begin to shape their self-schemata and ultimately their goals. For example, students who believe they can be successful in athletic activities and have had experiences in which success is reinforced would begin to see themselves as athletes just as students who believe they can be successful in math club and have had experiences in which this success is reinforced would begin to see themselves as smart. Over time, these self-schemata may lead to goals such as playing college sports or getting into a top college. The self-schemata and/or goals may either lead to students believing they would continue to be successful in the future or to believing that some aspect of the activity is valuable to them. This value may be intrinsically centered (the student wants to feel proud) or extrinsically centered (the student wants to receive a scholarship for college). Regardless of whether or not the student expects to be successful or the task is of value to the student, the student would choose to continue to play

sports or attend math conferences in order to fulfill their self-schemata. Therefore, expectancy-value theory would help inform the researcher how the student is deciding in which extracurricular activity to participate.

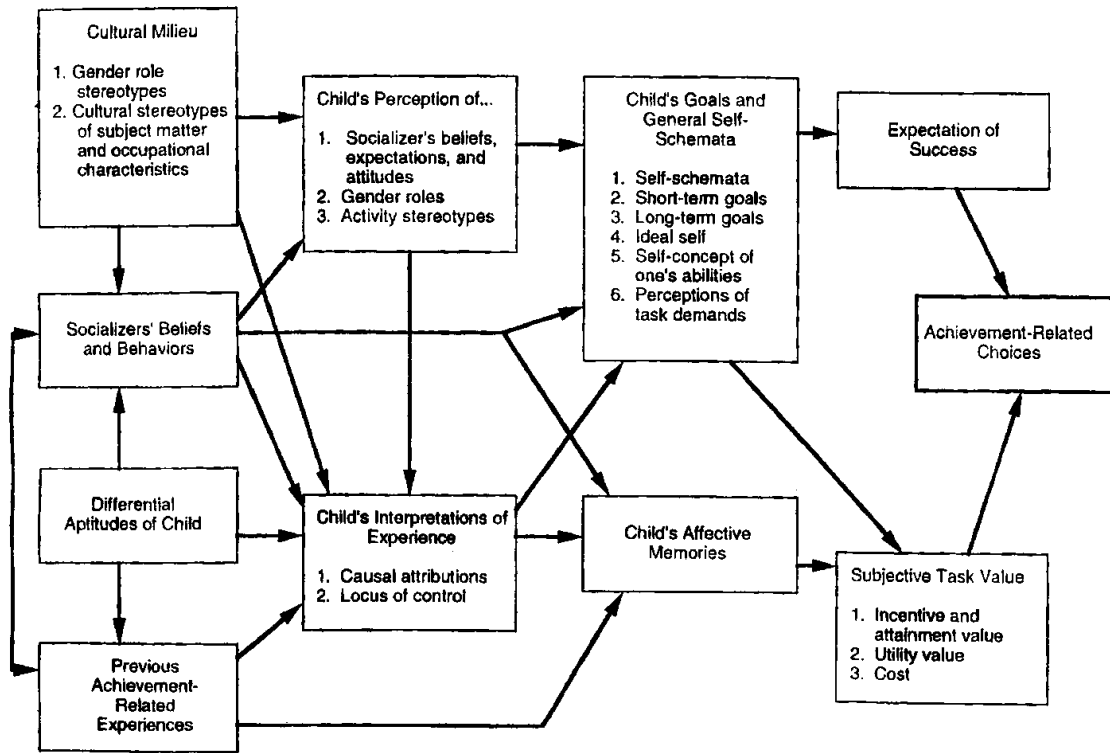


Figure 2.1. Expectancy-Value Theory of Motivation Model.

Flow chart depicting constructs in expectancy-value theory of motivation. Wigfield, A., & Eccles, J. S. (2000). Expectancy-value theory of achievement motivation. *Contemporary Educational Psychology*, 25(1), 68-81.

Need for the Research

In recent years, standardized tests have become the go-to method to measure K – 12 student achievement. Every few years, students across the country are subjected to standardized tests in order to compare their learning to that of previous years' students. Because of laws such as No Child Left Behind (NCLB), which requires student improvement in order for schools to receive funding, schools need to effectively use the time in a school day to improve standardized test scores. Because of this link of funding to standardized test scores, it has become somewhat

of an urban myth that extracurricular activities are often criticized for invading content instruction time, time that could be used to improve test scores. Despite popular beliefs, however, extracurricular activities can actually help students' test taking scores (Cooper, Valentine, Nye, & Lindsay, 1999; Gerber, 1996). One may well wonder, how does an activity that encroaches on content learning time improve standardized test scores? The answer lies in student engagement; engaged students perform well on standardized tests (Carini, Kuh, & Klein, 2006). The researchers found that participation in extracurricular activities can lead to increased student engagement (Eccles & Barber, 1999; Eccles, Barber, Stone & Hunt, 2003; Kronholz, 2012; Massoni, 2011).

Engagement

Trowler (2010) defined engagement as “the interaction between the time, effort and other relevant resources invested by both students and their institutions intended to optimize the student experience and enhance the learning outcomes and development of students and the performance, and reputation of the institution” (p. 3). The school’s responsibility in this partnership is to use best teaching practices in order to assist students to take ownership of their learning (Kuh, 2001). When schools or teachers use best teaching practices to create engaging learning activities, students are more likely to develop critical thinking skills and earn higher grades (Carini, Kuh, & Klein, 2006). The other side of the learning partnership requires the student to invest that “time, effort and other...resources” (p. 3) in order to engage in their own learning (Trowler, 2010). Student engagement, therefore, is not merely a measure of the

connectedness students have to their learning; student engagement is a representation of the sense of responsibility one has for his or her own learning (Axelson & Flick, 2010).

For the purposes of this study on engagement, the researcher took these criteria into consideration: 1. the responsibility one has for his or her own learning; 2. student development of critical thinking skills and academic achievement; 3. the resources invested by the student to enhance the learning outcomes and development of students; 4. the agricultural education program's use of best practices. These factors assisted in interpreting the relationship between engagement and extracurricular activities as well as to help distinguish the type of engagement.

Types of Engagement

Engagement is categorized three ways: behavioral engagement, emotional engagement, and cognitive engagement (Appleton, Christenson, Kim, & Reschly, 2006; Fredricks, Blumenfeld, & Paris, 2004). Behavioral engagement results in students attending class, participating in extracurricular activities, and displaying positive behaviors (Appleton et al., 2006). Emotional engagement results in students displaying enjoyment, curiosity, and acceptance (Appleton et al, 2006; Jimerson, Campos, & Greif, 2003; Trowler, 2010). Cognitive engagement results in students willingly putting forth effort to excel at learning content because the student believes the learning is relevant and valuable (Appleton, et al. 2006; Trowler, 2010).

Traditionally, behavioral engagement has been the primary measurement used for school engagement because of the ease of correlating behavior with academic performance and attendance (Jimerson, Campos, & Greif, 2003; Klem & Connell, 2004). For example, behavioral engagement reduces student boredom due to students being more physically active (Skinner, Furrer, Marchand, & Kindermann, 2008). However, each type of engagement is interdependent, which adds a degree of complexity to measuring overall student engagement. Again, for

example, in order to have long-term benefits, behavioral engagement relies on students being emotionally engaged (Skinner, Furrer, Marchand, & Kindermann, 2008). Perhaps even more interesting, the level of behavioral engagement is a good indicator for students' general motivation, whereas emotional engagement levels is much more sensitive to changes in the students' motivation levels (Skinner, Furrer, Marchand, & Kindermann, 2008). Cognitive engagement, on the other hand, is strongly associated with active learning because cognitive engagement requires the student to mentally mold and file new information by thinking about this new information and its relationship to already existing information (Chi & Wylie, 2014). This process of linking information to other previously learned information is referred to as "transfer" (p. 228), and requires a high degree of cognitive engagement from the student (Chi & Wylie, 2014). Cognitive engagement with the help of transfer of knowledge allows students to reach a deeper level of knowledge than memorization alone would allow (Chi & Wylie, 2014). Behavioral, emotional, and cognitive engagement all play an important role in overall student engagement because together they help to keep the whole child (mentally, physically, and emotionally) part of the learning experience.

Influences on Engagement

Even though the different types of engagement affect different aspects of students' school-life, engagement can also be affected by means outside students' direct control. These include factors which a student is born into such as socioeconomic status, cultural background (Newman, 1991), gender (Thijs & Verkuyten, 2009), and grade level (Marks, 2000). While the effects of socioeconomic status, cultural background, and gender are attributed to the influence these criteria have on students' perspectives, grade level is somewhat counter intuitive. As

explained by Marks (2000), student engagement has a negative relationship with grade level because engagement level decreases as grade level increases in K-12.

External influences.

Other engagement factors outside students' control pertain to how the teacher chooses to operate his or her classroom. These factors include instructional learning strategies (Yazzie-Mintz, 2007) and teaching style (Thijs & Verkuyten, 2009). As reported by students, the best instructional learning strategies for engagement are discussions and debates, and the worst instructional learning strategies for engagement is lecture (Yazzie-Mintz, 2007). Umbach and Wawrzynski (2005) also recommend incorporating lessons with strategies such as active and collaborative learning experiences, emphasis on high-order thinking, and intellectually challenging activities to promote an engaging classroom. Learning environments that incorporate these strategies are factors students identify that would help increase their motivation as well (Dean & Camp, 1998).

These strategies are in addition to personal teaching styles of teachers. Teaching styles influence students' perceptions of their enjoyment of the content (Thijs & Verkuyten, 2009). Thijs and Verkuyten (2009) utilized three common parenting styles to describe three general teaching styles: authoritarian, permissive, and authoritative. Thijs and Verkuten (2009) define an authoritarian teaching style as a high level of "structure," but a low level of engagement (p. 270), whereas a permissive teaching style has a high level of engagement and a low level of "structure" (Thijs & Verkuyten, 2009, p. 270). For example, an authoritarian teacher may expect students to begin each class with silent reading followed by a worksheet. This teacher does not allow students to talk to each other, and students must strictly follow the classroom rules. Students in this class are often bored. On the opposite side of the spectrum, a permissive teacher

will allow a classroom to have a considerable amount of interaction and collaboration. However, students are often off-task, which results in the classroom environment becoming chaotic.

Students may identify that they have fun in this teacher's class, but they are often at a loss of words as to what they learned.

In the middle of the spectrum is the authoritative teacher (Thijs & Verkuyten, 2009). This teacher has established a routine to lead the class efficiently. An authoritative teacher often uses art and craft assignments, class discussions, and other collaborative teaching strategies to get the students up and out of their seats, which students identify as fun (similar to the "fun" of a permissive classroom). However, these lessons have been created so that they clearly align with the learning objectives as well as give students expectations as to the quality of their work and behavioral expectations that is seen in an authoritarian classroom. Furthermore, the teacher would also keep students' growth and development in mind when designing classroom expectations as well as reinforce these expectations as needed. Thus, the authoritative teaching style incorporates a high level of both structure and engagement in a classroom (Thijs & Verkuyten, 2009). As to be expected, Thijs and Verkuyten (2009) reported that students prefer an authoritative teaching style as compared to either permissive or authoritarian teaching styles.

Coincidentally, "student achievement" and "student-autonomy" mirrored the above spectrum when comparing student achievement and student-autonomy to the three teaching styles (Walker, 2008, p. 222 & 236). Authoritarian teaching styles promote student achievement, but limit student-autonomy, because authoritarian teachers require students to have products of their work (Walker, 2008). The authoritarian classroom also hinders student self-autonomy because it curtails student creativity and lowers student-learning motivation (Walker, 2008). On the other hand, permissive classrooms encourage "student-autonomy" but limit "student

achievement” because students are exposed to learner-driven learning experiences (Walker, 2008). However, the permissive teacher has loose classroom expectations, which leads to a more chaotic classroom (Walker, 2008). The third archetype, the authoritative teacher, marries student achievement and student-autonomy by incorporating the positive aspects mentioned above from both authoritarian and permissive teaching styles (Walker, 2008). When an authoritative teaching style is taken to a whole school approach, the emotional support and student expectations that guide authoritative teachers provide for an environment that fosters student development into young adulthood (Gregory & Cornell, 2009).

Internal influences.

The above external factors beyond student control can influence student engagement overall; nevertheless, there are varying degrees of individual student engagement within a single classroom (Dicke, Elling, Schmeck, & Leutner, 2015; Wubbels, et. al, 2014). Consider two scenarios. In the first scenario, an authoritative teacher uses the same teaching techniques for all of the students in the class. Overall, the class is fairly engaged. However, the teacher notices two students in the class who clearly have much lower engagement levels. While most students are engaged in the lesson and work diligently on the assigned work, one or two students are daydreaming and goofing off. Although the lesson seems to have an overall power to engage students via the external influence of the teaching style, even when the authoritative teacher attempts to coax the unengaged students back on task, these students are reluctant to engage in the lesson; something beyond the external influences of teaching style and lesson content are affecting student engagement.

In the second scenario, it is obvious to the authoritative teacher that the class, overall, is less engaged than it usually is. Yet again, there are a couple of students who are more engaged in

the lesson and work diligently on the assigned work. Meanwhile, a couple of other students are considerably less engaged than the overall class; they have moved from restless to completely disengaged. These two scenarios show that a factor beyond the environment has affected these students' engagement levels. The logical place to look for these differences is within those students. It may be that an engaged student has an interest in the subject, has future aspirations, or simply enjoys school. It also may be that the disengaged student lacks interest in the subject, has issues in his or her personal life, or has just written off school as a waste of time. Thus, in order to find the sources for engagement and disengagement, student internal influences must be examined.

Perhaps the most important internal factor for engagement is motivation. This is because students must first be motivated to learn the material in order to be engaged in the lesson (Brophy, 1987; Barkley, 2010). Motivation can be defined as "to be moved to do something" (Ryan & Deci, 2000, p. 54). In school, motivation may mean, "to be moved to do" (Ryan & Deci, 2000, p. 54) homework, class activities, pay attention, or any other activity associated with school. There are two sources known to foster motivation, extrinsic and intrinsic motivation (Reiss, 2012). Reiss (2012) defines extrinsic motivation as "the pursuit of an instrumental goal" (p. 152) and intrinsic motivation as "doing something for its own sake" (p. 152). The types of motivation, extrinsic and intrinsic, are not to be confused with external and internal influences on student engagement, as described previously. External and internal influences on student engagement are factors that relate to the school environment and teaching style that affect the students as a group whereas intrinsic and extrinsic motivation are the factors that affect the students' internal motivation level on an individual level.

To help further differentiate between these two motivational constructs, extrinsic and intrinsic, consider the following two scenarios. In the first scenario, a student who completes homework everyday receives a weekly allowance from his parents. This student is extrinsically motivated because he or she completes the homework for the outside reward of money. If the parents no longer gave the student money for completing homework, over time the student would stop completing homework because the reward for doing so is no longer reinforced. In the second scenario, the student completes the homework because he or she loves the subject matter. This student is demonstrating intrinsic motivation because the source of motivation (interest in subject matter) is within him or her. Clearly, these two different students do not have the same type of motivation. Obviously, as educators, we strive to foster the intrinsic motivations that will carry students throughout their lives for lifelong learning. Yet, in real classroom situations, these motivations do not work independently, nor do students consistently stay within motivational categories (Cerasoli, Nicklin, & Ford, 2014).

Cerasoli, Nicklin, and Ford (2014) conducted a study that displays the interaction between intrinsic and extrinsic motivation and determined that intrinsic motivation is the strongest predictor of achievement, regardless of whether or not the student also had some sort of extrinsic motivation. This meta-analysis used previous studies of both published and unpublished work regarding intrinsic and extrinsic motivation as the data for this meta-analysis (Cerasoli, Nicklin, & Ford, 2014). The data was coded by the first two authors of each study and verified for agreement by the third author (Cerasoli, Nicklin, & Ford, 2014). Dummy coding and Cohen's Percent Of Maximum Possible (POMP) scoring was utilized to find statistical relationships between the variables (Cerasoli, Nicklin, & Ford, 2014). The researchers found that the decision of using incentives as an extrinsic motivator or fostering intrinsic motivation depends whether

the desired outcome is quality or quantity of task completion (Cerasoli, Nicklin, & Ford, 2014). Intrinsic motivation is best for performance for which high quality is desired whereas extrinsic motivation is best for performance for which high quantity is required (Cerasoli, Nicklin, & Ford, 2014). Both intrinsic and extrinsic motivation can be useful to improve students' performance levels (Cerasoli, Nicklin, & Ford, 2014).

Regardless of the source of motivation, intrinsic or extrinsic, motivation affects student engagement (Alderman, 2008). Motivated students are likely to display emotional and cognitive forms of engagement (Barkley, 2010). This is because motivated students make a conscious decision to immerse themselves in the learning process (Barkley, 2010). When students see the value in learning, teachers are better able to help students meet goals that are aligned with successful learning (Barkley, 2010).

The need for a student to be motivated, in order to increase engagement and thus success in school, becomes more obvious when a student has low motivation. Consider the implications of a situation in which a student believes no matter how hard he or she tries, failure is inevitable. In this example, the student's motivation decreases because of the belief in ultimate failure. When students believe they cannot be successful in learning activities, they will begin to disengage by making excuses, avoiding participation in the learning activity, or even pretending to understand the material (Barkley, 2010). It follows that student motivation is dependent upon student self-confidence. Thus, it is this construction of motivation (motivation dependent upon self-confidence) that is at the root of learning engagement. Barkley (2010) refers to this complex of self-confidence, intrinsic motivation, and learning engagement as "expectancy x value" (Barkley, 2010, p. 14). Students need to both expect to succeed in a task and value the task in order for optimal performance and learning to occur (Barkley, 2010).

The following three examples help to shed light on why expectation to succeed and valuing the task are important for students. First, consider a student who expects to succeed but does not value the task. This is the student who expects to receive all A's but does not try. This student is probably not accustomed to being pushed and believes that things should come easily for them. This student will put little effort into completing the task because he or she does not believe the task is worth the amount of time it takes to complete (Barkley, 2010). Next, consider a student who values the task, but expects to fail. This student is faced with two conflicting situations; the student wants to complete and be able to show others that he or she can complete the task, but ultimately the student does not believe success is possible. In order for the student to shift the focus away from personal limitations, often, the student will instead focus on the limitations and failures of others. This situation is more obvious in group dynamics; this is the student who constantly tells the other group members what to do and how to do it, but does very little of the actual work him or herself. A student who uses this strategy will come across as a know-it-all and avoid assistance because the student does not want others to view him or her as incompetent (Barkley, 2010). Finally, consider a student who expects to fail and does not value the task. This is the student who takes a ridiculous amount of time to get started on the task. This student is also looking for any excuse to stop engaging in the task and is often complaining to others about how much he or she dislikes the task. This student will complain about the task incessantly because the student does not enjoy the work and he or she believes it will result in exposing their limitations (Barkley, 2010). Clearly, expectancy and value significantly impact student engagement through the construct of motivation (Barkley, 2010).

Somewhere along the way, the "x" in "expectancy x value" theory was dropped and it became just "expectancy-value theory" (Nagengast, et al. 2011). While this may seem

insignificant, dropping the “x” is implying that these two constructs have an additive relationship instead of a compounding relationship (Nagengast et al. 2011). These differences impact the interpretation for the practice of these constructs of expectancy and value in the classroom.

For example, an additive relationship allows a student to have a high score in expectancy or value and still have a fairly high score overall. Thus, using the additive relationship, having a high expectancy score could mask a low score in value (or vice versa). From the examples provided above, this would be either the student who values the task, but does not expect to do well, or the student who expects to do well, but does not value it. Using the additive relationship, a teacher could focus on building student motivation by only focusing on expectancy (or vice versa) and thus, theoretically, would still be increasing student’s overall motivation. Therefore, a student who has no value for the task (or vice versa) would have the same amount of increased motivation whether the same amount of increase came from expectancy or from value.

However, with a compounding relationship, this is not the case. This is because having a low score in one of the constructs affects the overall motivation score. Having a zero score for expectancy and a high score for value (or vice versa) would result in a motivation score of zero. This means that a student’s motivation cannot be increased by *only* expectancy or *only* value; motivation is result of *both* expectancy and value. Therefore, the teacher would need to focus on building both student expectancy and value in order to see gains in motivation within the classroom. Understanding the type of relationship between expectancy and value is important for teachers because they can then structure classrooms that can encourage students to cultivate these constructs in a way that will promote optimal motivation.

Nagengast et al. (2011) argued that the most probable cause of dropping the “x” is due to limitations in statistical methodology. Nagengast et al (2011) believed that the shift from lab-

based experiments to assessment-based experiments with surveys and questionnaires is where the disappearance first began to occur. Nagengast et al (2011) reached out to J.S. Eccles, who said that she and her colleagues stopped reporting expectancy x value, opting instead to utilize the addition of expectancy and value, because the value was consistently “non-significant” (p. 1060). However, Nagengast et al (2011) found the expectancy x value to be a critical component of the theory because expectancy and value are intertwined in such a way that having a high level of one of the constructs has limited motivational benefit if the person does not also have a high level in the other construct. Therefore, in order to obtain the greatest motivational gains, expectancy and value need to be viewed as pairs (Nagengast et al, 2011).

Motivation is multifaceted (Nagengast et al, 2011) and has many constructs within it. These constructs, whether intrinsic and extrinsic or expectancy and value, are important precursors for engagement to occur (Barkley, 2010; Cerasoli, Nicklin, & Ford, 2014; Reiss, 2012). Yet, while the importance of motivation to influence engagement is strongly supported in the theoretical world, the real world often ignores this consideration. For example, schools often look to student achievement to measure school success; however, they do not typically look at either student motivation or engagement (Holbein & Ladd, 2015). However, it is a foundational understanding that once engagement occurs, students can successfully retain the course content, which leads to student achievement (Finn, 1993).

Identifying Student Engagement

Identifying student engagement is difficult because just as each individual is different, the signs of whether or not students are engaged are also different. For some students, engagement is more obvious to the observer because the student will show visible signs of engagement, such as asking questions, participating in class discussions, and completing homework. However, less

obvious forms of engagement exist as well, such as processing information, thinking of ways to apply that information, and changing subjects reluctantly (such as moving from math to English). Teachers must keep these criteria in mind when deciphering student engagement levels. Teachers must also be ready for what is traditionally viewed as less desirable forms of engagement, such as arguing about a point, bringing up contrasting or conflicting information, or disagreeing with classmates about class material.

Likewise, just as it can be easier to say what something is *not* rather than what it *is*, the signs of disengagement are often more obvious than the signs of engagement (Black, 2003). As defined by Lund Dean and Jolly (2012), student disengagement is “when students deflect or reject learning opportunities” (p. 228). A disengaged student is missing one of the three types of engagement: behavioral, cognitive, or emotional (Fredricks, 2014). Typically, a student will begin to disengage cognitively and emotionally, and progress to disengage behaviorally (Fredricks, 2014). Behaviorally disengaged students are the easiest to spot because one can see whether or not the student is behaving appropriately (Fredricks, 2014). Disengaged student behavior range from losing the attention for a brief period of time to refusing to comply with learning activities to disturbing the class environment (Fredricks, 2014). It seems that cognitively and emotionally disengaged students often are ignored, perhaps because these students are at a much lower risk for dropping out than behaviorally disengaged students (Fredricks, 2014). However, student disengagement is a severe problem, encompassing students in all grades at all schools. Therefore, we need to pay more attention to cognitive and emotional disengagement in order to identify students before they are at a high risk for dropping out (Fredricks, 2014).

Once a student has begun to disengage from school, he or she is at risk of becoming alienated from school (Marks, 2000). Alienation is characterized as “powerlessness,

meaninglessness, normlessness, isolation, or self-estrangement” (Seesman, 1959). Alienation is linked to engagement because alienation is often defined as the lack of cognitive and emotional attentiveness within school related experiences (Hascher & Hagenauer, 2010). Furthermore, students who feel alienated from school may have negative self-concepts because alienation has a negative correlation with student self-concept (Tarquin & Cook-Cottone, 2008). However, while any student can be actively disengaged for a short period, *alienation* is more likely when an individual has specific personality characteristics, such as shyness, timidity, or bashfulness (Mounts, Valentiner, Anderson, & Boswell, 2006).

In order to prevent alienation, students need to find personal meaning in the content because this encourages them to continue to engage in the education process (Mann, 2001). However, there are some instances in which teachers must begin the process by building relationships with students because they already feel ostracized from peers and society (Toshalis & Nakkula, 2012). In order to move from alienation to engagement, the students need to feel that the learning environment is a place where they will be included as part of the cohort (Toshalis & Nakkula, 2012). As the negative alienating experiences are overpowered by positive engaging experiences, a shift in student outlook of education begins to positively shift as well (Toshalis & Nakkula, 2012). When alienating experiences are few or have been forgotten, the student will begin to re-engage in school (Toshalis & Nakkula, 2012). Alienated students can become engaged students when teachers take the time to build-up student confidence and instill a love of learning in the students.

Student Extracurricular Involvement

The second variable which was examined in this research is extracurricular activities. Extracurricular activities are defined as structured leisure activities and range from church-

related activities, sports, and clubs to academic based organizations (Eccles & Barber, 1999).

The North Dakota High School Activities Association (2016) recognizes the following extracurricular activities in North Dakota: debate, music, theater, speech, and student congress; boys'/girls' basketball, cross country, golf, hockey, soccer, swimming and diving, tennis, and track and field; boys' baseball, football, and wrestling; and girls cheerleading, gymnastics, softball and volleyball. The North Dakota Department of Career and Technical Education (2016) recognize the following extracurricular activities: DECA (previously known as Delta, Epsilon Chi and Distributive Education Clubs of America), FBLA (Future Business Leaders of America), FCCLA (Family, Career, and Community Leaders of America), and FFA (formerly known as Future Farmers of America).

As previously stated, results from research studies reveal a link between extracurricular activities and engagement. However, extracurricular activities' relationship with engagement is not the only advantage for students who participate in extracurricular activities. A study by Eccles, Barber, Stone, and Hunt (2003) determined in a longitudinal study that extracurricular activities are very important for both physical and mental child development because students who participated in extracurricular activities in 10th and 12th grades are more likely to continue to be physically active as well as less likely to be depressed. Furthermore, extracurricular involvement has also been shown to positively benefit students' future success and can be an investment for the students' futures because students who participated in extracurricular activities were more likely to receive higher grades and obtain bachelor degrees (Lipscomb, 2007). Hence, extracurricular activities provide a variety of benefits to their participants in

various aspects of their lives, including development, interest and success in school, and future outcomes.

Despite these benefits, many people are still not convinced of extracurricular activities' value. Fears of over-scheduling, enabling poor time management, and shifting the priority of school are legitimate concerns which favor limiting, or even removing, extracurricular activities from the school system. However, most of these fears are nothing more than that—fear (Bakoban & Aljarallah, 2015; Luthar, Shoum, & Brown, 2006; Mahoney, & Vest, 2012). Indeed, research shows that there is no difference in the amount of time spent studying between students who participate in extracurricular activities and those who do not (Bakoban & Aljarallah, 2015). Furthermore, students who participated in extracurricular activities generally earned higher grade-point averages (Bakoban & Aljarallah, 2015). Massoni (2011) identified other benefits of extracurricular activities such as lower dropout rates, fewer behavioral problems, creating a positive self-image of the school, and developing students into industrious adults because extracurricular activities allow students to channel their energy in an environment that promotes positive peer interactions while allowing students to push their physical and emotional limits. Overall, extracurricular activities positively affect a wide range of students in a wide range of ways.

However, one variable that does seem to affect extracurricular activities' overall potential for significant positive impact: a high socioeconomic standing. Morris (2012) found that economically disadvantaged students who participate in extracurricular activities experience a higher percentage of academic success than do their economically advantaged peers. Phrased more simply, students of higher economic status do not receive the same boost in their academic success from extracurricular activities when compared to students of lower economic status. This

finding further supports the argument for continuing to provide for extracurricular activities in schools because they actively support disenfranchised students. However, it seems that the cost associated with extracurricular activities may act as a barrier for low socioeconomic students because these students are less likely to spend their free time in an extracurricular activity (Pedersen & Seidman, 2005). While extracurricular participation may greatly benefit a socioeconomically disadvantaged student, participation, especially in multiple activities, may simply be unaffordable for their families.

Even though the research supports the argument that extracurricular activities collectively have positive benefits, not every extracurricular activity is created equally. Extracurricular involvement varies in terms of breadth (number of activities) and intensity (time required by the activity) (Farb & Matjasko, 2012). Farb and Matjasko (2012) analyzed data from other journal articles within a five-year period in order to analyze breadth and intensity of extracurricular involvement. They found that both breadth and intensity positively affect the benefits students receive from participating in the activities because of the increased time commitment needed from students (Farb & Matjasko, 2012). Additionally, students involved in a breadth of activities had success in their futures because the number of activities connected the student with multiple social groups and different adults that they consult later in life (Farb & Matjasko, 2012).

However, there are potential fallbacks to breadth of extracurricular activities as well; there is a threshold for achievement in relation to number of extracurricular activities. Fredricks (2012) found that students participating in five to seven activities, which equated to fourteen hours of participants' time per week, exhibited a decline in academic achievement. In this study, academic achievement was measured via math test scores, GPA, educational expectations, and educational status two years after high school. It is important to note that overscheduling youth

extracurricular activities can have a detrimental effect on students' academic achievement as well (Fredricks, 2012).

Engagement Research within CTSOs

Career and Technical Student Organizations (CTSOs) are intracurricular organizations that are directly related to course content in Career and Technical Education (CTE). While research within CTE and CTSOs often reach into the realm of engagement via addressing issues related to engagement, few actually directly address the relationship between CTE or CTSOs and engagement. For example, student engagement in high school is often thought to prepare students for post-secondary education. Dare's (2006) analysis of education statistics found that students who were in CTEs in high school were just as likely to be prepared and more likely to continue into post-secondary education as students who did not take CTE courses. However, the study did not address whether or not these differences were caused by engagement. Another study by Plank, DeLuca and Estacion (2008) used data from the National Longitudinal Survey of Youth 1997 to conclude that high school students who took one CTE course for every two academic courses were least likely to drop out of school as compared to any other combination of CTE and academic courses. Again, this study did not address if the difference in the rate of students dropping out was due to engagement or some other factor. However, more recent research shows that students who have a high level of engagement or less likely to drop out of school (Fredricks, 2014).

Yet, Alfeld, Hansen, Argon, and Stone (2006) did directly address student engagement in CTSOs (Career and Technical Student Organization). Their study extensively examined the benefits associated with participation in CTSOs and found students who participated in CTSOs and CTE classes were more engaged than students who were not in CTSOs and CTE classes

(Alfeld, Hansen, Argon, & Stone, 2006). Eccles and colleagues (Eccles & Barber, 1999; Eccles Barber, Stone, & Hunt, 2003) reported similar findings when they examined the relationship between engagement and extracurricular activities. Yet, there seems to be a lack of research that compares participation in either CTSO or other extracurricular activities and their effect(s) on student engagement.

A study regarding gifted and talented students provides some interesting context to this comparison. Gentry, Peters, and Rizza's (2008) qualitative study found that gifted and talented students often thought CTSOs engaged them in content in a different and more challenging way than course content alone. This brings up an interesting question as to whether or not the higher level of engagement experienced a student population often difficult to engage because they are bored with the level of instruction (Landis, & Reschly, 2013) is (or can be) mirrored in other student populations.

Extracurricular Activities and Engagement Research in the FFA

One specific CTE is agricultural education and its CTSO, FFA (formally known as Future Farmers of America). Agricultural education promotes a holistic approach to education because its three-circle model gives equal weight to classroom and laboratory learning, experiential learning through a work-based learning called Supervised Agricultural Experience (SAE), and leadership development within the intracurricular FFA student organization (National FFA Organization, 2017a). Because each circle focuses on a different aspect of learning, participation in curriculum from each area is highly encouraged (National FFA Organization, 2017a). However, it should be noted that students cannot be FFA members or participate in FFA events if they are not in an agricultural education class (National FFA Organization, 2017b). Although the current study focused on students' participation in FFA,

SAE participation and enrollment in an agriculture class has helped other researchers gauge how involved participants are in the total program.

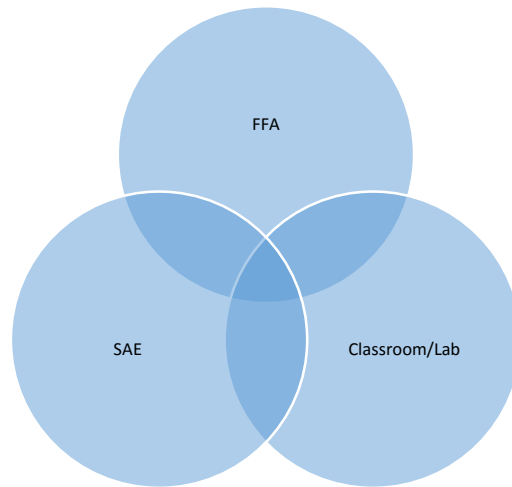


Figure 2.2. Three Circle Model of Agricultural Education.

The model shows the three criteria to have a complete agricultural education program. Notice that each circle is a similar size, representing each criteria is equally important. Adopted from Baker, M. A., Robinson, J. S., & Kolb, D. A. (2012). Aligning Kolb's Experiential Learning Theory with a Comprehensive Agricultural Education Model. *Journal of Agricultural Education*, 53(4).

Consequently, there is limited research available on student engagement and how it relates to agricultural education and the FFA. However, Witt and his colleagues (2013) conducted a study on school connectedness in the agricultural education program. These researchers questioned if and how such criteria as adult support and positive peer groups, as they are manifested in FFA, affected overall student connectedness. The study suggests that the agricultural education program may have a positive effect on student connectedness (Witt, et al., 2013). Because student connectedness and engagement are so closely related, with each one dependent on the other, these findings could imply that students involved in FFA are more engaged in school than non-FFA students.

Another important component of student involvement in FFA is member participation and activity. Talbert and Balschweid (2004) reported that membership involvement in the total

program is fragmented. The researchers found that 40% of respondents reported never competing in a Career Development Event (CDE), one-half reported a committee chair being their highest leadership position, and one-half reported the Greenhand being the highest degree obtained. This study suggests that students are not actively involved in all three circles of the agricultural education model. While it is unrealistic to expect every member to take advantage of every opportunity participation in FFA can offer, these findings suggest most FFA members do not take advantage of these opportunities.

In summary, student engagement is an area of interest to the National FFA Organization, and therefore more research in this area is desired by the organization (Crutchfield, 2013). The National FFA Organization hopes that research in engagement will help the organization more effectively communicate the value of FFA to parents, school administrators, and legislators (Crutchfield, 2013). This study hopes to add to these research efforts.

Summary

Student engagement is a key component between ambitious students and successful students. In order for a student to be fully invested in the learning experience, the student must be behaviorally, cognitively, and emotionally engaged. However, internal and external factors can influence student engagement. One of the most important internal influence on engagement is motivation. Motivation provides the internal drive that keeps student working through difficult tasks. An unmotivated student is at risk for becoming disengaged, or, in extreme cases, alienated. Therefore, teachers and staff should work diligently to create an environment that promotes student engagement.

Another mechanism that can help promote student engagement in school is extracurricular activities. Extracurricular activities require the student to be part of an activity or

group outside of the regular school day. While research has shown that the amount of time spent within a single extracurricular activity as well as the amount of activities participated in does affect some student outcomes, too many extracurricular activities can negatively affect student academic achievement. However, research seemed to ignore a major section of student extracurricular activities, CTSOs. This study aims to examine student engagement and achievement between CTSO and non-CTSO extracurricular activities.

CHAPTER 3. METHODOLOGY

Purpose of the Study

The purpose of this study was to examine the relationship between specific extracurricular activities and the outcomes of student achievement and student engagement.

Research Objectives

The following research objectives guided this study:

1. Describe student involvement in extracurricular activities.
2. Describe student engagement: emotional, behavioral, and cognitive.
3. Compare student self-reported achievement scores between students involved in Career and Technical Student Organization (CTSO) extracurricular activities and other groups of extracurricular activities.
4. Compare student engagement levels between students involved in CTSO extracurricular activities and other groups of extracurricular activities.
5. Compare student self-reported achievement scores and student engagement levels between students involved in extracurricular activities and students not involved in extracurricular activities.

This study examined the relationship between the dependent variables of achievement and engagement and independent variable of student extracurricular involvement using the lens of the expectancy-value theory (Wigfield & Eccles, 2000). The survey design of the present study asked participants to complete a paper questionnaire to gain participants' perceptions of their extracurricular activities, engagement, and academic success. This questionnaire compiled

previous instruments, all of which use a four-point Likert-scale, to examine each construct of engagement.

Variables

The independent variables for this study are student extracurricular involvement and demographic items. Student extracurricular involvement is defined as activities outside of the regular school day to which the student has devoted at least 20 hours within the last year. The students' extracurricular involvement was self-reported by participants by placing an "X" next to the extracurricular activities in which he or she participated from a master list. Participants were able to include those activities not included in the master list by writing them on the line provided as "other". This list (see Appendix A) is compiled by activities recognized by the North Dakota High School Activities Association as well as the North Dakota Career and Technical Education student organizations. The only extracurricular activity that was included in the master list that is not school sponsored was 4-H. While students were able to include other outside activity on the space provided, it is reasonable to assume that other outside activities were possibly overlooked because they were not included in the master list. In order to differentiate between all the different activities students may be involved in, students were asked to select the three extracurricular activities that they feel have had the biggest influence on their success in school by ranking the extracurricular activities they participate according to this criterion beginning with the most influential activity.

The dependent variables are student engagement and student achievement. Student engagement was informed by the work of Appleton, Christenson, Kim, and Reschly (2006) and their Student Engagement Instrument (SEI) as well as through Skinner, Kinderman, and Furrer (2009) and their Engagement vs. Disaffection with Learning: Student-report Instrument. Student

engagement is examined through the constructs of behavioral engagement, emotional engagement, and cognitive engagement. These constructs include how the student acts, interacts with others, and comprehends when the student is in class. The Student Engagement Instrument examined the constructs of emotional engagement and cognitive engagement while the Engagement vs. Disaffection with Learning: Student-report instrument examined emotional and behavioral engagement. Although both instruments included emotional engagement, it was retained in the Engagement versus Disaffection instrument, but excluded from the SEI. The researcher chose not to merge and average due to slightly different scales. Student achievement is measured by the students' self-reported overall grade point average(s) (GPAs) and highest self-reported ACT scores. Students were asked to self-report both of these scores in the demographic portion of the instrument (see Appendix A).

Subject Selection

The participants for this research project are 16 to 19-year-old high school students in their junior or senior year. Participants reside in North Dakota. Three schools within four hours of North Dakota State University were chosen based on the school population [school must contain a student population level of more than 100 in grades 9-12], the school must possess a currently active FFA, and the school must continuously employ a certified agricultural teacher for the last three years. The sample selected is a sample of convenience because schools more than four hours away from the land grant university were not asked to participate (Vogt & Johnson, 2011). The study is also a purposive sample because the researchers selected the sites based on the criteria of school population size, established FFA program, and "Class B" school because the researchers believe these criteria were important for the validity of this study (Vogt & Johnson, 2011). Parents were sent a letter (see Appendix B) which asked them to contact the

school if they wish that their child not participate. All juniors and seniors within the selected high schools who consented to participation within the selected schools are included in this study. Among the three schools selected, 237 students were asked to participate.

Instrumentation

The Student Engagement Instrument (SEI) was first developed by Appleton & Christenson (2004) in an unpublished manuscript, which was then adopted by Appleton, Christenson, Kim, and Reschly (2006). This instrument was developed to measure students' cognitive and psychological engagement and was validated with ninth grade students in the Midwest; however, we reported only the cognitive engagement from this instrument. This study utilized the four factor model as reported by Appleton et al. (2006) in order to reduce total number of items while retaining reliability. The four factor model includes 14 cognitive engagement items (control and relevance of school work and future aspirations and goals) and 15 emotional engagement items (teacher-student relationships and peer support for learning). The reliability coefficient, the measurement that tells how accurate an instrument is (Vogt & Johnson, 2011), of this instrument is as follows: Teacher-Student Relationships $r_{\alpha} = 0.80$, Control and Relevance of School Work $r_{\alpha} = 0.80$, Peer Support for Learning $r_{\alpha} = 0.82$, and Future Aspirations and Goals $r_{\alpha} = 0.78$. This instrument utilizes a 4-point Likert-type scale ranging from 1 (*strongly disagree*) to 4 (*strongly agree*) (See Appendix A).

To measure students' behavioral and emotional engagement, the instrument Engagement vs. Disaffection with Learning: Student-report developed by Skinner, Kindermann, and Furrer (2009) was added to our questionnaire. For this report, we utilized the five behavioral engagement items and five behavioral disaffection items and report the mean, as well as the five emotional engagement items and the twelve emotional disaffection and reported the mean. This

instrument utilizes a 4-point Likert-type scale ranging from 1 (*not at all true*) to 4 (*very true*) (See Appendix A). The reliability coefficient was reported as follows: Behavioral Engagement $r_{\alpha} = 0.71$, Behavioral Disaffection $r_{\alpha} = 0.65$, Emotional Engagement $r_{\alpha} = 0.83$, and Emotional Disaffection $r_{\alpha} = 0.84$. The reliability coefficient measures how well a group of items in an instrument give the same score (Vogt & Johnson, 2011).

The last portion of the instrument includes eight demographic questions and two achievement items. To measure student achievement, students were asked to self-report their grade-point average and ACT scores. However, it is important to note that students do make errors when self-reporting their grades or test scores (Kuncel, Credé, & Thomas, 2005), and so the accuracy of reporting should be scrutinized.

Finally, student extracurricular involvement is self-reported by the student in the instrument. The student were asked to select all of the extracurricular activities they are involved with from a master list which is informed by the North Dakota High School Activities association and the North Dakota Career and Technical Education student associations. Students were also be able to add extracurricular activities to the list that were not listed. Next, students were asked to rank order the top three extracurricular activities so that the researchers can determine which extracurricular activity has had the biggest effect on student engagement levels.

Data Collection

The Student Engagement Instrument (SEI), Student-report Instrument, and demographic questions were combined into one instrument entitled Student Engagement and Success and was administered to all secondary junior and senior students that attend the selected schools (Appendix A). The North Dakota State University Institutional Review Board (IRB) reviewed the study, and upon approval, data collection began in May at each school (Appendix B). After

IRB approval, the school administrators from the participating schools were contacted via a letter and asked to allow junior and senior students to participate in this study (Appendix B). Active parental consent was not sought; however, with administration help, letters were sent to the students' parents to inform them of the study and allowed the parents to opt their child out of the study. Participants were also provided the opportunity to opt out of the study the day of the instrument administration.

The data was collected at each school during the spring 2017 semester. The school sites include Beulah High School- Beulah, ND, Rugby High School- Rugby, ND, and Garrison High School- Garrison, ND. These schools were chosen purposely on the criteria that they contained a school population of more than 100 students in the high school for the 2016-2017 school year, currently possess an established agricultural education program, and are considered a "Class B" school, and received administration approval (Vogt & Johnson, 2011). These selection criteria were used to ensure a variety of extracurricular activities were available to be sampled, to ensure selection of a variable of interest were included, and because this is considered the normal school size for this state.

Data Analysis

Data was analyzed using the SPSS software. The data analysis included frequencies, means, and standard deviations, as well as t-tests for each corresponding objective.

Analysis and reporting for each objective is as follows:

Objective One

Frequencies were used to describe the number of occurrences that participants partook in each activity type.

Objective Two

Means and standard deviations from the 4-point Likert scale were used to describe students' emotional, behavioral and cognitive engagement.

Objective Three

Means and standard deviations were used to compare student-reported achievement scores between CTSO activities and other groups of extracurricular activities, and t-tests were utilized to test for significant differences between groups.

Objective Four

Means and standard deviations were used to compare each engagement level between CTSO activities and the other groups of extracurricular activities, and t-tests were utilized to test for significant differences between groups.

Objective Five

Means and standard deviations were used to compare student-reported achievement and engagement level between students who participated in extracurricular activities and students who did not participate in extracurricular activities, and t-test were utilized to test for significant differences between groups.

CHAPTER 4. FINDINGS

Purpose of the Study

The purpose of this study was to examine the relationship between specific extracurricular activities and the outcomes of student achievement and student engagement.

Research Objectives

The following research objectives guided this study:

1. Describe student involvement in extracurricular activities.
2. Describe student engagement: emotional, behavioral, and cognitive.
3. Compare student self-reported achievement scores between students involved in Career and Technical Student Organization (CTSO) extracurricular activities and other groups of extracurricular activities.
4. Compare student engagement levels between students involved in CTSO extracurricular activities and other groups of extracurricular activities.
5. Compare student self-reported achievement scores and student engagement levels between students involved in extracurricular activities and students not involved in extracurricular activities.

Population and Sample

The researcher distributed survey instruments at the three different high schools in May 2017. From the three research sites, 191(*n*) students completed the survey from the available sample of 237 students, and a total of four surveys were excluded from the results of the study due to completion errors or response set. The students who did not complete the survey either were absent or declined to participate in the study. Because generalizability was not the intent of this study, those potential subjects were not followed up with to supply responses. However, because of a low response rate at one of the schools, additional questionnaires were left for

students to take if they so chose. Additionally, non-response error was not calculated or considered in accordance with the design of the study. Therefore, the results of this study are not generalizable beyond the sample discussed herein.

Characteristics of the sample are found in Table 4.1. The greatest number of respondents were juniors (49.70%, $n = 95$) whereas the fewest represented were seniors (43.50%, $n = 83$). The distribution of the sexes for the sample favored males (49.70%, $n = 88$) over females (47.50%, $n = 84$) and other (2.8%, $n = 5$) of those who reported. Among the students who reported having FFA membership at some point in time, the largest category for years in FFA was 5 years ($n = 27$, 14.10%), followed by four years ($n = 24$, 12.60%), three years ($n = 23$, 12.00%) and 2 and 1 year ($n = 11$, 5.80%). Those reporting FFA membership, most reported participating in Career Development Events (CDE) on a state level (46.10%, $n = 41$), followed by never (32.60%, $n = 32.6$), chapter (7.90%, $n = 7$) and district (7.90%, $n = 7$), and national (4.50%, $n = 4$). Those reporting FFA membership, most of the sample's highest FFA degree obtained was the Chapter Degree (45.30%, $n = 34$), followed by Greenhand Degree (28.0%, $n = 21$), State Degree (25.30%, $n = 19$), and American Degree (1.30%, $n = 1$). Further examination of the sample is included in Table 4.1.

Table 4.1

Demographic Characteristics of Participating Students (n = 191)

Variable	n	%
Student Class Rank		
Junior	95	49.70
Senior	84	44.00
Missing	12	6.30
Sex		
Male	88	46.10
Female	84	44.00
Other	5	2.60
Missing	14	7.30
Years of FFA Membership		
1 Year	11	5.80
2 Year	11	5.80
3 Year	23	12.00
4 Year	24	12.60
5 Year	27	14.10
6 Year	1	0.50
Missing	129	67.50

Table 4.1 *Demographic Characteristics of Participating Students (n = 191) (continued)*

Variable	n	%
Highest Level of CDE Participation		
Never	29	15.10
Chapter	8	4.20
District	7	3.70
State	41	21.50
National	4	2.10
Missing	102	53.40
Highest FFA Degree		
Greenhand	21	11.00
Chapter	34	17.80
State	19	9.90
American	1	0.50
Missing	116	39.30
Achievement Variable		
ACT Score	22.01	4.00
GPA	3.31	0.58

Note. Missing indicates that the respondent did not mark an answer for that particular question. There is not a distinction between respondents who indicated involvement in FFA but did not answer further questions and those that were not involved in FFA. All non-response were reported as missing.

Research Objective One

Research Objective One was to describe student involvement in extracurricular activities. Respondents were asked to mark the extracurricular activities that they have been involved in during the last 12 months which they dedicate at least 20 hours a year. Students reported their extracurricular activities by placing an “X” next to the extracurricular activities meeting the criteria on a master list (Table 4.2). Students were able to report any activities not included in the master list as well. If an extracurricular activity met the criteria that were not part of the master list, students were asked to indicate these activities by writing them on the line provided for “other”. Descriptive statistics for the entire sample were reported in Table 4.3.

Table 4.2

Master list for Student Extracurricular Activity Participation

	4-H		One-act Play
	Baseball		Pep Band
	Basketball		Pep Club
	Cheerleading- basketball		Skills USA
	Cheerleading- football		Speech
	Cheerleading- wrestling		Soccer
	Cross Country		Softball
	Debate		Statistician -basketball
	FBLA		Statistician -football
	FCCLA		Statistician- wrestling
	FFA		Statistician-volleyball
	Football		Student Council/Congress
	Golf		Swimming
	High School Rodeo		Theatre
	Hockey		Track and Field
	Jazz Band		Volleyball
	Music Festival		Wrestling
	National Honor Society		Yearbook Club

The extracurricular activities were condensed into different categories for the purposes of analysis. The categories were one sport, multiple sports, one Career and Technical Student Organization (CTSO), multiple CTSO, FFA only, academic clubs, 4-H, the arts, sport statistician, high school rodeo, other, and no involvement indicated. The five categories with the most participants were one CTSO ($n = 82, 42.90\%$), multiple sports ($n = 73, 38.20\%$), FFA ($37.70\%, n = 72$) school academic clubs ($n = 58, 30.40\%$), and the arts ($n = 49, 25.70\%$).

However, it is important to note that these categories are not mutually exclusive; therefore, some participants fell in multiple extracurricular activity categories.

Table 4.3

Student Involvement in Extracurricular Activities

Extracurricular Activity Category	<i>n</i>	%
One Sport	43	22.50
Multiple Sports	73	28.20
One CTSO	82	42.90
Multiple CTSO	8	4.20
FFA	72	37.70
4-H	17	8.90
School Academic Clubs	58	30.40
The Arts	49	25.70
Other	16	8.40
Sports Statistician	11	5.80
Rodeo	2	1.00
No Involvement Indicated	26	13.60

Research Objective Two

Research Objective Two was to describe student emotional, behavioral, and cognitive engagement. Student engagement was measured by the Student Engagement Instrument (SEI) and the Engagement versus Disaffection with Learning: Student Report. The sample mean for each engagement construct indicate respondents, on average, perceived a mild to moderate level of their engagement (Lewis, Ashley, Malone, & Valois, 2011). A mild to moderate level of

engagement means that students generally perceived themselves as a. behaviorally engaged because they perceived themselves as generally partaking in the activities required for school (e.g. completing assignments, working on coursework, paying attention); b. emotionally engaged because they perceived themselves as generally having positive emotions (e.g. feeling interested or happy) towards school and learning; and c. cognitively engaged because they perceived themselves as they generally believed that school was valuable to their futures and helped them meet their goals. The data for engagement fell within the moderate level of perceived engagement with the lowest being emotional engagement ($M = 2.63, SD = 0.59$), the center being cognitive engagement ($M = 2.75, SD = 0.52$) to the highest being behavioral engagement ($M = 3.02, SD = 0.51$) for the entire sample ($n = 186$). Descriptive statistics for the sample are reported in Table 4.4.

Table 4.4

Student Engagement Levels (n=186)

Variable	M	SD	Range	
			Min	Max
Cognitive Engage.	2.75	0.52	1.00	4.00
Emotional Engage.	2.63	0.59	1.00	3.80
Behavioral Engage.	3.02	0.51	1.00	4.00

Note. The emotional and behavioral constructs used a four-point Likert scale (1= not at all true, 2= not very true, 3= sort of true, 4= very true). Cognitive engagement used a different four-point Likert scale (1= strongly disagree, 2= disagree, 3 = agree, 4= strongly agree).

Research Objective Three

Research Objective Three was to compare student self-reported achievement scores between students involved in CTSO extracurricular activities and other groups of extracurricular activities. This objective used that same extracurricular activity procedure that was reported in

objective one. Students who indicated participation in CTSO activities (FFA, FBLA, FCCLA, etc.) were then compared to students who did not indicate participation in CTSO activities. A new dummy coded variable was created to include in the analysis to reflect participation in CTSO. Table 4.5 displays the results of the students' reported GPA and ACT scores based on those that participated in a CTSO activity and those who did not participate in a CTSO activity. Of the students who reported their GPA score, the majority of students ($n= 166, 52.41\%$) reported not participating in a CTSO activity. Of the students who reported their ACT score, the majority of students ($n= 159, 53.45\%$) reported not participating in a CTSO activity.

Using Levene's test for equality of variances, equal variances were assumed because the 2-tailed significance test indicated a normal distribution ($p>0.05$). Students that did not indicate involvement in a CTSO activity reported higher GPA scores ($M= 3.33, SE= 0.49$) than students who reported involvement in a CTSO activity ($M= 3.29, SE= 0.65$). This difference was not significant $t(164) = 0.36, p> 0.05$, and it represents a small-size effect $r=0.06$. However, students who reported involvement in a CTSO activity reported higher ACT scores ($M= 22.17, SE= 4.03$) than students who did not report involvement in a CTSO activity ($M= 21.84, SE= 0.40$). This difference was not significant $t(157) = -0.51, p> 0.05$, and it represented a small effect size $r =0.05$.

Table 4.5

Comparison Between CTSO and non-CTSO Achievement Scores

	<i>N</i>	<i>M</i>	<i>SD</i>	<i>SE</i>	<i>T</i>	<i>Df</i>	Sig. (2-tailed)
GPA					0.36	164.00	0.72
CTSO	87	3.29	0.65				
No CTSO	79	3.33	0.49				
ACT					-0.51	157.00	0.61
CTSO	85	22.17	4.03				
No CTSO	74	21.84	3.99				

Research Objective Four

Research Objective Four was to compare student engagement levels between students involved in CTSO extracurricular activities and other groups of extracurricular activities. Table 4.6 displays the results of students' perceived engagement based on those who had reported participation in a CTSO activity and those who had not reported participation in a CTSO activity. The majority of students ($n = 97$, 52.15%) reported no participation in a CTSO activity for emotional and behavioral engagement, as well as cognitive engagement ($n = 98$, 52.13%).

Using Levene's test for equality of variances, equal variances were assumed ($p > 0.05$) for all engagement constructs. Students who did not report participation in a CTSO activity had higher mean score of perceived engagement for all constructs than students who reported participation in a CTSO activity. Students who did not indicate participation in a CTSO activity reported higher emotional ($M = 2.64$, $SD = 0.58$), behavioral ($M = 3.05$, $SD = 0.55$), and cognitive

engagement ($M= 2.76$, $SD= 0.54$) than students who did indicate participation in a CTSO activity (emotional $M= 2.62$, $SD= 0.61$; behavioral $M= 2.99$, $SD= 0.46$; and cognitive $M= 2.75$, $SD= 0.49$). However, according to the independent samples t - test, none of the differences in the groups' data were statistically significant ($p > 0.05$) for any of the constructs. Therefore, within the present sample, the data from students who reported participation in a CTSO activity did not have a statistically different perceived engagement in school.

Table 4.6

Perceived Engagement for Students With and Without Participation in CTSO Activity

	n	M	SD	SE	t	Df	Sig. (2.tailed)
Emotional					0.21	184	0.83
CTSO	89	2.62	0.61				
No CTSO	97	2.64	0.58				
Behavioral					0.79	184	0.43
CTSO	89	2.99	0.46				
No CTSO	97	3.05	0.55				
Cognitive					0.09	186	0.93
CTSO	90	2.75	0.49				
No CTSO	98	2.76	0.54				

Research Objective Five

Research Objective Five was to compare student self-reported achievement scores and engagement levels between students involved in extracurricular activities and students not involved in extracurricular activities. Table 4.7 displays the results of students' self-reported achievement scores and students' perceived engagement levels based on those who had reported participation in an extracurricular activity and those who had not reported participation in an extracurricular activity. The majority of students in the sample ($n = 165$, 86.39%) reported participation in at least one extracurricular activity.

Using Leven's test for equality of variances, equal variances were assumed ($p > 0.05$) for all engagement constructs and achievement scores. Students who reported participation in an extracurricular activity had a higher mean score of perceived engagement in all constructs (emotional $M = 2.66$, $SD = 0.58$; behavioral $M = 3.04$, $SD = 0.51$; and cognitive $M = 2.76$, $SD = 0.51$) and a higher self-reported achievement scores (GPA $M = 3.33$, $SD = 0.58$ and ACT $M = 22.19$, $SD = 3.98$) than students who did not report participation in an extracurricular activity (emotional $M = 2.51$, $SD = 0.63$; behavioral $M = 2.91$, $SD = 0.50$; cognitive $M = 2.71$, $SD = 0.59$; GPA $M = 3.11$, $SD = 0.55$; and ACT $M = 20.14$, $SD = 3.80$). However, according to the independent samples t-test, none of the differences in the groups' data were statistically significant ($p > 0.05$) for any of the constructs. Therefore, within the present sample, the data from students who reported participation in a CTSO did not have a statistically different perceived engagement or self-reported achievement in school.

Table 4.7

Perceived Engagement and Self-Reported Achievement for Students With and Without Extracurricular Involvement

	n	M	SD	SE	t	Df	Sig. (2.tailed)
Emotional					1.18	184	0.24
Extracurricular	160	2.66	0.58				
No Extracurricular	26	2.51	0.63				
Behavioral					1.21	184	0.23
Extracurricular	161	3.04	0.51				
No Extracurricular	26	2.91	0.50				
Cognitive					-0.49	186	0.63
Extracurricular	162	2.76	0.51				
No Extracurricular	26	2.71	0.59				
GPA					1.54	164	0.13
Extracurricular	149	3.33	0.58				
No Extracurricular	17	3.11	0.55				
ACT					1.85	157	0.07
Extracurricular	145	22.19	3.98				
No Extracurricular	14	20.14	3.80				

CHAPTER 5. CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS

Purpose of the Study

The purpose of this study was to examine the relationship between specific extracurricular activities and the outcomes of student achievement and student engagement.

Research Objectives

The following research objectives guided this study:

1. Describe student involvement in extracurricular activities.
2. Describe student engagement: emotional, behavioral, and cognitive.
3. Compare student self-reported achievement scores between students involved in Career and Technical Student Organization (CTSO) extracurricular activities and other groups of extracurricular activities.
4. Compare student engagement levels between students involved in CTSO extracurricular activities and other groups of extracurricular activities.
5. Compare student self-reported achievement scores and student engagement levels between students involved in extracurricular activities and students not involved in extracurricular activities.

Summary

While the National FFA Organization claims to “make a positive difference in the lives of students” (National FFA Organization, 2017a, p. 7), little research has examined whether or not student participation in the National FFA Organization actually improves student engagement and achievement (Crutchfield, 2013). Having evidence to show the relationship between student participation in FFA and student engagement and achievement could help

provide data for parents, students, and congress, which in turn, could help with recruitment and funding.

Previous research shows that participation in extracurricular activities positively influences student engagement and achievement (Eccles & Barber, 1999; Eccles, Barber, Stone, & Hunt, 2003; Lipscomb, 2007); however, these studies do not compare student engagement and achievement between different types of activities. Although previous research has categorized extracurricular activities based on the type of extracurricular activity (i.e. performing arts, sports, etc.), they have not looked specifically at the degree to which different types of extracurricular activities influence engagement (Eccles & Barber, 1999; Eccles, Barber, Stone, & Hunt, 2003). Comparing different types of extracurricular activities for engagement efficacy could help students make informed decisions when selecting which extracurricular activities in which to participate because different activities may result in different engagement outcomes.

A logical categorization for FFA as an extracurricular group is in the Career and Technical Student Organization (CTSO) category. CTSOs are intracurricular activities (activities that are associated with a class within the school) within Career and Technical Education (CTE) that focus on preparing students for jobs within a particular field (North Dakota Department of Career and Technical Education, 2017). Comparing CTSOs to other types of extracurricular activities such as sports, performing arts, and academic clubs fills a gap in the knowledge about the overall efficacy of CTSOs and FFA in particular. However, there are few studies that examine CTSO participation outcomes and no studies that examine FFA in particular (Alfred, Hansen, Argon, & Stone, 2006).

This study utilized the Expectancy-Value Theory as the lens for the theoretical framework (Wigfield & Eccles, 2000) because this theory can help inform researchers as to how

students chose to participate in extracurricular activities. According to the Expectancy-Value Theory, motivation and success have a cyclical relationship that guides future decision-making (Wigfield & Eccles, 2000). Motivation is also a precursor for student engagement, and therefore, provides context for different levels of engagement between students (Holbein & Ladd, 2015). Expectancy-value theory provides context for researchers to understand students' decisions to be involved in FFA or any other extracurricular activity. For example, according to the model some aspect the events and activities within FFA interested the student enough to try agree to engage in FFA. After participating in the event or activity, the student choose to either engage or not engage in subsequent FFA activities. This decision is based on whether or not the student found FFA involvement to be valuable to him or her or because the student expected to achieve in FFA. With each subsequent FFA activity or event that the student is involved in, the student is continuing to evaluate continuing to participate in FFA or not based on value and expectancy. This theoretical model provides some context for students' decision-making processes.

Conclusion

The three schools sampled for this study had many types of extracurricular activities available to their students. However, of the 191 respondents, 13.61% did not indicate participation in at least one extracurricular activity ($n = 26$). Of respondents, 86.39% indicated participation in some type of extracurricular activity ($n = 165$). Moreover, 54.55% students did not indicate participation a CTSO at all ($n = 90$). The most popular type of extracurricular activity reported by respondents was sports ($n = 116$, 60.73%).

Participants in this study who did not indicate participation in a CTSO reported a higher level of behavioral ($M = 3.05$, $SD = 0.55$), cognitive ($M = 2.76$, $SD = 0.54$), and emotional engagement ($M = 2.64$, $SD = 0.58$) as well as higher GPA scores ($M = 3.33$, $SD = 0.49$) than

those who did indicate participation in a CTSO (behavioral $M = 2.99$, $SD = 0.46$; cognitive $M = 2.75$, $SD = 0.49$; emotional $M = 2.62$, $SD = 0.61$; GPA $M = 3.29$, $SD = 0.65$). On the other hand, students who indicated involvement in CTSOs reported higher ACT scores ($M = 22.17$, $SD = 4.03$) than those who did not indicate involvement in CTSOs ($M = 21.84$, $SD = 3.99$).

Nevertheless, while these findings differ numerically, they were not statistically significant. Therefore, these CTSO student participants did not have significant differences in behavioral, cognitive, or emotional engagement or GPA or ACT scores as compared to those student participants who did participate in CTSOs. Furthermore, the participants in this study did not indicate any advantage for one extracurricular activity over another that could be applied beyond this sample of the target population.

Additionally, the researcher discovered that the respondents' participation in extracurricular activities probably did not fit into the expectancy-value theory model (Eccles & Wigfield 2000) as originally hypothesized. Originally, it was proposed that student participation in different types of extracurricular activities influenced the students' goals that would result in a different level of achievement and engagement. For example, participation in sports would cause students to work to keep their grades up in order to be able to continue playing; however, the lack of connection specifically to school work would have marginal effects on the students' engagement. On the other hand, students who was participating in a Career and Technical Student Origination (CTSO) would have a more direct connection to school content because of CTSO's connection in the classroom through Career and Technical Education (CTE), and thus, the classroom connection would result in higher engagement and achievement. However, after reviewing the results, this does not seem to be the case. It seems more rational that students select extracurricular activities based on their interest, and how students identify themselves and

the availability of an extracurricular activity that is similar to this interest or identification. Therefore, a marginal level of difference of engagement and achievement between the two types of extracurricular activities (CTSO and non-CTSO) were found. While it does not completely fit for CTSO, it did demonstrate for the broader group that participation in extracurricular activities showed a difference. Nevertheless, this research does highlight the impact that all extracurricular activities can have for the students that participate in them.

Research Objective One

Students participated in many different extracurricular activities. Unsurprisingly, students indicated participation in sports more often than any other extracurricular activity ($n = 116$, 60.7%). Students indicated participation in CTSO activities as the second highest extracurricular activity ($n = 90$, 47.1%). The third highest extracurricular activity participation indicated by participants was school academic clubs ($n = 58$, 30.4%). However, it is important to note when comparing participation rates that students could indicate involvement in multiple areas. Overall, a substantial amount of students indicated involvement in some sort of extracurricular activity ($n = 165$, 86.39%). Still, there was a small number of students who did not indicate participation in any extracurricular activity ($n = 26$, 13.6%). However, the participation rate may not reflect the general population of schools because this sample of schools was purposely selected for multiple CTSO activities available to students. This data indicates that, while not as popular as sports, students participated in CTSO activities at a sustainable level ($n = 90$, 47.12%).

Although students reported CTSO activities to be the second highest participated type of extracurricular activity, discrepancies in the data caused the researcher to question whether or not students reported their extracurricular involvement as outlined in the study protocol. Some participants indicated involvement in FFA, but did not indicate participation in any Career

Development Events (CDE), completion of an FFA degree, or immersion in a Supervised Agricultural Education Experience (SAE). While there are other aspects of FFA that students could have participated in that were not included in the survey (chapter meetings, community service, and fundraising), this discrepancy raises the question as to how many hours these students actually participated in FFA activities and the relevance of that participation to this research.

Another possible complication in interpreting the data relates how FFA involvement depends upon its intracurricular relationship with agricultural education classes. In order to be an FFA member, students must also be enrolled in an agricultural education class (National FFA Organization, 2017 b). However, participants may have associated learning activities in the agricultural education classroom as hours spent in the extracurricular activity FFA. This misunderstanding results in an unfair comparison between participation in sports and FFA because sports would require students to take time outside of the normal school day to be involved in the activity; whereas, FFA in the agricultural education classroom time would not require this same kind of commitment outside of the normal school day. Because research has already shown that involvement in extracurricular activities (which is defined as activities outside of the regular school day) is positively correlated to student engagement (Eccles & Barber, 1999; Eccles, Barber, Stone, & Hunt, 2003; Kronholz, 2012; Lipscomb, 2007; Massoni, 2011), theoretically, including students who are not involved in an extracurricular activity outside of the regular school day would lower the engagement level for that type of activity. Furthermore, if the sampling procedure was not consistently identifying the students who valued the extracurricular activity, the data is not going to fit as anticipated into the theoretical

framework using expectancy-value theory. This could potentially skew the results and lower the overall engagement score for that particular type of activity.

Research Objective Two

Overall, students were fairly engaged in school. For the purpose of this study, an average response mean (M) of 3.50- 4.0 indicated a high level of perceived engagement, 2.5-3.49 indicated a moderate level of perceived engagement, 1.5-2.49 indicated a low level of perceived engagement, and 1.0-1.49 indicates a very low level of perceived engagement. Participants in this study rated their engagement at a moderate level in all three constructs.

As a group, participants indicated their behavioral engagement as the highest construct ($M = 3.02$, $SD = 0.51$), meaning that as a whole, the group felt that they exhibited those behaviors associated with school, such working hard and participating in class discussions. This tells us that overall students usually perceived that they completed and handed in homework on time and participated in classroom discussion and activities. The context of the sample is included, most junior and senior students have had twelve or more years to be conditioned to conduct themselves in accordance with certain behaviors, yet are very close to graduating. A moderate level of behavioral engagement is probably due to the many years of the students being conditioned by their teachers to behave a certain way while also believing a poor behavior here or there is not going to hurt their chance of graduation at this point in time.

Cognitive engagement was the next highest construct ($M = 2.75$, $SD = 0.52$). Cognitive engagement is described as seeing the value in education and thinking about education as an investment for one's future. This means that while students lean towards believing school to be important in their future and valuable, this is not always the case. This moderate level of agreement may result from students believing that more education generally leads to more

success in life; however, students may sometimes perceive school can at times lack relevance between content learned in school and real life application. In order to enhance student perceived cognitive engagement, teachers should include more active learning so that students are better able to understand the relevance of their school work to the real world (Chi & Wylie, 2014).

The participants rated emotional engagement as the lowest engagement construct ($M = 2.63$, $SD 0.59$). Emotional engagement is described as finding enjoyment, fulfillment, and interest in one's education. Emotional engagement is a good indicator of the level of student motivation (Skinner, Furrer, Marchand, & Kindermann, 2008), and so likewise, students in this sample more than likely have a moderate level of motivation. However, the lower level of perceived behavioral engagement as compared to perceived emotional engagement is a bit concerning because it may indicate that student motivation is having adverse effects on the student overall engagement. Additionally, some of the lack of emotional engagement can be attributed to the instrument being administered in the last few weeks of school because student engagement decreases as the school year progresses (Skinner, Furrer, Marchand, & Kindermann, 2008). Nevertheless, emotional engagement was perceived by this sample to be the most deficient type of engagement.

Research Objective Three

On average, students who did not indicate participation in CTSO activities reported higher mean GPA score ($M = 3.33$, $SD = 0.49$). However, students who indicated participation in CTSO activities reported a higher ACT score ($M = 22.17$, $SD = 4.03$). Unfortunately, none of these results were statically significant as determined by the t-test. This means that students who

compete in CTSO have practically the same achievement levels as students who compete in other extracurricular activities.

It was interesting that the two groups of extracurricular activities (those with CTSO and those without) had flipped rank in GPA and ACT score. However, these findings should be interpreted with caution because, as Kuncel, Credé, and Thomas (2005) found, self-reported GPA and ACT are not always 100% accurate. Furthermore, a number of students failed to report either their GPA ($n = 166$, 86.91%) or ACT ($n = 159$, 83.25%) score, or both. There were a number of reasons students may not have reported these scores. Some students indicated they had not received the ACT scores yet. This would be especially true for junior students as they still have a year to take the ACT. Some students indicated that they did not have an accurate idea of what their GPA or ACT scores were. Others may have simply opted out of reporting this information because of various personal reasons. Nevertheless, the lack of GPA and ACT scores may have affected the results of this study.

Research Objective Four

On average, students who did not indicate participation in CTSO activities reported higher engagement scores in all three engagement constructs (emotional $M = 2.64$ $SD = 0.58$, cognitive $M = 2.76$, $SD = 0.54$, and behavioral $M = 3.05$, $SD = 0.55$) than students who did indicate participation in CTSO activities (emotional $M = 2.62$ $SD = 0.61$, cognitive $M = 2.75$, $SD = 0.49$, and behavioral $M = 2.99$, $SD = 0.46$). However, these results were not statistically significant as determined by the t-test. Therefore, students who participate in CTSO activities have practically the same reported engagement level in multiple aspects of school as students who did not indicate participation in CTSO activities. Because students have “achievement related choices”, (Wigfield & Eccles, 2000, p. 69) as stated in the Expectancy-Value Theory

available to them in both CTSO and non-CTSO extracurricular activities it is reasonable to assume that both types of activities would lead to relatively the same engagement level.

Knowing the benefits associated with different extracurricular activities is important when tight budgets require officials to be more critical of how funding is being spent and the outcomes students receive from that activity. Programs that have evidence to support their value are in a better position to advocate for continued funding than those programs without this confirmation. This study did not find a statistical difference between CTSO and non-CTSO activities for this sample in either student engagement or achievement levels. Based on this data, school officials at these schools should not give a financial advantage to one type of extracurricular activity over the other based on student engagement or achievement.

Research Objective Five

On average, students who indicated participation in an extracurricular activity self-reported higher achievement scores (ACT $M = 22.19$, $SD = 3.98$; GPA $M = 3.33$, $SD = 0.58$) as well as reported higher self-perceived engagement in all three constructs (cognitive $M = 2.76$, $SD = 0.51$, emotional $M = 2.66$, $SD = 0.58$, and behavioral $M = 3.04$, $SD = 0.51$) than students who did not indicate participation in an extracurricular activity (ACT $M = 20.14$, $SD = 3.80$; GPA $M = 3.11$, $SD = 0.55$; cognitive $M = 2.71$, $SD = 0.59$, emotional $M = 2.51$, $SD = 0.63$, and behavioral $M = 2.91$, $SD = 0.50$). However, these results were not statistically significant as determined by the t-test. Nevertheless, this sample revealed some interesting results. For instance, the student who participated in extracurricular activities had, on average, a two-point gain on the ACT or 0.2 increase in GPA score. These types of gains in student achievement can make a very big difference for student when applying for college scholarships. So, while there

may not have been a significant difference for achievement scores between students who participated in extracurricular activities and those who did not, there is a practical difference.

The moderately high overall engagement scores is consistent with other research because they indicated that students who participated in extracurricular activities reported higher engagement than students who did not participate in extracurricular activities (Eccles & Barber, 1999; Eccles, Barber, Stone, & Hunt, 2003; Kronholz, 2012; Massoni, 2011). The research collectively suggests that there is a stronger relationship between extracurricular involvement and student engagement than this study can deduce. Extracurricular activities played important part in students overall engagement for the participants of this study.

Discussion/Recommendations/Implications for Practice

Even though the results were not statistically significant, the results are still relevant within Career and Technical Education (CTE) and CTSOs. For this sample, CTSO participation produced similar engagement and achievement results as participation in non-CTSO activities within these high school systems. Therefore, students from these schools should not be discouraged from participating in CTSO activities for fear of lack of student engagement or achievement. Parents of participants from this sample should also encourage students to participate in whichever extracurricular activity strikes their interest and be reassured that participation in one activity over another will not hinder their engagement or achievement in extracurricular activities.

Though the results are not generalizable across the population of high school students, they highlight the difference between students who participate in multiple sports, and students who participate in multiple CTSO activities. A larger number of the respondents who indicated participation in sports reported participation in multiple sports ($n = 73$, 62.93% of sports

participation); however, very few of the students who indicated participation in a CTSO activity, reported participation in multiple CTSO activity ($n = 8$, 8.88% of CTSO participation). This difference could be caused from the smaller number of CTSO activities available to students. However, 70% of the students who indicated involvement in a CTSO activity also indicated being involved in a sport ($n = 63$). This is interesting because it sheds light on the amount of overlap between extracurricular involvement. Small schools lack the student numbers that larger school have, and consequently, depend on student involvement in multiple areas in order to compete in the various extracurricular activities. Had this study included larger schools, perhaps the students would not have been involved in as many extracurricular activities.

Nevertheless, the number of activities available in sports versus those available through CTSOs indicates how schools prioritize the types and purposes of extracurricular activities. Currently, there are 12 different kinds of sporting activities available to girls throughout the year in the state of North Dakota (See North Dakota Activity Association, 2016). Of these 12, eight activities are available in Class B schools. However, CTSO has fewer choices available. North Dakota has six different CTSO activities available to students (see North Dakota Department of Career and Technical Education, 2016); however, not all schools have all six CTSO activities available. Each school must receive a charter from each CTSO activity in order to offer that CTSO in their school. Of the schools that participated in this study, the highest number of CTSO activities available to students was three. The sheer volume of activities available in sports versus CTSO lends itself to having more students that compete in multiple sports and not multiple CTSOs. The amount of activities is important because it shows where the school system's priorities exist. Although schools may not be telling students the only extracurricular activity that is worth their time is sports, the amount of resources and time that are spent on

sports alone demonstrates the schools' priorities. Because the results were not statistically different, both CTSO and non-CTSO activities are beneficial for student engagement and achievement, but the balance of the types of activities offered do not reflect these findings.

This discrepancy also raises the question of how students decide which extracurricular activities to participate. Perhaps, how the students identify with a particular group (FFA is for farmers, you have to be athletic to play sports, etc.) prevent students from wanting to participate in certain extracurricular activities (Eccles, Barber, Stone, & Hunt, 2003). Furthermore, it may be interesting to examine how the effect of professional sports leagues and their athletes with their accessibility to reach youth through the media affects participation in sport activities compared to other extracurricular activities that do not have these same tools such as CTSO. Research in this area would allow us to further understand the role that society and the media play in shaping youth's goals and aspirations and how these affect student participation (or lack thereof) in extracurricular activities.

More research needs to be conducted that further sets apart positive attributes acquired by students from participating in different types of extracurricular activities because it could help improve the educational outcomes for students. While this study focused on student engagement and achievement, research on other outcomes such as interpersonal skills, or teamwork would give a clearer picture of extracurricular activities that provide meaningful experiences to their students. Setting apart student outcomes in the different types of extracurricular activities is valuable because it allows those activities to evaluate whether or not they are accomplishing their goals and would provide examples on how possibly to improve student outcomes. Furthermore, this research would also allow organizations to build on areas of strength and fix areas of weakness so that all extracurricular activities are providing the best possible outcomes for their

students. Future research should also look to broaden the scope of the current study so that the results could be generalizable for the entire population.

The National FFA has supported research regarding engagement and FFA by placing this area as one of its area of interest for the 2013-2018 research cycle (Crutchfield, 2013). However, this study found discrepancies between students who say they participated in FFA and what students actually defined participation in FFA. FFA is an intracurricular activity within the agricultural education class. While the goal of agricultural education is to have 100 percent membership of students who take an agricultural education class also participate in FFA, this seldom happens (Talbert & Balschweid, 2004). However, this relationship between agricultural education and FFA seemed to confuse some of the participants in this study because eight participants indicated participation in FFA, but did not indicate participation in Career Development Event(s) (CDE) or Supervised Agricultural Experience (SAE), or completion of FFA degrees. While there are other ways a student could participate in FFA activities and avoid the ones highlighted above, it does raise the question as to what types of FFA activities students are participating in, and how many hours are students spending in these activities. Knowing the types of activities that students participating within a CTSO is important because this may be affecting the breadth or intensity of the activity. As Farb and Matjasko (2012) found the number of activities and the amount of time and dedication spent in each activity affects student engagement and achievement. Therefore, CDE participation, which would require more commitment in order to do well, may not be able to be compared to chapter meetings, where a student can have minimal investment (such as free snacks) to participate. However, this also applies to other extracurricular activities as well. Luthar, Shoum, and Brown (2007) also hoped to address defining extracurricular involvement with other extracurricular activities and

concluded wording providing the directions of outside the school hours with the presence of a coach or adult. Including this context will help to ensure all extracurricular activities are being accurately reported.

Perhaps a more logical comparison to make between non-CTSO activities and CTSO activities is to compare the parts of each activity that correlate with each other and not activities as a whole. This would mean the competition portion of FFA, which largely includes CDE, would be compared to other extracurricular activities that include competition such as sports teams or music competitions. The leadership components of FFA such as being on a committee or holding an elected position could be compared to extracurricular activities that aim to accomplish the same goal such as National Honor Society. Furthermore, some of these organizations, such as National Honor Society (2016) have a higher GPA cap that students must meet in order even to be members. The different goals of extracurricular activities may be resulting in unequal comparisons. Further dissecting how time is being spent in each extracurricular activity would give researchers a better idea of the breadth and intensity of each activity so that analysis that is more accurate can be made.

This research does open the conversation as to what the goals of extracurricular activities are and should be. It also can begin the conversation within the agricultural community as to what can be done to set the National FFA organization apart from other extracurricular activities besides career exploration that has an immediate benefit for students who do not have an interest in agriculture. While it is unrealistic for every student in every school that offers CTSO activities to have 100 percent school membership, this research does beg the question as to what sets FFA or CTSO apart from other extracurricular activities.

Because the results from this study were not statistically significant, the participants in this sample had similar achievement and engagement scores regardless of whether they participated in CTSO or non-CTSO extracurricular activities. However, these results cannot be applied to back to the population the sample was taken from, and therefore, more research should be conducted so that a study could be generalizable to the school population. This information is important because it helps students seeking to participate in extracurricular activities make informed decisions.

There are a few reasons why the results were inconclusive. One reason is that a random sample was not used. The purposive sample may have affected the statistical significance of the results because the researcher may have believed an attribute to be important that was not representative of the population (Vogt & Johnson, 2011). Furthermore, the purposive sample does not allow the results to be applied to the general education population. However, these criteria were because it was thought that it would ensure a variety of extracurricular activities (both CTSO and non-CTSO) were available to students at the three schools and to ensure a large number of participants could be obtained from fewer schools. This became especially important because the researcher had trouble obtaining permission from a number of school administrators. However, this lack of variation in school size could have skewed the results because the size of the school may affect the percent of the population that is removed from the production agriculture, which may affect the number of students participating FFA, which is a CTSO activity.

There were also a few problems with the participant responses to research instrument. First, the researcher noticed that a number of students choose not to answer a number of questions. While the reason these participants skipped these questions is unknown, an array of

possibilities exist. The participants may have simply not realized that he or she had missed that particular question, may have wished not to answer, or the student may have been unable to decide which of the possible responses in the Likert-scale was the best answer. While the researcher followed the instrument protocol as outlined (Appleton, Christenson, Kim & Reschly, 2006; Skinner, Kindermann, & Furrer, 2009), perhaps moving the instrument to a digital or online version would help alleviate these issues. However, one would run the risk of a participant choosing to withdraw from the study instead of simply skipping a few questions.

Additionally, there were a few problems with the Likert-scale that could help address the response rate. In order to address all the problems with the Likert-scale a 7-point scale instead of a 4-point scale is recommended. Moving from a 4-point Likert-scale to a five-point Likert scale would provide a neutral point. This would help to address some non-response problems because three students indicated that they believed their engagement scores to be at a neutral point. However, their responses were reported as non-response because this point did not exist. The researcher cannot determine how many other non-response were because a neutral point was not provided. In order to eliminate a non-response for these students, a 5-point scale should be considered.

Yet, a 5-point Likert scale does not fix all the problems with the original scale. A 5-point scale does not address that the lack of options on the negative and positive side of the scale can result in respondents indicating a response that does not truly represent the respondents' feelings (Finstad, 2010). This can result in the respondents having to pick the answer that "best" fits their feelings or not to respond (Finstad, 2010). The 7-point scale usually allows enough response options for the respondents' feelings to be accurately represented while still being relatively easy for the respondents to answer (Finstad, 2010). The researcher recommends a minimum of a 7-

point scale should be used for future research using either the SEI or the Student Engagement versus Disaffection Instrument in order to accurately represent the respondents' true feelings.

Another possible modification that could be considered with the instrument was the responses between participation in an extracurricular activity and the breadth and intensity of those activities. As Farb and Matjasko (2012) found in their research, the breadth and intensity of extracurricular activities affects engagement. However, this study assumed that all participation had equal levels of breadth and intensity. This assumption should be addressed because a student who spends 200 hours a year practicing, training, and performing in an extracurricular activity is very different than a student who spends 40 hours a year practicing, training, and performing for a different extracurricular activity. If both students received the same engagement score, this would say two very different things about these types of activities. Therefore, it is recommended that further research also ask students to indicate the amount of time spent in each activity and respond how the time was spent (training, practicing, performing, etc.). This will also allow researchers to verify that students were participating in those activities for the threshold of 20 hours.

A qualitative research study may provide a different perspective on the subject that may be helpful in guiding future research in this area. Interviewing students about their participation in extracurricular activities, how they choose participation in one type of extracurricular activity and not another, and the perceived value they believe each extracurricular activity has for them now or in the future could help inform research moving forward. Interviewing students will allow researchers to ask some of the questions posed in this study as well as gather more in-depth information than this survey provided. The researchers also assumed that students were making decisions based on the goals construct in expectancy-value theory. However, a

qualitative study would inform researchers if this theory holding true in reality. It could be that a different theory or a specific portion of the expectancy-value theory is more appropriate for research in this area.

In summary, the researcher makes the following recommendations for future research:

- Research that focuses on how students decide which extracurricular activities to participate in and which ones not to participate. This research may look into the media's effect on student decision.
- Research that continues to examine the difference in outcomes between different types of extracurricular activities. This allows parents, students, administrators, etc. to make informed decisions as well as allows extracurricular coaches, associations, and others directly involved in implementing the extracurricular activity to have information available to better the activities.
- Research that focuses on FFA involvement should explicitly state "involvement outside of school hours" so that students do not confuse the agricultural education classroom with FFA. Furthermore, all extracurricular involvement should include "outside of school hours with the presence of a coach or adult."
- Research focusing on CTSO should consider examining specific activities related to competition, leadership, civic engagement, etc. with the extracurricular activity that have similar goals.
- Research that uses an engagement instrument should use a 7-point Likert scale instead of a 4-point Likert scale.

- Research focusing on extracurricular activities should ask questions to verify the amount of time spent in the activity, and this allows the researcher to utilize more complex statistical comparisons.
- Qualitative research regarding engagement and extracurricular activities may provide more depth of information from participants that can help guide future research.

The purpose of this research study was to examine the relationship between specific extracurricular activities and the outcomes of student achievement and student engagement. The results from this study were inconclusive. In order to be able to draw a conclusion on the larger population, more research needs to be conducted in this area. Further research should concentration on focusing on the breadth and depth of involvement in each activity so that more sophisticated statistical procedures can be performed.

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APPENDIX A. ENGAGEMENT INSTRUMENT

Student Engagement and Success



Dear Student,

The goal of our high schools is to prepare our young people, such as you, for the future. Schools with extracurricular activities are believed to prepare students to succeed in school.

The purpose of this study is to look at the relationship between your interest in school and the extracurricular activities that you are involved with. Your information will help teachers across North Dakota be informed about the effects of extracurricular activities.

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

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

IRB...

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

Sincerely,

Courtney Miller
Graduate Assistant
courtney.miller@ndus.edu

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

Section 1

INSTRUCTIONS

For each statement below, please read carefully and indicate how you feel about different aspects of your schooling by marking your answer according to the key. Mark your answer by circling the item on the scale that best describes your feelings.

Example:			
Not at all true	Not very true	Sort of true	Very true
1	2	3	4

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

	Not at all true	Not very true	Sort of true	Very true
<u>How strongly do you agree with each of the following statements:</u>				
1. Basketball is the best sport.	1	2	3	4
2. School is fun.	1	2	3	4

Example Interpretations:

- a. If you selected "Very true" for "Basketball is the best sport" as it shows in the example, that would mean that basketball is one of your favorite sports.
- b. For the second question, "Not at all true" was chosen. In this example, you would not enjoy going to school at all.

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

SECTION 1 INSTRUCTIONS

For each statement below, please read carefully and indicate how you feel about different aspects of your schooling by marking your answer according to the key. Mark your answer by circling the item on the scale that best describes your feelings.

<u>HOW MUCH DO YOU AGREE WITH THE FOLLOWING STATEMENTS:</u>	Not at all true	Not very true	Sort of true	Very true
1. I try hard to do well in school.	1	2	3	4
2. In class, I work as hard as I can	1	2	3	4
3. When I'm in class, I participate in class discussions.	1	2	3	4
4. I pay attention in class.	1	2	3	4
5. When I'm in class, I listen very carefully	1	2	3	4
6. When I'm in class, I feel good.	1	2	3	4
7. When we work on something in class, I feel interested.	1	2	3	4
8. Class is fun.	1	2	3	4
9. I enjoy learning new things in class.	1	2	3	4
10. When we work on something in class, I get involved	1	2	3	4

SECTION 1, cont.

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

<u>HOW MUCH DO YOU AGREE WITH THE FOLLOWING STATEMENTS:</u>	Not at all true	Not very true	Sort of true	Very true
11. When I'm in class, I just act like I'm working.	1	2	3	4
12. I don't try very hard in school.	1	2	3	4
13. In class, I do just enough to get by.	1	2	3	4
14. When I'm in class, I think about other things.	1	2	3	4
15. When I'm in class, my mind wanders.	1	2	3	4
16. When we work on something in class, I feel bored.	1	2	3	4
17. When I'm doing work in class, I feel bored.	1	2	3	4
18. When my teacher first explains new material, I feel bored.	1	2	3	4
19. When I'm in class, I feel worried.	1	2	3	4
20. When we start something new in class, I feel nervous.	1	2	3	4

SECTION 1, cont.

HOW MUCH DO YOU AGREE WITH THE FOLLOWING STATEMENTS:

	Not at all true	Not very true	Sort of true	Very true
21. When I get stuck on a problem, I feel worried.	1	2	3	4
22. When we work on something in class, I feel discouraged.	1	2	3	4
23. Class is not all that fun for me.	1	2	3	4
24. When I'm in class, I feel bad.	1	2	3	4
25. When I'm working on my classwork, I feel mad.	1	2	3	4
26. When I get stuck on a problem, it really bothers me.	1	2	3	4
27. When I can't answer a question, I feel frustrated.	1	2	3	4

Adopted from Skinner, Kinderman, & Furrer (2009)

Thank you for completing Section # 1! Your input is appreciated!!



Please go to the next page to begin Section



Section 2

INSTRUCTIONS

For each question or statement that follows, please indicate the *amount of influence* those experiences, related to your agricultural education program, have had with you in making your future career decisions.

Example:			
Strongly Disagree	Disagree	Agree	Strongly Agree
1	2	3	4

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

	Strongly Disagree	Disagree	Agree	Strongly Agree
HOW STRONGLY DO YOU AGREE WITH EACH OF THE FOLLOWING STATEMENTS:				
1. Sears has high quality merchandise.	1	2	3	4
2. I know how to drive a manual vehicle.	1	2	3	4

Example Interpretations:

- a. If you selected "Agree" for Sears as it shows in the example, that would mean that Sears quality is better than most other stores you have shopped.
- b. For the second question, "Strongly Disagree" was chosen. In this example, you would not have first idea of how to drive a manual vehicle.

Please proceed with answering the questions of Section 2 in the same manner.

SECTION 2

INSTRUCTIONS

For each statement below, please read carefully and indicate how you feel about different aspects of your schooling by marking your answer according to the key. Mark your answer by circling the item on the scale that best describes your feelings.

<u>HOW MUCH DO YOU AGREE WITH THE FOLLOWING STATEMENTS :</u>	Strongly Disagree	Disagree	Agree	Strongly Agree
1. Overall, adults at my school treat students fairly.	1	2	3	4
2. Adults at my school listen to the students.	1	2	3	4
3. At my school, teachers care about students.	1	2	3	4
4. My teachers are there for me when I need them.	1	2	3	4
5. The school rules are fair.	1	2	3	4
6. Overall, my teacher are open and honest with me.	1	2	3	4
7. I enjoy talking to the teachers here.	1	2	3	4
8. I feel safe at school.	1	2	3	4
9. Most teachers at my school are interested in me as a person, not just as a student.	1	2	3	4
10. The tests in my classes do a good job of measuring what I'm able to do.	1	2	3	4
11. Most of what is important to know you learn in school.	1	2	3	4

SECTION 2, cont.

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

<u>HOW MUCH DO YOU AGREE WITH THE FOLLOWING STATEMENTS :</u>	Strongly Disagree	Disagree	Agree	Strongly Agree
12. The grades in my classes do a good job of measuring what I'm able to do.	1	2	3	4
13. What I'm learning in my classes will be important in my future.	1	2	3	4
14. After finishing my schoolwork I check it over to see if it's correct	1	2	3	4
15. When I do schoolwork, I check to see whether I understand what I'm doing.	1	2	3	4
16. Learning is fun because I get better at something.	1	2	3	4
17. When I do well in school, it's because I work hard.	1	2	3	4
18. I feel like I have a say about what happens to me at school.	1	2	3	4
19. Other students at school care about me.	1	2	3	4
20. Students at my school are there for me when I need them.	1	2	3	4
21. Other students here like me the way I am.	1	2	3	4
22. I enjoy talking to the students here.	1	2	3	4

SECTION 2, cont.

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

<u>HOW MUCH DO YOU AGREE WITH THE FOLLOWING STATEMENTS :</u>	Strongly Disagree	Disagree	Agree	Strongly Agree
23. Students here respect what I have to say.	1	2	3	4
24. I have some friends at school.	1	2	3	4
25. I plan to continue my education following high school.	1	2	3	4
26. Going to school after high school is important.	1	2	3	4
27. School is important for achieving my future goals.	1	2	3	4
28. My Education will create many future opportunities for me.	1	2	3	4
29. I am hopeful about my future.	1	2	3	4
30. My family/guardian(s) are there for me when I need them.	1	2	3	4

Adopted from Appleton, Christenson, Kim, & Reschley (2006)

Section 3

Section 3 is designed to collect some information about you. It will not be tied to you but will let us know a few things about you as an individual. It will allow you to give a few more specifics about yourself and the types of activities you are involved in during the last 12 months to which you dedicate at least 20 hours a year.

Please proceed. Thank you for your continued participation!

- 1) What clubs or sports have you been involved in during the last **12 months** to which you dedicate **at least 20 hours a year**. Please place an **X** next to the activitie

	4-H		One-act Play
	Baseball		Pep Band
	Basketball		Pep Club
	Cheerleading- basketball		Skills USA
	Cheerleading- football		Speech
	Cheerleading- wrestling		Soccer
	Cross Country		Softball
	Debate		Statistician -basketball
	FBLA		Statistician -football
	FCCLA		Statistician- wrestling
	FFA		Statistician - volleyball
	Football		Student Council/Congress
	Golf		Swimming
	High School Rodeo		Theatre
	Hockey		Track and Field
	Jazz Band		Volleyball
	Music Festival		Wrestling
	National Honor Society		Yearbook Club
Other: _____			

2) Of the choices in question 1, please rank the top three activities (in order) that have had the biggest impact on your schooling. 1. _____ 2. _____
3. _____

3) Please circle your current year in high school: Freshman Sophomore Junior Senior

4) Have you ever been, or are you currently an FFA member? Yes _____ No _____

*If no skip to question 5. If yes, please answer the following questions.

Including the current year, how many years have you been an FFA member? 0 1 2 3 4 5

a. What (if any) is your SAE?

b. Please circle the **highest** level you have participated in a CDE (contest):

Never Chapter District State National

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

Greenhand Chapter State American

d. What (if any) CDE's (contests) have you participated in?

8) 5) Gender: _____ Male _____ Female

9) What is your current grade point average (GPA) out of a 4.0 scale? _____

10) What is your most recent ACT score? _____

Thank you for your time!

NDSU

School of Education
Teacher Education
North Dakota State University

**College of Human
Development and Education**

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APPENDIX B. NDSU IRB DOCUMENTS

North Dakota State University Study of Student Engagement and Achievement in Extracurricular Activities

[DATE], 2017

Dear Parent,

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

I received permission from [SCHOOL NAME] High School Principal [PRINCIPAL NAME] to conduct a research questionnaire survey study that was designed by my North Dakota State University Advisor Dr. Adam Marx and me. The study will survey all junior and senior high school students about their experiences in agricultural education and their perceptions about school and extracurricular activities. I am inviting all junior and senior students enrolled in [SCHOOL NAME] High School to take part in this survey research.

Purpose.

The goals of this research includes to understand how students' extracurricular involvement influence student engagement and achievement. If we can identify and describe the experiences that lead to student engagement and achievement, we can better help our students make informed choice for their futures.

Procedures.

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

The results of the study may be published or presented at professional conferences or journals, Participation is once again anonymous and your child's personal answers to the survey questions will not

identified. Participation in this study will have no effect on current grades in the agriculture or other classes that your child is presently enrolled in. The student may quit taking the survey at any time.

Benefits.

Participation in this research may benefit your student by challenging them to think about their current engagement. This research will add to the existing literature on effective secondary education instructional practices.

Consents and Safeguards.

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

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

More Information and Opt-Out Procedures

I will be happy to answer any questions that you may have on this research study. You may contact me at 701-206-1283 or email me at courtney.miller@ndsu.edu or you may call my advisor, Dr. Adam Marx, at 701-231-7479 or adam.marx@ndsu.edu. *If you would prefer that your child not participate in this study, please call or email me (Courtney) directly. Or if you prefer, please contact your high school principal and inform them you would prefer your child not participate in the School Engagement study.*

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

Thank you for your consideration. I am very excited that the possible outcomes of this study will help to further understand the benefits of agricultural education.

Sincerely,

Courtney Miller &

Dr. Adam Marx – Academic Advisor

(DATE), 2017

(PRINCIPAL NAME) – (SCHOOL) High School Principal

The North Dakota State University Agricultural Education Program and I invite you to take part in a quantitative study comparing students engagement and achievement in different types of extracurricular activities. North Dakota State University Agricultural Education Department holds your Agricultural Education Instructor Glen Huettl and Heather Johnson and the (SCHOOL) Agricultural Education program in high regard, and for that reason students of this program have been identified as potential candidates for my Master's research project. The student engagement and achievement by juniors and seniors enrolled in agricultural education will be compared by the types of extracurricular activities the students participate at each participating school in the study.

My name is Courtney Miller and I am currently a graduate student in Agricultural Education, along with currently working as a graduate assistant here at North Dakota State University. I, along with my Advisor Dr. Adam Marx – NDSU Agricultural Education Assistant Professor, will be conducting this research project for my master's thesis. Each junior and senior student enrolled in the (SCHOOL) High School will be asked to complete a 70 item questionnaire that will take approximately 15 minutes to complete.

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

Active parental consent is not being sought for this study as it is focusing on student's engagement and achievement in different extracurricular activities. With the help of the agricultural education teacher(s), we intend to inform parents of the research via an emailed letter. Parents may choose to opt their children out of the study and students may opt out at any time during the survey. There is no treatment and the topic is not believed to be controversial or of emotional/psychological detriment to the participants. Assent will be obtained from the students themselves. These assent/consent letters will provide detailed information on the project. You can gain further information regarding this research project by contacting me, Courtney Miller at (701) 206-1283 or email at courtney.miller@ndsu.edu or you may call my advisor, Dr. Adam Marx, at 701-231-7479 or adam.marx@ndsu.edu. For more information about the student's rights as human subjects please contact the NDSU campus Institutional Review board at (701) 231-8995 or (855) 800-6717.

I hereby give my permission for Courtney L. Miller to conduct the research questionnaire to junior and senior students of the (SCHOOL) School District.

Principal Signature

Date

Sincerely,

Courtney Miller &
Dr. Adam A. Marx, Assistant Professor