AN INVESTIGATION OF FACTORS AFFECTING ENGAGEMENT OF HISPANIC STUDENTS IN AGRICULTURAL EDUCATION

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Dane White
Spring 2015
AN INVESTIGATION OF FACTORS AFFECTING ENGAGEMENT OF 
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Spring 2015

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DEDICATION

I would like to dedicate this thesis to my high school agriculture instructor and constant encourager, Sandy Lovfald.

You taught me to see beyond the surface so that I might love, serve and expect the best from all students without reservation.

~
ACKNOWLEDGMENTS

I would like to express my sincere gratitude to Dr. Mollie Aschenbrener who guided and challenged me throughout this process, Mom and Dad for teaching me to listen for and then heed life’s calling, my cohorts at Galt High School for encouraging me to always give my best and most importantly to the students and families of Galt for inspiring me; you’ve helped me see that excellence cannot be bound by genotypes, language or history.
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ABSTRACT

AN INVESTIGATION OF FACTORS AFFECTING ENGAGEMENT OF HISPANIC STUDENTS IN AGRICULTURAL EDUCATION

by

Dane White

Master of Science in Agricultural Education

California State University, Chico

Spring 2015

There has been increasing awareness of the disparity between the student population of agricultural education students in California and the involvement in Future Farmers of America (FFA) and Supervised Agricultural Experience (SAE) components of the program. Hispanic students comprise an ever-larger portion of student demographics, yet are seldom represented in the higher echelons of FFA and SAE activity. This study investigates the factors that affect the decision of Hispanic agricultural education students to engage in leadership development activities through the FFA and the SAE’s hands-on learning elements.

A questionnaire was developed and administered to a purposive sampling of 101 students at three high schools. The findings of this study indicate that Hispanic students have a strong set of influences that guide their educational decision making, particularly as compared to Caucasian students. In particular, Hispanic students
responded most strongly to an interest in subject matter, with that focus area serving as the strongest influencing factor ($p$-value$= 0.01$). In other words, in order to engage Hispanic students in agricultural education’s intracurricular components of FFA and SAE, they must first be interested the subjects inherent in those activities. Additionally, Hispanic students placed a high priority on the social opinion elements of agricultural education ($p = 0.01$). The influence of social opinion-makers on the decision-making processes of Hispanic youth has been noted by literature and was corroborated through this study (Triandis, 1990; Goodenow & Grandy, 1993). Agriculture teachers seeking to engage Hispanic students to a greater degree will benefit from identifying methods to connect influential students to the activities in their program. Not surprisingly, Hispanic students can be engaged by creating strong relationships between families, the teacher and the student. Hispanic families play a critical role in the decision making of the student, and teachers who develop relationships with families can earn the trust essential to engaging their students. Finally, a teacher who actively creates positive relationships with their Hispanic students may also find a corresponding increase in the engagement of those students in their programs.
CHAPTER I

INTRODUCTION

Background

The federal government determined agricultural education would be an important priority to ensure the future prosperity of the United States. Beginning with the passage of the Morrill Act and the establishment of land grant institutions, formal instruction in the science of food and fiber production, environmental stewardship and agricultural business, industry-focused instruction has included students in every state in America (National FFA Organization, 2014). The federal Hatch Act, passed in 1887, allocated public funds to agriculture research stations. Following that lead, the federal Smith-Hughes Act of 1917 brought agricultural education to secondary classrooms across America (National FFA Organization, 2014).

High school agricultural students are provided opportunities for leadership development, personal growth and career success through the program’s structure. Agricultural education instruction is delivered through three major components, referred to as the three-circle model: classroom and laboratory instruction, work-based learning through supervised agricultural experience programs (SAE or SAEP) and student-leadership activities through the National FFA Organization. As of the start of the 2014-2015 school year, over 800,000 students are enrolled in an agriculture education class in the country, 614,000 of which are FFA members (National FFA Organization, 2014).
The current demographics of students enrolled in agricultural education across the country align closely with the ethnic makeup of the larger high school population. According to the National FFA Organization’s most recent figures, of the 614,000 members, 67% are Caucasian, 22% are Hispanic, 8% are African American and 3% are Asian (National FFA Organization, 2014). The American high school population at large in 2010 was 54% Caucasian and 23% Hispanic (California Department of Education, 2014). Although agricultural education’s enrollment statistics may not compel further study, an examination of FFA membership may indicate otherwise. From its inception in 1928, the National FFA Organization’s razor-sharp focus on training future production agriculturists created an exclusionary culture that has since evolved to be more inclusive. For example, African Americans were finally admitted to membership in 1965 and women were allowed to join in 1969 (National FFA Organization, 2014). Though not malicious in intent, the legacy of exclusiveness may have created misperceptions about present realities in the organization.

Gliem and Gliem (2000) analyzed agricultural education data and found that as compared to Caucasians, there were significantly fewer ethnic minorities (primarily Asians, African Americans, Native Americans and Hispanics) as FFA members. Thus, the membership of FFA across the nation does not reflect the sweeping demographic changes occurring in America (Kantrovich, 2007; Rocca & Washburn, 2008). Moreover, the anticipated demographic changes in the population of the United States portend a larger challenge in the coming years. Recent projections made by the US Census Bureau expect the Hispanic population of the United States to grow from 53.3 million in 2012 to 128.8 million in 2060 (U.S. Census Bureau, n.d.).
The National FFA Organization founded a Diversity and Inclusion arm of the organization in 2011 to address these issues. The mission of this group is to deliver national programs that serve as a model for removing barriers and creating opportunities for success for every student while intentionally including National FFA’s historically underserved and underrepresented communities (National FFA Organization, 2014). For example in 2012, National FFA began its first concerted outreach to Hispanic students by celebrating “Somos FFA, We are FFA” at the National FFA Convention. “Hispanics and Latinos represent the nation’s largest-growing minority population and it’s important we recognize these accomplishments and value our differences as we strive to promote wholeness in our organization,” suggested Dr. Dexter Wakefield, director of diversity and inclusion at the National FFA Organization. “The term “Somos” says it all: We are FFA” (National FFA Organization, 2014).

In California, the issue is magnified due to increased concentration of the Hispanic student population. In 2013, the Hispanic population in California schools constituted over 53% of the population, with expectations of further growth as the state shifts toward a more ethnically diverse populace (California Department of Education, 2014). Similar to the rest of the United States, California’s agriculture education enrollment mirrored the larger demographic data, with 52% of agriculture students reporting Hispanic ethnicity (California FFA Association, 2014).

Statement of the Problem

Throughout the history of the National FFA Organization, Caucasian students have dominated participation in leadership activities (National FFA Organization, 2014).
African Americans only account for 8% of FFA’s membership (National FFA Organization, 2014). Asian students, though they have never been precluded from joining the FFA, account for a mere 3% of student members (National FFA Organization, 2014). The organization continues to experience difficulty engaging non-Caucasian students and recently mounted efforts to remedy the issue, including creating a Diversity and Inclusion Program in 2011 (National FFA Organization, 2014).

Given an increasing Hispanic student population, agriculture education both in the United States and in California must seek to understand the needs of these students and then develop programmatic adaptations that will serve their needs. The atypical educational model of agriculture education creates unique experiences that can often be difficult for unfamiliar parties to easily understand; potentially erecting a barrier to student participation (Garza, 2009).

Purpose of the Study

The purpose of this study is to answer the following questions:

1. Which factors exert an influence on the decision of Hispanic students to engage in agriculture education?

2. How do external factors influence Hispanic students differently than Caucasian students?

Another purpose is to raise awareness of the issue among educational leaders and teachers in order to ensure agricultural education teachers are better equipped to serve all populations of students.
Definition of Terms

Agricultural Education (Ag Ed)

Based on a three-circle model, Agricultural Education involves classroom instruction (Agricultural Science for example), FFA membership and activities, and SAE

Caucasian

Constituting or characteristic of a race native to Europe, North Africa, and southwest Asia and classified according to physical features—used especially in referring to persons of European descent having usually light skin pigmentation

Extracurricular

School-based activities outside the regular curriculum or program of courses

FFA

An student organization for students interested in agriculture and leadership. It is one of three intracurricular components of agricultural education.

Hispanic

Of, relating to, or being a person of Latin American descent living in the United States

Intracurricular

Within the regular curriculum or program of courses, though often resembling an extracurricular activity

Latino/a

A person who was born or lives in South America, Central America, or Mexico or a person in the U.S. whose family is originally from South America, Central America, or Mexico
SAE

A learn by doing project conducted outside of the traditional school day to enhance technical knowledge and skill development. It is one of the three intracurricular components of agricultural education.

Limitations of the Study

As with any research, there are limitations to this study. The primary limitation was due to the size and scale of the study population. Three high schools were used for data collection and they are demographically similar. As a purposive sample, the results of this research should not be extrapolated beyond the immediate study.
CHAPTER II

LITERATURE REVIEW

Background Information

School officials have long used student participation in extra-curricular events as a useful measuring device to determine the effectiveness of the school’s curricular offerings and the likelihood of student success (McNeal, 1998). Of particular interest to many educational decision-makers is the relationship between student engagement in extracurricular activities and the correlation to that student’s success in school. Participation in school-based activities such as FFA has been found to be associated with increased levels of educational achievement, a reduction in behavior issues, improved attitudes toward personal educational goals, more positive psychological adjustment and an increased graduation rate (Feldman & Matjasko, 2005; Mahoney, Cairns, & Farmer, 2003; McNeal, 1998; Melnick, Sabo, & Vanfossen, 1992).

A number of complex factors affect the decision of any student to engage in a school-based activity. Students may want to engage in activities or programs that are known to be challenging, socially stimulating, fun, or something that will benefit them in a later stage in life. Fullarton (2002) found that student engagement in school activities are attributed to intrinsic motivation, more affluent socioeconomic backgrounds, plans to attend college and attending schools with progressive school philosophies. Additional factors may include relationships with the instructor, perception of long-term value,
short-term enjoyment, career connections and social expectations (Feldman & Matjasko, 2005). In terms of the decision to participate in FFA activities, researchers found a number of elements combine to influence a student’s decision to engage. Based on Maslow’s hierarchy, the elements include supportive relationships, physical and psychological safety, positive social norms, support opportunities to belong, appropriate structure, opportunities for skill building, and integration of community, school and family efforts (Bartko & Eccles, 2003).

Maslow’s work consistently serves as the foundation for studies on motivation. This is largely due to the belief that biological and physiological needs will encourage and motivate individuals to seek opportunities that will eventually fulfill those needs. Involvement in FFA and SAEs have been shown to provide those very opportunities for adolescents to realize and achieve personal goals and engage in meaningful activities, potentially fulfilling the individual’s needs for self-actualization, self-esteem, and cognitive growth (Croom & Flowers, 2001). In addition, FFA provides opportunities to create meaningful relationships and achieve a sense of social inclusion, which deal with critical psychological needs to belong (Anderson-Butcher & Conroy, 2002; Coleman, 1978; Gilman et al., 2004; Kelley, 2003; Maslow, 1970). Maslow’s hierarchy also provides a similar foundation for the identified conditions that facilitate positive youth development. Conscious inclusion of activities that promote overall well being and general life satisfaction, such as the personal growth and premier leadership activities found in FFA, corresponds strongly to the psychological component of Maslow’s hierarchy. Research on youth and school-based educational programs have indicated these programs can promote positive cognitive functioning as well as
psychological adjustment (Fletcher, Nickerson, & Wright, 2003; Gilman et al., 2004; Kelley, 2003). In particular, positive relationships with both influential peers and adults indicated a significant value to healthier psychological activity in adolescent youth (Kelley, 2003). The importance of positive youth development, life satisfaction, and well-being emphasizes the connection between psychological components and the sociological components of activities such as those found in agricultural education programs.

In specific regard to the motivating factors that encourage students to participate in FFA, Phelps, Henry, and Bird (2012) asked high school students why they chose to either engage or abstain from involvement in FFA. Their study indicated four major themes regarding motivations for FFA participation. The themes were: (1) they received reassurance from others, (2) for personal advantage, (3) as a social activity, and (4) for fun and travel. The people who most strongly influenced their decision to engage in FFA were parents, siblings, peers and teachers.

However, many studies have revealed that student involvement in school-based activities, whether intracurricular such as FFA or extracurricular, varies between ethnic groups. For example, research indicates that when compared to Caucasian students, Hispanic adolescents are less likely to participate in all types of school-based, non-sports activities (Davalos, Chavez, & Guardiola, 1999). In recent years, Feldman and Matjasko’s study (2007) noted that Hispanic students had relatively low rates of engagement in school-based activities, regardless of type or category.

In regard to FFA participation among Hispanic students, scant research exists. Though limited to three schools in Texas, a study by Roberts et al. (2009) showed
promise in developing strategies to help engage more Hispanic students in Agricultural Education at the high school level. By utilizing six intervention strategies, the results showed an increase in Hispanic enrollment in Agricultural Education and FFA membership as well as participation at the local, state and national levels. The treatments that led to the increased involvement were: (a) providing specific FFA or Agricultural Education experiences for student opinion leaders; (b) provide specific experiences for parents, alumni, boosters, and school administrators; (c) provide professional development for teachers; (d) introduce new curricula to allow for expansion of the program; (e) provide for an onsite project advisor; and, (f) provide project leadership and oversight through partnership with university faculty and National FFA staff. While the study yielded encouraging results, the project involved a significant amount of human and financial capital, and was funded through a corporate sponsor.

Given research addressing Hispanic student engagement in FFA are limited, the phenomena surrounding Hispanic students’ participation may be viewed from the larger perspective of intracurricular and extracurricular activities. There is a growing need for studies of this variety, as early research indicates engagement in school-based activities yields positive results for Hispanic students. The work of Diaz (2005) indicated that the attachment of Hispanic students to school may be increased by participation in extracurricular activities, typically encouraging greater success of the student in an academic context. Prelow and Loukas (2003) suggested that participation in school-based activities could improve students’ academic achievement. In addition, Davalos et al. (1999) reported that involvement in sports and other school-based activities reduces the odds of Hispanic students dropping out while improving their perceptions of school;
however, Caucasian students are far more likely to engage in every variety of school-based activity when compared to Hispanic students. These limited research results suggest that more studies need to be conducted in order to better understand the issue as well as how it pertains specifically to engagement in agricultural education.

Teacher-Student Relationship

One of the identified factors that may affect the engagement of Hispanic students is the relationship between the teacher and the student (Gliem & Gliem, 2000). The results of a study conducted by Stanton-Salazar and Spina (2003) emphasized the importance of relationships between Hispanic youth (particularly those of working-class Mexican descent) and adults (including teachers). Interestingly, in hiring processes typically conducted by school districts, relationship-building skills are rarely prioritized. Instead, officials typically prioritize understanding of the prospective teacher’s background, knowledge of curriculum and teaching methodologies, classroom management and discipline strategies, and ability to mentor in extracurricular activities such as clubs or sports coaching. Rarely are candidates queried in regard to their ability to connect with and create purposeful relationships with students, a key element for motivating and engaging Hispanic students according to the studies of Garza (2009). Garza’s work established the notion that secondary instructors who both initiate and maintain positive relationships with students create a sense of belonging, thereby affecting the student’s engagement in school and their overall motivation. A teacher’s sincere display of an optimistic, positive attitude fosters an environment where students are more likely to engage in the classroom due to their increased desire to be in class. In
effect, when a teacher displays an engaging attitude, students are more likely to participate in the learning process because they want to be in class (Garza, 2009). Additionally, researchers have found that when school staff and instructors intentionally develop positive relationships with secondary students, higher levels of student engagement are typically found (Moreno & Muller, 1999). Positive teacher–student relationships may develop a warm and nurturing school culture, which can aid in the development of students’ sense of belonging. This phenomenon in turn may engender students’ academic success through their association with the fulfillment of behavioral, emotional and motivational needs (Vieno, Perkins, Smith, & Santinello, 2005).

Mentoring relationships developed by teachers is an extension of positive relationships and has shown notable success in prior research (Crisp & Cruz, 2010). Such key relationships help promote academic engagement and participation in school activities (Wong, Eccles, & Sameroff, 2003). Crisp and Cruz (2010) noted that mentorship can have a positive impact on Hispanic students as a result of familiar circumstances. Family members and parents of Hispanic students often have limited experience with formal American education and can struggle to provide requisite psychological and social support to these students. As a result, these students may benefit from mentorship through the relationships built with teachers and school faculty. More specifically, some research indicates that Hispanic students may utilize mentors more than students of other ethnicities and can benefit greatly from mentorship (Bordes & Arredondo, 2005). When Hu and Ma (2010) contrasted Caucasian students with Hispanic students, they found that Hispanic students were more sensitive to mentorship, and were more likely than Caucasian students to actively pursue relationships with their mentors.
Most importantly, Hispanic students claimed that their mentors played a critically important role in the attainment of their goals (Crisp & Cruz, 2009). Research also indicates that mentoring among Hispanic students produces strong, high quality social networks, greatly benefitting the Hispanic youth (Sanchez, Esparza, Berardi, & Pryce, 2010). Thus, agriculture education may benefit by addressing the need for including mentoring components to the total integrated leadership model.

A teacher’s ability to develop a quality relationship with students is affected by numerous factors, including the languages fluently spoken as well as the teacher’s ethnicity and (Kyles & Olafson, 2008). Research indicates that teachers who hold ethnocentric, negatively biased, or racist attitudes toward their students often neglect to meet the psychological and academic needs of their students (Tse, 2001; Valdes, 2001; Youngs & Youngs, 2001). Thus, teachers must be prepared to engage a diverse body of students in meaningful relationships. This process begins with the development of inclusive attitudes; what teachers believe about students’ capabilities also influences their beliefs about their success in teaching them. Some teachers may hold beliefs in the capability of their students that can create artificial limitations. For example, honors students are often challenged more deeply and with greater rigor, but those in lower-level courses can be treated as if they possess less capacity for success (Tucker et al., 2005). Rosenthal and Jacobson (1978) conducted classic research on self-fulfilling prophecy in 1968, setting the foundation for an entire school of learning about psychological processes in influence and teacher expectation. Their research identified that when teachers formulated expectations of students based on their assessment of students’ qualities, those expectations had a significant influence on the student’s educational
success. In their study, Rosenthal and Jacobson identified several students who were nearing significant intellectual strides and shared that information with their instructors. At the end of the year, those same students showed greater gains on standardized tests than their non-highlighted peers. The results of this study were interpreted to point toward causation: specifically, that teachers expectations of students directly influenced the educational outcomes of students because they identified and acted on their predicted expectations of success. In effect, Rosenthal and Jacobson proposed that the attitudes and expectations of teachers directly mold student outcomes.

This same expectation extends to ethnicity and culture. In a study targeting this very issue, Plata, Masten, and Trusty (1999) concluded that Hispanic students were perceived by many teachers to have less academic and leadership potential than Caucasian students. Pang and Sablan’s (1998) survey of 175 teachers suggested that racial attitudes regarding ethnically diverse students had a direct effect on teachers’ beliefs regarding their own ability to teach these students. Teachers can become incapable of feeling successful in their attempt to successfully teach a student when they hold a negative perception of that student or their ethnicity (Archer, 2008). Previous work also relates the idea that the amount of time devoted to a student is a direct result of the perception of that student, particularly in the case of ethnic minorities (Patterson, Hale, & Stessman, 2008). Additionally, this same relationship affects how teachers view the intellectual capabilities of students, even those who are academically successful (Archer, 2008). Conversely, research conducted at Texas A&M University indicated that agriculture instructors may engage Hispanic students and encourage their participation in meaningful FFA activities when they provide opportunities for recognition and direct
relationship building (Roberts et al., 2009). However, those same teachers need to be provided with appropriate networks and resources in order to accomplish that task.

The lack of diverse role models can be an additional factor compounding this issue, with ethnically diverse teachers largely underrepresented in America’s teaching force (Shure, 2001). In Texas, a survey of 232 agriculture teachers found the teaching corps lacked diversity in its membership and struggled to recruit diverse students (LaVergne, Larke, Elbert, & Jones, 2012). In an action study conducted regarding this issue, three Texas FFA programs with high Hispanic school populations and low Hispanic FFA membership were exposed to a series of interventions, one of which was the inclusion of a Hispanic role model into member activities (Roberts et al., 2009). The three schools each increased participation of Hispanic members after the interventions (LaVergne et al., 2012).

In order for teachers to engage a diverse student population effectively, they must be properly trained (Sheppard, 1983), particularly in the areas of diversity and cultural sensitivity (Luft, 1996). According to Weisman and Garza (2002), a significant number of teachers enter the profession with minimal exposure to multicultural education, often beginning pre-service instruction with attitudes that may prevent them effectively engaging a diverse student population. The increase in the number of ethnically diverse students should create a need for agriculture teachers to be more culturally astute and aware of the psychological, cognitive and behavioral needs of all students. To this effect, Bowen (1994) specifically called out the agricultural education profession, stating that "gender and ethnic diversity must be pursued more aggressively if agricultural educators wish to be major players in America's educational enterprise during
the next decade” (p. 6). Similarly, Whent (1994) stated, "Agricultural educators need to make greater strides toward acknowledging their unconscious biases toward people of diverse populations and move forward to accept the changes and challenges of the future" (p. 11).

Efforts have been made to provide resources that can improve the cultural aptitude of all teachers, regardless of subject area. Banks (1994) described 23 curriculum principles that enhance a teacher’s ability in a multicultural classroom. From the guidelines, he developed a "Multicultural Education Program Evaluation Checklist" containing several results-based guidelines within each general construct. In the state of Iowa, a document was developed in direct response to a new state educational statute to aid local agricultural education instructors in implementing the agricultural components of their district's mandatory nonsexist, multicultural education plans (Anderson & Barta, 1984). Included in this document was a self-evaluation that enabled a teacher to reference the multicultural standards in their course structure, curriculum content, teaching pedagogy and instructional materials. This has not yet caught on across the country, however, and has remained confined to Iowa’s classrooms.

If a largely Caucasian teacher corps in California’s agricultural education classes is to connect to and engage a growing Hispanic student population in FFA and SAE activities, further strides must be made in developing teachers who can effectively connect with and engage a culturally diverse student body.
Parent Perception

Research shows distinctive differences in how Hispanics and non-Hispanics approach the educational experience, beginning with the role of the family. According to prior studies, Hispanics tend to be more group-focused and think in terms of the successes and needs of family rather than the needs and successes of the individual (Vega, 2010). Caucasians tend to measure success more in individual achievement and personal satisfaction. This is not the case with Hispanics, who largely define success in family terms and communal goal accomplishment (Vega, 2010). The values typically associated with highly engaged students are often found in the Hispanic family. Hispanic families typically communicate regularly and openly, setting clear expectations and parameters. Parents are often inquisitive about school and typically seek information from their students regarding their progress and the achievement of academic goals. Additionally, rigid structures in the Hispanic family often promote discussion about behaviors and discipline (Vega, 2010). These activities build emotional maturity in students as well as psychosocial adjustment, traditionally allowing Hispanic students to adapt well to school expectations. Additionally, Hispanic parents often prefer to have contact with the school; a key factor necessary for student success (Velez & Griego-Jones, 1997). As a result, the opinions and traditional values of the Hispanic family can often play a pivotal role in the student’s educational experience.

According to Vega (2010), a breakdown tends to occur between Hispanic families and Caucasian educators. Due to communication difficulties, many educators maintain the false opinion that Hispanic parents do not value education to the degree of Caucasian parents. Gandara (2010) found that many Latino parents feel incapable of
helping their children learn because they lack formal education and because they do not speak English or do not speak English well, often creating the perception of parental apathy. On the contrary, Hispanic parents do, in fact, care a great deal about education. Lopez (2009), associate director of the Pew Hispanic Center, conducted research that found Hispanic parents place a great emphasis on the value of education. Specifically, three-quarters of Hispanics ages 16 to 25 said their parents believed that attending college is the most important thing to do after high school and they are willing to do what it takes to help make that goal a reality, including supporting involvement in extracurricular and school-based activities (Lopez, 2009). Additionally, Hispanic families in California, more than any other group, recognize the value of their children earning a college education and often sacrifice to a greater degree to ensure that goal is accomplished (Johnson & Sengupta, 2009).

The involvement of the Hispanic parent in the life of their student can have an important effect on their involvement in school-based activities. Hispanic parents tend to define involvement according to two key factors: the first being academic involvement and the second being life participation (Zarate, 2007). Stated simply, Hispanic parents desire a role in the educational decision-making of their children as well as in the general behavioral and life-decision making as well. In terms of the educational decision-making processes, Hispanic parents appreciate the value of parent-teacher conferences, academic interventions, classroom visits and homework assignments, but they also recognize the importance of teaching the ethical and respectful behavior that will enable a student to be thought of as “well-raised” by their teachers (Zarate, 2007). Hispanic parents typically provide counsel on life issues and regularly advise their children on the best course of
action while in school (Zarate, 2007). However, many teachers either are not aware of
that information or disregard it, limiting their interactions with Latino parents to
negatively focused discussions on poor academic performance or inappropriate behavior,
further compounding the distance that can exist between Hispanic parents and school
officials. A few difficulties can further exacerbate these issues. Further impacting the
challenge is a teacher’s tendency to either be unaware of the Hispanic parent’s skills and
talents or to ignore them completely, reducing that parents ability to affect their child’s
success in the educational arena (Zarate, 2007). All teachers, especially agriculture
teachers who seek increased student engagement, would benefit from a reversal of those
trends by finding meaningful ways to engage parents in ways that allow them to
contribute their time and talents.

Parent engagement in a single program can also provide them a voice to
facilitate changes that improve the activities of the whole school. For example, events
and activities that involve parents could be better scheduled at times that are convenient
to parents. Vega (2010) examined the tendency of Hispanic parents to avoid attendance at
school meetings by examining the root causes. The result of that examination
recommended that schools schedule events at times that are convenient for parent
attendance, translate school publications into appropriate languages depending on the
population and employ translators to facilitate interaction between parents with limited
language proficiency (Vega, 2010). Vega’s studies are corroborated by additional
research that found a divergence between the high expectations held by Hispanic parents
for their children’s academic success and their feelings of exclusion from the school
community (Quioncho & David, 2006). However, research clearly indicates that
community and school based involvement is especially beneficial to Hispanic teens in communities with growing Latino populations (Villalba, Brunelli, Lewis, & Wachter, 2007). Activities such as FFA are examples of avenues for both parental and student participation in beneficial community events. The desire for community-based interpersonal experiences promoted in a large number of Hispanic households may afford positive teacher-student-family relationships particular relevance to Hispanic students (Gaines, 1997; Marin and Marin, 1991; Triandis, 1990). Zarate (2007) also recommended that teachers should “expend extra energy and resources to successfully engage parents” (p. 17) in order to best serve the personal and academic needs of the student. As a result of this large body of research, it stands to reason that instructors who cultivate meaningful relationships with parents will see results in school, as Hispanic parents who support their child in the home will do so as well as in the classroom. In the case of agricultural education, this critical partnership is essential for the development of programs that naturally engage Hispanic students in FFA and SAE-oriented activities.

School Attachment and Social Perception

Involvement in school-based activities, whether extracurricular or intracurricular, has been directly correlated to positive school attachment and academic achievement (Eccles and Barber, 1999; Gerber, 1996; Mahoney and Cairns, 1997). School attachment is fostered through environmental consistency, allowing students to trust the larger mechanisms that guide their school. When students trust their school environment and the intentions of those who lead it, they are able to invest their time and energy into their school. This can lead to positive relationships with peers, teachers and
administrators as well as an overall feeling of satisfaction with the school. Students can also become attached to certain experiences and activities within the school, such as sports, clubs and organizations such as FFA. In an ethnically inclusive 1989 study of school attachment, it was concluded that time spent on sports, social activities and other non-compulsory school-based activities provided the foundation for school attachment.

As students become psychologically attached to their school, there is an increased likelihood that they will adopt the behavioral and social norms of the dominant groups in the school. For example, if a school’s culture prioritizes sterling behavior, campus cleanliness, academic achievement or involvement in extracurricular activities, attached students will move toward including those norms in their personal decision making processes. The culture of the school as well as the degree to which a student is attached to their school can have a direct impact on the engagement of the student in that school (Catalano, Haggerty, Oesterle, Fleming, & Hawkins, 2004). For agriculture education to benefit, students must be attached within a school’s social construct that values participating in such activities. When involvement in FFA is valued within the school, students who feel connected should strive to engage themselves in such activities. Additionally, a school’s leadership stands to benefit from creating a culture of achievement and engagement in meaningful activities as well. For example, although Hispanic youth reported lower mean GPAs and levels of school attachment than non-Hispanic White youth, high levels of school attachment were associated with high GPAs across both ethnic groups (Lecroy & Krysik, 2008).

To foster a culture of engagement, involvement and achievement, social opinion leaders must be engaged to lead the charge. Anecdotally, it is not surprising that
high school students are driven by a force that compels them to belong to a respected and popular social group. However, decades of research have also validated this compulsion. Several studies have acknowledged the need for belonging as a guiding principle motivating student achievement, ethnicity notwithstanding (Carnegie Council on Adolescent Development, 1989; Osterman, 2000; Weiner, 1990). Ladd (1990) found that greater peer acceptance by students created more positive perceptions of school and thus, better school performance. However, Hispanic students have a number of social conditions that must be satisfied in order to connect to their schools, some of which may remain elusive until further research is conducted.

The results of this lack of knowledge are clear. A 2002 national study by Brown and Evans found that Hispanic students were less connected to their schools, participating in fewer extracurricular activities per capita than their Caucasian peers. Of the factors identified that may contribute to this fact, the opinions of social leaders may be a consistent root. Faircloth and Hamm (2005) reported that the social opinion leaders among Hispanic peer groups largely determined the degree of participation in extracurricular activities. In other words, a Hispanic student could potentially risk their social acceptance and popular standing by going against the opinions of the “cool kids” or social leadership. Additionally, Hispanic students may have a difficult time engaging in school if they are a clear minority. Johnson, Crosnoe, and Elder (2001) reported that in relatively ethnically homogeneous schools, there is little disparity among student groups in respect to school attachment. However, in schools with divergent ethnic populations, the ethnic minorities demonstrate a lower desire to engage in school activities, reflective of a decreased school attachment (Johnson et al., 2001).
The perception of FFA on a school site can dramatically affect the social opinion of students. If FFA is “uncool,” social opinion leaders are likely to perpetuate that opinion. Two different studies evaluated the perceptions of students toward FFA and specifically sought to highlight the effects of negative perceptions of the organization on student engagement. In one case, the results of a national survey of 540 FFA members found that negative perceptions were serious barriers to participation among agriculture students, and once formed these perceptions remained unchanged (Hoover & Scanlon, 1991). Recent studies have confirmed these findings. In Gliem and Gliem’s 2001 case study of 10 different schools encompassing over 300 subjects, negative (and often archaic) perceptions of the organization still affected the decisions of students to engage in the organization. Words such as “hillbillies, farmers and hicks” continued to dominate external perceptions of the FFA organization and its participants. Similarly, another study found that many non-FFA members also indicated broad apathy toward participating in FFA activities due to perception-based challenges associated with the organization (Phelps, Henry, & Bird, 2012). These perceptions of FFA and FFA members from outsiders and/or non-FFA members can create challenges for recruiting ethnically diverse agriculture students to join the FFA. When seeking to foster engagement of a socially-sensitive group like Hispanic students, it is essential that FFA-friendly and socially relevant cultural conditions are in place.

The issue of social opinion leadership is one that should be taken seriously, even outside the context of agricultural education. Rejection by opinion-leading peers can create a host of other difficulties for students, beyond simply their desire to engage in school. High stakes are in play with social rejection, as evidence continues to accumulate
indicating peer rejection is related to a large number of negative outcomes (Bierman, 2004; Coie, 1990; Hawkins, Lishner, Catalano, & Howard, 1986). These outcomes can include poor academic performance (Benner, 2011; Fite, Wimsatt, Vitulano, Rathert, & Schwartz, 2012; Fite, Hendrickson, Rubens, Gabrielli, & Evans, 2013; Masten et al., 2005) as well as feelings of loneliness and social isolation (Benner, 2013). Engaging Hispanic students must take into account the risks associated with defying cultural norms, instead seeking to shift social opinion toward the positive and tipping FFA participation in favor of the student. In a traditional, family-driven culture that clearly prioritizes the benefits of education, the risk of peer rejection is a large one for a student to take in order to engage in an “uncool” activity. Agriculture teachers in schools with heavily Hispanic student populations should consider means to tip school attachment and social opinions in favor of the FFA and SAE programs offered by their classes.

Conclusion

Collectively, research studies support the idea that family opinion, relationships with teachers and mentors, social opinion leaders and school attachment impact Hispanic student engagement decisions. Ideally, ancestry and ethnicity will not limit student access to premier experiences in agricultural education and agricultural educators can modify programmatic offerings to account for the engagement factors that affect Hispanic youth. As gatekeepers to student experiences in agricultural education, teachers and educational decision-makers should consider the differences between ethnic groups when designing programs, marketing and community outreach events. With an increasing population of Hispanic students in American high schools and in agricultural
education programs, this issue becomes timely and pressing. Ultimately, research should focus on improving ethnic diversity and fostering conditions to increase the achievements of Hispanic students in all elements of the agricultural education program.
CHAPTER III

METHODOLOGY

Investigation Design

The current investigation was designed to examine the factors that influenced a student’s self-perceived involvement in the FFA and SAE programs. This research utilized a descriptive survey design, which “provides a quantitative or numeric description of trends, attitudes, or opinions of a population by studying a sample of that population” (Creswell, 2013, p. 145). The study focused on three agricultural education programs in California with varying student involvement profiles and school demographics. Participants at each site were required to submit a signed informed consent, including parental consent if under 18 years of age prior to completing the survey (Appendices D & E). The initial survey distributed during the pilot study contained two demographic questions as well as 32 items on five-point Likert scales and eight activity-based questions. Each Likert-type statement response ranged from 1 to 5: 1 - strongly disagree, 2 - disagree, 3 - neutral/no opinion, 4 - agree, and 5 - strongly agree. Previous literature was the primary driver of each Likert-type statement, with hopes of identifying how those factors play a role in the agricultural education student’s desire to engage in FFA and SAE. The population in this study differs from previous research in specificity and purpose. Previous studies focused on students from either a specific community size (urban, rural, etc.) or were targeted to a geographically isolated area.
This study is unique in that it assessed students from an array of geographically distinct communities ranging from rural to urban. This allows a broader examination of motivations without the interference of a community-based restriction.

The pilot study instrument consisted of a 32-item questionnaire distributed to all students in the pilot sample. Of the 32 items, 24 were perception-based Likert-type statements that sought to identify motivating factors of all students. All statements were organized into four subscales to represent four constructs: (1) Subject Interest (2) Social Opinion, (3) Parent Perception and (4) Teacher Relationship. The additional eight questions sought to identify specific FFA and SAE activities in which students engaged. The 24-item final instrument was categorized into the same four constructs listed above.

In order to establish content and face validity, the pilot instrument was subjected to review by a panel of experts, including professors at California State University, Chico as suggested by Dillman, Tortora and Bowker (1999). A pilot test of the instrument was conducted at a high school agriculture program that possesses similar characteristics as those targeted for the study and used a test-retest format in order to ensure the instrument’s reliability. Reliability for all 24 individual statements was determined on the Likert-type scale, resulting in a Cronbach’s alpha of 0.95 (see Table 1). Non-response error was examined as well as responses between early- and late-

Table 1

<table>
<thead>
<tr>
<th>Internal Consistency of the Final Instrument</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cronbach's Alpha</td>
</tr>
<tr>
<td>0.95</td>
</tr>
</tbody>
</table>
responders were compared and no differences were found. No changes were made to the instrument as a result of reliability of the pilot test. However, it was determined after review that two statements were potentially repetitive, causing those statements to be synthesized into one improved statement. Additionally, the eight activity questions at the end of the survey were determined to add unnecessary length to the survey and were considered by pilot study participants to be confusing in their wording. After further analysis, those eight questions were determined to be detrimental to the overall objective of the study and were eliminated from the final instrument. The final instrument had a total of 23 Likert-type statements.

Prior to evaluating the information presented by placing the information into constructs, the internal consistency of all of the constructs was determined and are presented in Table 2. The alpha coefficient for all constructs was .92, indicating a high degree of internal consistency. For the Hispanic agriculture student survey, the overall alpha coefficient for all the total score was .89 (see Table 2). The alpha coefficient for the 7-item Outside Influence subscale, 4-item Teacher Relationship subscale, 6-item Family subscale and 6-item Social Opinion subscale were .85, .78, .82 and .95 respectively. The total reliability of the subscales for the Hispanic students was determined to be .89. For the Caucasian agriculture student survey, the overall alpha coefficient was .77 (see Table 2). The alpha coefficient for the 7-item Outside Influence subscale, 4-item Teacher Relationship subscale, 6-item Family subscale and 6-item Social Opinion subscale were .75, .77, .76 and .81 respectively. The total reliability for the Caucasian students was determined to be .80. For both ethnicities, reliability was also assessed. The alpha coefficient for the 7-item Outside Influence subscale, 4-item Teacher Relationship
Table 2

*Internal Consistency of the Subscale Constructs*

<table>
<thead>
<tr>
<th></th>
<th>Hispanic N = 33</th>
<th>Caucasian N = 68</th>
<th>Combined</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subject Interest</td>
<td>0.85</td>
<td>0.75</td>
<td>0.82</td>
</tr>
<tr>
<td>Teacher Relationships</td>
<td>0.78</td>
<td>0.77</td>
<td>0.78</td>
</tr>
<tr>
<td>Family</td>
<td>0.81</td>
<td>0.76</td>
<td>0.82</td>
</tr>
<tr>
<td>Social Opinion</td>
<td>0.95</td>
<td>0.80</td>
<td>0.85</td>
</tr>
<tr>
<td>Total</td>
<td>0.89</td>
<td>0.77</td>
<td>0.92</td>
</tr>
</tbody>
</table>

A subscale, 6-item Family subscale and 6-item Social Opinion subscale were .82, .78, .82 and .85 respectively. The total reliability of the constructs for both ethnicities was determined to be .92.

Participants

In order to conduct a multiple case study, an initial analysis was conducted of the statewide data in order to find agriculture programs with Hispanic populations that were representative of each school’s Hispanic population. This method allows for the examination of several cases in order to allow a deeper understanding of a certain phenomenon (Creswell, 2013).

As the phenomenon being studied was focused on Hispanic students in agricultural education, only schools where the number of Hispanic students approached or exceeded the statewide average were considered. Initially, twelve schools meeting the desired characteristics for the study were contacted. As a result of administrative approval procedures and timelines, three cases were selected, as researchers typically choose no more than four cases for this type of study (Creswell, 2013). Additionally, one
lead teacher at each site facilitated the survey procedure with their classes as representatives of their site.

Students were enrolled in a variety of courses and had been in their respective programs from one to four years. The combination of all three schools had a 27.67% ($n = 101$) participation rate in the questionnaire. At total of 365 students (N= 365) were eligible to participate in the survey. The remainder of the students who did not participate, 254 total, were either absent during the survey or did not return a consent form.

School 1 is a rural comprehensive high school of 183 students in the Sacramento River delta. The student body is 65% Hispanic and 100% are enrolled in agricultural education courses. The FFA chapter at this school is advised by two Caucasian teachers and maintains significant involvement in FFA activities, including Career Development Events (CDEs), Supervised Agricultural Experience (SAE) programs and FFA leadership positions. A cross-section of their student population is typically represented in each of these areas.

School 2 is located in the heart of the San Joaquin Valley and draws a primarily urban and suburban student population. The student population is 1717 and the FFA chapter has 375 students. The students at this school are 35% Hispanic, 13% Asian and 36% Caucasian. The FFA chapter also participates in a significant number of activities with an array of students.

School 3 has a student population of 2025 and is located in an agricultural community of 60,000 in the Central Valley’s grape-growing region. The student population is 37% Hispanic and the FFA chapter numbers 312 members. The program
has been awarded the National Chapter Award on many occasions and has won many statewide awards for programmatic excellence.

**Treatment**

Specific data collected for this survey were obtained through a survey questionnaire. A questionnaire is a commonly used research technique used to gather a large amount of data in a short timeframe. A 23-statement Likert instrument was developed and uploaded onto an online survey tool, Survey Monkey (see Appendix B). The instrument contained language that was vague enough for each student to complete the survey regardless of their school, community and program of origin.

**Data Analysis Procedures**

Data were analyzed using the Statistical Package for Social Sciences (SPSS v22). The alpha level was set a priori at .05. Descriptive statistics including mean and standards deviation were calculated for each of the Likert-type statements to identify trends and address research objectives. The Shapiro-Wilk test was conducted to identify the normality of the data and results can be found in Table 4.
CHAPTER IV

FINDINGS AND RESULTS

Presentation of Findings

This chapter examines the data gathered from the questionnaire administered to 101 students in three California agriculture programs (see Tables 3 and 5). The purpose of this study was to answer two questions: (1) Which factors exert an influence on the decision of Hispanic students to engage in agriculture education? And (2) How do external factors influence Hispanic students differently than Caucasian students? The research questions were answered using a 23-item Likert instrument administered to high school students in California. The results will examine each of the research questions guiding this study (see Tables 3 and 5).

Shapiro-Wilk Test

Following an analysis of the general results of the survey, a Shapiro-Wilk test was conducted to determine the normal distribution of data (see Table 4). Conceptually, the Shapiro-Wilk test examines the closeness between the data samples after they have been ordered and standardized (i.e., transformed to a zero mean, unity variance dataset) and what the samples would have been were they drawn from a standard normal distribution and ordered (NIST, 2012). A normal distribution of the data is the null-hypothesis of this test. In order to reject the null hypothesis, the $p$-value must be less than the chosen alpha level. This provides valid evidence that the data tested are not from a
Table 3

Comparison of Hispanic and Caucasian Questionnaire Responses

<table>
<thead>
<tr>
<th>Item</th>
<th>Hispanic</th>
<th>Caucasian</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$M$</td>
<td>$SD$</td>
<td>$M$</td>
</tr>
<tr>
<td>I believe my enrollment in agricultural education classes to be valuable.</td>
<td>4</td>
<td>0.866</td>
<td>4.35</td>
</tr>
<tr>
<td>I am interested in the subjects I learn about in my agriculture class(es).</td>
<td>3.76</td>
<td>0.88</td>
<td>4.25</td>
</tr>
<tr>
<td>I actively participate in my local FFA program.</td>
<td>3</td>
<td>1.29</td>
<td>3.94</td>
</tr>
<tr>
<td>I regularly attend FFA meetings in my local program.</td>
<td>2.94</td>
<td>1.37</td>
<td>3.69</td>
</tr>
<tr>
<td>I believe participation in local FFA activities is valuable.</td>
<td>3.64</td>
<td>1.03</td>
<td>4.33</td>
</tr>
<tr>
<td>I believe participating in FFA activities is good for my future.</td>
<td>3.64</td>
<td>1.03</td>
<td>4.3</td>
</tr>
<tr>
<td>I currently see myself taking on a leadership role in FFA.</td>
<td>2.84</td>
<td>1.4</td>
<td>2.95</td>
</tr>
<tr>
<td>If I chose to, I could become a leader in FFA.</td>
<td>3.04</td>
<td>1.27</td>
<td>3.37</td>
</tr>
<tr>
<td>I easily relate to leaders I see in FFA.</td>
<td>2.88</td>
<td>1.33</td>
<td>3.46</td>
</tr>
<tr>
<td>Other FFA members in my chapter make me feel welcome.</td>
<td>3.88</td>
<td>0.83</td>
<td>3.69</td>
</tr>
<tr>
<td>FFA is a good organization for students like me.</td>
<td>3.88</td>
<td>0.88</td>
<td>4.17</td>
</tr>
<tr>
<td>I think FFA activities are fun.</td>
<td>3.88</td>
<td>0.87</td>
<td>4.07</td>
</tr>
<tr>
<td>I see the value in maintaining an active Supervised Agriculture Experience Program (SAE).</td>
<td>3.72</td>
<td>1.02</td>
<td>3.96</td>
</tr>
<tr>
<td>I believe an SAE teaches me skills that I will use later in life.</td>
<td>3.8</td>
<td>0.91</td>
<td>4.17</td>
</tr>
<tr>
<td>I would encourage my friends or family to get involved in FFA.</td>
<td>3.88</td>
<td>0.92</td>
<td>4.2</td>
</tr>
<tr>
<td>My agriculture teacher cares about my success.</td>
<td>4.24</td>
<td>0.925</td>
<td>4.39</td>
</tr>
<tr>
<td>My agriculture teacher sees my potential.</td>
<td>4.04</td>
<td>0.93</td>
<td>4.21</td>
</tr>
</tbody>
</table>
Table 3 (continued).

<table>
<thead>
<tr>
<th>Item</th>
<th>Hispanic M</th>
<th>Hispanic SD</th>
<th>Caucasian M</th>
<th>Caucasian SD</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>My agriculture teacher has encouraged me to get more involved in the agriculture program.</td>
<td>4.12</td>
<td>0.92</td>
<td>4.35</td>
<td>0.79</td>
<td>0.13</td>
</tr>
<tr>
<td>My family values my enrollment in agriculture education.</td>
<td>3.56</td>
<td>0.96</td>
<td>3.98</td>
<td>0.94</td>
<td>0.03*</td>
</tr>
<tr>
<td>My family supports my participation in FFA activities.</td>
<td>3.76</td>
<td>0.96</td>
<td>4.21</td>
<td>0.77</td>
<td>0.01*</td>
</tr>
<tr>
<td>My family has played an important role in determining my high school experiences.</td>
<td>3.44</td>
<td>1.12</td>
<td>3.98</td>
<td>0.99</td>
<td>0.01*</td>
</tr>
<tr>
<td>My friends play an important role in determining how I spend my time outside of class.</td>
<td>3.72</td>
<td>0.84</td>
<td>4.08</td>
<td>0.83</td>
<td>0.11*</td>
</tr>
<tr>
<td>My friends have a positive impression of agricultural education.</td>
<td>3.56</td>
<td>0.91</td>
<td>3.76</td>
<td>0.97</td>
<td>0.07</td>
</tr>
</tbody>
</table>

Note. *p < .05.

normally distributed population. This will necessitate a non-parametric evaluation, as abnormally distributed data cannot be evaluated using a parametric analysis method such as a traditional $t$-test or analysis of variance. On the other hand, if the $p$-value is greater than the chosen alpha level, then the data is from a normally distributed population and the null hypothesis cannot be rejected. For example, at an alpha level of 0.05 a data set with a $p$-value of 0.03 rejects the null hypothesis that the data are from a normally distributed population (NIST, 2012). The conclusion of the test indicated the data was not normally distributed due to the $p$-value being less than the alpha level for each question (Table 3). Therefore, a nonparametric test would need to be conducted on the data to ensure proper interpretation.
### Table 4

*Shapiro-Wilk Test for Normal Data Distribution*

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>Statistic</th>
<th>df</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Q1</strong></td>
<td>Hispanic</td>
<td>.781</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>Caucasian</td>
<td>.726</td>
<td>56</td>
</tr>
<tr>
<td><strong>Q2</strong></td>
<td>Hispanic</td>
<td>.852</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>Caucasian</td>
<td>.787</td>
<td>56</td>
</tr>
<tr>
<td><strong>Q3</strong></td>
<td>Hispanic</td>
<td>.892</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>Caucasian</td>
<td>.846</td>
<td>56</td>
</tr>
<tr>
<td><strong>Q4</strong></td>
<td>Hispanic</td>
<td>.902</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>Caucasian</td>
<td>.870</td>
<td>56</td>
</tr>
<tr>
<td><strong>Q5</strong></td>
<td>Hispanic</td>
<td>.876</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>Caucasian</td>
<td>.771</td>
<td>56</td>
</tr>
<tr>
<td><strong>Q6</strong></td>
<td>Hispanic</td>
<td>.876</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>Caucasian</td>
<td>.754</td>
<td>56</td>
</tr>
<tr>
<td><strong>Q7</strong></td>
<td>Hispanic</td>
<td>.869</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>Caucasian</td>
<td>.889</td>
<td>56</td>
</tr>
<tr>
<td><strong>Q8</strong></td>
<td>Hispanic</td>
<td>.889</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>Caucasian</td>
<td>.910</td>
<td>56</td>
</tr>
<tr>
<td><strong>Q9</strong></td>
<td>Hispanic</td>
<td>.905</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>Caucasian</td>
<td>.898</td>
<td>56</td>
</tr>
<tr>
<td><strong>Q10</strong></td>
<td>Hispanic</td>
<td>.789</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>Caucasian</td>
<td>.867</td>
<td>56</td>
</tr>
<tr>
<td><strong>Q11</strong></td>
<td>Hispanic</td>
<td>.762</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>Caucasian</td>
<td>.790</td>
<td>56</td>
</tr>
<tr>
<td><strong>Q12</strong></td>
<td>Hispanic</td>
<td>.805</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>Caucasian</td>
<td>.784</td>
<td>56</td>
</tr>
<tr>
<td><strong>Q13</strong></td>
<td>Hispanic</td>
<td>.833</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>Caucasian</td>
<td>.844</td>
<td>56</td>
</tr>
<tr>
<td><strong>Q14</strong></td>
<td>Hispanic</td>
<td>.843</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>Caucasian</td>
<td>.812</td>
<td>56</td>
</tr>
<tr>
<td><strong>Q15</strong></td>
<td>Hispanic</td>
<td>.842</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>Caucasian</td>
<td>.795</td>
<td>56</td>
</tr>
<tr>
<td><strong>Q16</strong></td>
<td>Hispanic</td>
<td>.777</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>Caucasian</td>
<td>.707</td>
<td>56</td>
</tr>
</tbody>
</table>
Table 4 (continued).

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>Statistic</th>
<th>df</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hispanic</td>
<td>.830</td>
<td>25</td>
<td>.001</td>
</tr>
<tr>
<td>Caucasian</td>
<td>.793</td>
<td>56</td>
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Non-Parametric Analysis of Variance Tests

Since data was determined to be abnormally distributed, two nonparametric tests were run to determine the statistical significance of the survey responses. The first is the Mann-Whitney U test. The Mann-Whitney U test is used to test whether two independent samples of observations are drawn from the same or identical distributions. Unlike its parametric counterpart, the *t*-test for two samples, this test does not assume that the difference between the samples is normally distributed or that the variances of the two populations are equal. When the validity of the assumptions of *t*-test is questionable, the Mann-Whitney U test can be utilized as it has a wider applicability to analyze the significance of data. An advantage with this test is that the two samples under consideration may not necessarily have the same number of observations. This test is
based on the idea that the particular pattern exhibited when \( n \) number of X variables and \( n \) number of Y variables are arranged together in increasing order of magnitude provides information about the relationship between their parent populations. The Mann-Whitney test is based on the magnitude of the Y’s in relation to the X’s. This can lead a researcher to discover a significant pattern that would discredit the null hypothesis of identical distribution (Boersma, 2014).

In addition to the Mann-Whitney U test, the Kruskal–Wallis one-way analysis of variance test was conducted. The Mann-Whitney U test is strongest with smaller sample sizes, where the Kruskal-Wallis test is better with larger sample sizes (Heckert, 2001). Since this test included over 100 subjects, utilizing both tests was an appropriate course of action. The Kruskal-Wallis test is a non-parametric test used for comparing independent samples and determining their statistical validity. The variables being tested may also have different sample sizes, another strength of this test type. The parametric equivalent of the Kruskal-Wallis test is the one-way analysis of variance (ANOVA), a familiar test that analyzes differences between groups. When rejecting the null hypothesis of the Kruskal-Wallis test, then at least one sample dominates at least one other sample, providing a clear opportunity to analyze statistical significance.

Since it is a non-parametric method, the Kruskal–Wallis test does not assume a normal distribution of the data, unlike the analogous parametric one-way analysis of variance. If the researcher can make the more stringent assumptions of an identically shaped and scaled distribution for all groups, except for any difference in medians, then the null hypothesis is that the medians of all groups are equal, and the alternative hypothesis is that at least one population median of one group is different from the
population median of at least one other group (Heckert, 2001). Both tests were conducted because there can be some variance between the two. However, in this case the results were identical between the two tests and both are reported under the $p$-value in Table 1.

Overall, students of both ethnicities indicated agreement with several statements. Students agreed that enrollment in agricultural education was valuable ($M = 4.2, SD = .88$) and that the subjects being taught in agricultural education were interesting ($M = 4.03, SD = .87$). Additionally, surveyed students of both ethnicities agreed that participation in local FFA activities is valuable ($M = 4.09, SD = 4.09$) and that participating in FFA activities is good for an individual’s future ($M = 4.05, SD = .89$). Both ethnicities agreed with statements regarding their relationships with agriculture teachers. First, students agreed with the statement reading “my agriculture teacher sees my potential” ($M = 4.3, SD = .87$) and the statement “my agriculture teacher has encouraged me to get more involved in the agriculture program” ($M = 4.12, SD = .82$). Statements regarding FFA’s leadership development received the lowest consistent scores with both ethnic groups. Students tended to disagree more with the idea that they could see themselves taking on leadership roles in FFA ($M = 2.88, SD = 1.2$) and the belief that if they chose to, they could become a leader in FFA ($M = 3.2, SD = 1.19$). Though more neutral in nature, those two statements garnered the lowest means for both Hispanic and Caucasian students.

**Hispanic Students**

Of the 101 students participating in the survey, 33 self-identified as having Hispanic heritage, comprising a smaller percentage of the survey respondents than Caucasian students. Hispanic students responded most strongly to statements regarding
their agriculture teachers, with indications of belief that agriculture teachers care about their success ($M = 4.24$, $SD = .93$) and agriculture teachers see their potential ($M = 4.04$, $SD = .93$). Additionally, these same students responded strongly to statements regarding the value of agriculture education ($M = 4.0$, $SD = .87$) and to a lesser degree, the subjects being taught in their agriculture classes ($M = 3.76$, $SD = .88$). With a consistent degree of agreement were statements such as “other FFA members in my chapter make me feel welcome” ($M = 3.88$, $SD = .83$), “FFA is a good organization for students like me” ($M = 3.88$, $SD = .88$) and “I think FFA activities are fun ($M = 3.88$, $SD = .87$). Scoring in a generally neutral area were statements such as “My family has played an important role in determining my high school experiences” ($M = 3.44$, $SD = 1.12$), “If I chose to, I could become a leader in FFA ($M = 3.04$, $SD = 1.27$) and “I actively participate in my local FFA program” ($M = 3$, $SD = 1.29$). Hispanic students responded most negatively to the statement regarding to how easily they relate to the leaders they see in FFA ($M = 2.88$, $SD = 1.33$) as well as to their perception that they would likely take on a leadership role in FFA ($M = 2.84$, $SD = 1.4$). Further analysis of the questions as constructs leads to greater information regarding the larger factors affecting engagement of Hispanic students in agricultural education.

**Comparison of Hispanic and Caucasian Students**

Means and standard deviations of the 23 items for Hispanic and Caucasian participants are included in Table 1 as are results of independent samples non-parametric analysis of variance tests which analyzed statistically and/or practically significant mean score differences between the two groups. Caucasian students reported greater agreement
for every statement in the questionnaire with the exception of the statement regarding other FFA members in the chapter making them feel welcome, with Hispanic students indicating they are made to feel more welcome by their fellow FFA chapter members \((M = 3.88, SD = .83)\) than Caucasian students \((M = 3.69, SD = .95)\). The largest differences on mean scores were noted in the perception of activeness in the FFA chapter, with Caucasian students reporting a significantly higher rate of active participation \((M = 3.94, SD = .92)\) than Hispanic students \((M = 3.00, SD = 1.29)\). Of the 23 items, a statistically significant difference was found on the following statements: 1 (I believe my enrollment in agricultural education classes to be valuable), 2 (I am interested in the subjects I learn about in my agriculture class), 3 (I actively participate in my local FFA program), 4 (I regularly attend FFA meetings in my local program), 5 (I believe participation in local FFA activities is valuable), 6 (I believe participating in FFA activities is good for my future), 9 (I easily relate to leaders I see in FFA), 11 (FFA is a good organization for students like me), 14 (I believe an SAE teaches me skills that I will use later in life), 15 (I would encourage my friends or family to get involved in FFA), 19 (My family values my enrollment in agriculture education), 20 (My family supports my participation in FFA activities) and 21 (My family has played an important role in determining my high school experiences).

**Construct Groups**

Means and standard deviations as well as independent-sample non-parametric analysis of variance tests can be found in Table 5. In terms of the general trends seen in the thematic subscales, a significant difference was found in three of the four subscales. Hispanic students were found to respond with less agreement to statements regarding
Table 5

*Comparison of Hispanic (n = 33) and Caucasian (n = 68) Student Questionnaire Scale Responses*

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<th>p-value</th>
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<td>SD</td>
<td>M</td>
<td>SD</td>
<td></td>
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<tr>
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<td>0.00</td>
</tr>
<tr>
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<td>0.72</td>
<td>4.09</td>
<td>0.65</td>
<td>0.07</td>
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<tr>
<td>Social Opinion</td>
<td>3.25</td>
<td>0.85</td>
<td>3.71</td>
<td>0.40</td>
<td>0.01</td>
</tr>
</tbody>
</table>

Subject Interest, Teacher Relationship and Social Opinion. Questions regarding the influence of family as an external factor were not significantly different between the two groups.

**Discussion of Findings**

- **Research Question One:** *Which factors exert an influence on the decision of Hispanic students to engage in agriculture education?*

  Findings indicate a difference in the general statements and in the larger constructs within the Hispanic group. Hispanic students more readily agree with statements regarding the relationship with the teacher, indicating stronger degrees of agreeability with that subscale than with the other three. This could be due to a cultural proclivity for valuing elders and people of authority as confirmed by prior studies (Bordes & Arredondo, 2005). The high level of responsiveness of Hispanic students to quality teaching and the investment of teachers in their lives has been identified by prior studies.*
Specifically within that construct, Hispanic students most strongly agreed with the statement about their agriculture teacher caring about their success. Agriculture teachers are often motivated by a different set of factors than their purely-academic counterparts, and one of the largest motivations is concern about the future well-being of students (Williams, Warner, Flowers, & Croom, 2014). This statement from Hispanic students confirms the concern extends to all students in the classroom. Additionally, Hispanic students agreed with the statement about their agriculture teacher encouraging them to become more involved in the FFA and agriculture program. This behavior is common among agriculture teachers and between the two statements, it could be indicative of a lack of ethnic bias in the teachers of the surveyed students. However, the ethnicities of the teachers were not determined beforehand and that link cannot be reliably established. The final teacher-focused question also received a high level of approval from Hispanic students with “my agriculture teacher sees my potential” scoring well in the survey also. This trait is an indicator of suitability to mentor, with agriculture teachers often taking on mentoring roles with students as a function of their multi-faceted vocation.

Items regarding the role of the family and interest in the subject indicate a similar role as factors in the decision-making of Hispanic students. Cited literature indicates the family plays a significant role in the decision-making of Hispanic students. The results of this survey would seem to indicate that there are in fact stronger factors in play. However, since the items in the construct leaned toward agreement with the statement, there is still a clear relationship between the role of the family and the decision-making processes of adolescent Hispanics. Surveyed Hispanic families generally supported participation in FFA activities ($M = 3.76, SD = .96$), which could correlate to their desire
to have their children involved in activities they perceive to be beneficial to their future. Slightly less favorable was the opinion that their families valued their enrollment in agricultural education \((M = 3.56, SD = .96)\) and the family playing an important role in determining their high school experiences \((M = 3.44, SD = 1.12)\). The relationship of Hispanic families to agricultural education is a complex one, with many associating enrollment in the subject with low-level careers in production sectors of the industry and holding a bias against their children engaging in activities that could limit their future career opportunities.

The relationship of the subject matter to the engagement of Hispanic students carried a similar weight as that of the family. This is a logical point to make, ethnicity notwithstanding. Students interested in agricultural subject matter would be more likely to engage in additional activities revolving around agriculture. Hispanic students indicated a generally supportive attitude regarding their interest in the subjects taught in their agriculture class \((M = 3.76, SD = .88)\) as well as the value of maintaining an active Supervised Agricultural Experience (SAE) program \((M = 3.72, SD = 1.02)\). Hispanic students also seemed to generally agree that their SAE programs teach them skills that are useful later in life \((M = 3.8, SD = .91)\). As a direct extension of the knowledge-based elements of the agriculture classroom, the SAE has a significant connection to the student’s interest in the subject matter. Interestingly, Hispanic students agreed more strongly with SAE-related statements than with classroom ones. An SAE can be tailored to fit a student’s interest area and can be scaled according to the resources available to the students and the program. Since the SAE is a self-driven, hands-on component to the program, many students may enjoy it more than the potentially more rote or static
elements of the classroom. FFA’s connection to the subjects taught in the classroom is also a dynamic one. With a variety of Career Development Events and Leadership Development Events encompassing an array of subjects, students could potentially find an activity that strongly correlates to their interests and passions. For example, a student who enjoys the curriculum in an Agricultural Mechanics class could further enhance their skills and knowledge by participating on a Farm Power team, a Welding team or a Small Gas Engines team. A student interested in art and design could participate in the Floriculture contest or a student who enjoys Agricultural Economics could do the Marketing Plan contest or Farm Business Management. Activities at the local level can vary by instructor expertise, community interest and resource availability, leading to an ever-broader spectrum of possible subject-related activities into which students can engage at each school.

Finally, Hispanic students indicated the least agreement with statements revolving around the social opinion factors for engagement ($M = 3.25$, $SD = 0.85$). With a construct mean far below that of the other subscales, this area clearly had the least influence on the decision-making factors for Hispanic students. Statements targeting this area concluded general agreement, with friends playing an important role in determining how time is spent outside the classroom ($M = 3.72$, $SD = 0.84$). This inclination toward social independence is not surprising for adolescents and could be a factor of the student’s age at the time of the survey. Younger students are often more inclined to be subject to the will of social opinion leaders while students nearing the end of high school may be more likely to determine their own use of time or to potentially surround themselves with peers who are more likely to share their interests. Generally neutral, though leaning toward the
positive end of the spectrum was the statement of the survey takers friends having a positive view of agricultural education ($M = 3.56, SD = 0.91$). This question did not take into account a series of variables and therefore may not be very telling in terms of conclusions. For example, are the survey respondent’s friends also enrolled in agricultural education? Are they active in FFA? Many FFA members, by the nature of the program, become close friends with the people they meet in the program’s activities. This can lead to a shift in the perceptions of social influence and might enable a student to adjust their peer groups, thereby changing who they consider to be friends.

- **Research Question Two:** *How do external factors influence Hispanic students differently than Caucasian students?*

  This question is of large importance due to the existing nature of the agriculture teaching cadre as well as the dominant ethnicity of California’s most involved agriculture education students. Three of the four constructs exhibited a statistically significant difference according to both non-parametric tests used in this study. Of greatest difference were questions revolving around the subscale of subject interest, with Caucasian students ($M = 4.26, SD = 0.61$) indicating significantly stronger agreement ($p$-value = 0.00) to subject oriented questions than Hispanic students ($M = 3.69, SD = 0.80$). Within the construct, Caucasian students agreed more significantly with statements such as “I am interested in the subjects I learn about in my agriculture class” ($M = 4.25, SD = 0.69$) than Hispanic students ($M = 3.76, SD = 0.88$). This difference could be attributed to the agricultural backgrounds of many Caucasian students as well as the delivery methods used by agriculture teachers. A notable difference was also exhibited with subject-focused statements such as “I believe my SAE teaches me skills that I will use later in
life”, with Caucasian respondents agreeing at a much stronger rate ($M = 4.17$, $SD = 0.86$) than Hispanic students ($M = 3.8$, $SD = 0.91$). With a larger number of active Caucasian agriculture students coming from 4-H backgrounds than Hispanic students (Lerner, Lerner, Phelps, & Colleagues, 2008), this difference may be attributable to the incoming experience levels students brought to their SAE or potential access to SAE experiences. Additionally, this difference could be due to the SAE offerings available at a school site or the allowable options according to the local agriculture teacher.

Also, of notable importance was the subscale of statements regarding teacher relationship. Although both ethnicities responded in wide agreement, there was still a significant difference between Caucasian students, who responded more favorably ($M = 4.23$, $SD = 0.64$) than Hispanic students ($M = 3.93$, $SD = 0.77$). Specifically, Caucasian students agreed to a greater degree to the statement “My agriculture teacher has encouraged me to get more involved in the agriculture program” ($M = 4.35$, $SD = 0.79$) than Hispanic students ($M = 4.12$, $SD = 0.92$). Similarly, Caucasians responded to the statement “my agriculture teacher sees my potential,” ($M = 4.21$, $SD = 0.7$) more favorably than Hispanic students ($M = 4.04$, $SD = 0.93$). Not knowing the teacher ethnicities of the surveyed students makes it difficult to analyze and discuss potential reasons behind the survey results, but this may be attributable to some degree of bias among teachers. Caucasian students often tend to be more outspoken than Hispanic students (Huerta & Riojas-Cortez, 2011), making them easier to identify in the classroom and often creating a positive relationship between the teacher and the student. Hispanic students trend toward the reserved end of the extrovert scale (Prinstein & Aikens, 2004), which may present challenges to the teacher trying to identify their personal or leadership
potential in a crowded classroom. Cited literature indicates that Hispanic students engage more naturally and benefit from teachers of the same ethnicity who can mentor them to maximize their potential. In the prospective absence of a teacher of the same ethnicity, said students might have a more difficult time engaging with their teacher and demonstrating their potential capabilities. Though individually none of the teacher-focused statements were statistically significant, when combined there was enough difference ($p$-value = 0.01) to necessitate notation as an important factor to consider between the two ethnicities.

The final statistically significant construct consisted of statements concerning the role of social opinion leaders and friends in decision-making ($p$-value = 0.01). Once again, Caucasian students more strongly agreed with statements about the role of friends and opinion of friends in their decision-making ($M = 3.71, SD = 0.40$) than Hispanic students ($M = 3.25, SD = 0.85$). However, these questions potentially aggregated statements that were asking different questions. For example, Item 23 (My friends have a positive impression of agricultural education) was not statistically significant ($p$-value = 0.07). Caucasian students responded more favorably ($M = 3.76, SD = 0.97$) than Hispanic students ($M = 3.56, SD = 0.91$), though neither ethnicity was in enthusiastic agreement to the statement. This was folded into the same subscale as Item 15 (I would encourage my friends or family to get involved in FFA), which had a significant difference between the ethnic groups. Caucasian survey respondents indicated a stronger agreement with this statement ($M = 4.2, SD = 0.70$) than Hispanic students ($M = 3.88, SD = 0.92$). This question could have been modified by adding “who are not active in FFA” or a similar descriptor to clarify its purpose. It appears difficult to know reasons why there would be a
difference between the two ethnicities without knowing the existing relationships they have in FFA. Without that statement, one could potentially induce that Hispanic students are less inclined to believe involvement in FFA is a good fit for their groups of friends. Social inclusion is a significant factor affecting opinions of favorability among adolescents (Bierman, 2004), and this statement could be reflective of the difficulty Hispanic students may have fitting in to larger groups. Additionally, variation in responses to item 9 (I easily relate to leaders I see in FFA) was noteworthy. Hispanic students were far less agreeable to the idea that FFA’s leaders are easily relatable ($M = 2.88$, $SD = 1.33$) than Caucasian students ($M = 3.46$, $SD = 1.12$). Depending on the student’s definition of leaders, be it at the local, regional, state or national level, this response could be further mined for relevant information. Nationally, there have been only two Hispanic National Officers in the last 20 years, providing a paucity of role models for students of color. In California, State FFA Officers are primarily Caucasian, though ethnic diversity continues to improve. In 2014-2015, the State FFA President was of Indian heritage and the State FFA Sentinel is Mexican. In the last decade, Hispanic students have been elected to statewide office seven times, with Caucasian students filling 50 spots in that same time frame (California FFA Association, 2014). Leadership at the local level typically consists of holding a Chapter FFA Office. Elected by their peers, these students more commonly reflect the desires of majority of students in their agriculture programs. However, partiality can exist in that circumstance as well with local biases potentially playing a role in electing student leaders. For example, a program with 60% Hispanic membership would theoretically elect a Chapter FFA Officer team with something close to 60% Hispanic officers. However, FFA’s leadership structure may
inherently favor outgoing students who can easily build relationships with teachers. Teachers typically engage their students in events and activities that develop leadership competencies such as public speaking, communication skills, interview skills and consensus-building skills. Therefore, it is logical that Hispanic students may struggle to identify with leaders in a system that could possibly be biased against their natural inclinations and social structures.

The final subscale referring to the role of the family in decision-making was less important (p-value = 0.07). Both ethnicities responded to a similar degree about the influence of family on personal decision-making and the family’s opinion of FFA involvement. In this construct, Caucasian students tended to still respond more favorably (M = 4.09, SD = 0.65) than Hispanic students (M = 3.68, SD = 0.72). However, the means varied by statement. For example, in Item 21 (My family has played an important role in determining my high school experiences), Caucasian students responded with greater agreement (M = 3.98, SD = 0.99) than Hispanic students (M = 3.44, SD = 1.12). Though cited literature would indicate that Hispanic students often have a stronger in the decision-making processes of students the disconnect between Spanish-speaking parents and a primarily English-speaking school system may lead to less impact on Hispanic students in terms of their educational decisions. The parents of Caucasian students may be more familiar with American educational mechanisms and can therefore exert a stronger influence on the educational decisions of their child. Also of note is the statistically significant difference in the perception of parental support for participation in FFA activities (p-value = .01) between the two ethnicities. Caucasian students agreed at a greater level (M = 4.21, SD = 0.77) that their parents support participation in FFA
activities as compared to Hispanic students ($M = 3.76, SD = 0.96$). Again, this may be due to structural familiarity. In earlier decades, Caucasians dominated FFA activities and the perception can exist among older generations that FFA is an organization essentially only open to Caucasian students. Caucasian parents and family members are more likely to have participated in and benefitted from FFA involvement, while many Hispanic parents are either unfamiliar with FFA or have a negative perception based on the experiences they observed in high school. Also receiving a statistically significant result within the family subscale was Item 19 (my family values my enrollment in agricultural education). As expected, Caucasian parents were perceived by their students to place a greater value on their enrollment ($M = 3.98, SD = 0.94$) than their Hispanic counterparts ($M = 3.56, SD = 0.96$). Again, this may address inherent misperceptions about the suitability of the agricultural education program for students of all ethnicities. Enrollment in an agriculture class is the necessary precursor to involvement in additional FFA and SAE activities. A parent who is supportive of their student’s enrollment in the class may be more likely to support their engagement in the intracurricular elements of the program.
CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

Implications and Conclusions

In order to remain relevant in an ever-diversifying American population, agriculture education must find ways to engage minority students into the differentiated intracurricular program components, FFA and SAE. Consistently set as a model of effective learning methodologies, agricultural education’s unique intracurricular system can engage students in a way not typically found in American high schools and has a responsibility to engage students of all backgrounds and ethnicities. The factors exerting an influence on the decision of Hispanic students to engage in agriculture education were interest in the subject matter, the leadership of social-opinion makers, the relationship with the agriculture teacher and the role of the family in decision-making.

As compared to Caucasian students, Hispanic students were most affected by interest in the subject matter taught in the classroom. Knowing this, agriculture teachers must determine methods to ensure Hispanic students can naturally connect with the subjects being taught in the classroom as well as the delivery mechanisms used to engage them in FFA and SAE activities. For example, using culturally relevant subject materials such as teaching the growth of food crops common in the Latin diet may be a method to help the Hispanic student relate to the material. Additionally, encouraging teachers to
explore alternative SAE opportunities that Hispanic students can relate to could enhance their participation in and perception of value of the SAE program. FFA’s emphasis on public speaking and highly extroverted activities could be intimidating to Hispanic students and instructors should consider identifying activities that encourage the participation and growth of Hispanic students at a pace with which they feel comfortable. These findings are congruent with research conducted regarding the psychology and needs of Hispanic youth (Benner, 2011).

It was also observed that the family was important to the decision-making of the Hispanic student. As such, methods should be developed to help Caucasian agriculture teachers connect with Hispanic families, as that factor seemed to be consistently agreed upon by survey respondents. Due to cultural differences and language barriers that may exist between non-Hispanic teachers and Hispanic families, teachers may be intimidated or unable to find appropriate strategies to engage with families. However, due to the general agreement that families play an important role in the decision making of Hispanic adolescents, it appears to be critical for a non-Hispanic teacher to find methods for connect to those families in order that their children can engage beyond the classroom. This finding is supported by previous research conducted by Velez and Griego-Jones (1997). Existing efforts to remedy this issue on a national scale have thus far been insufficient. National FFA’s diversity and inclusion efforts have primarily emphasized the engagement of culturally diverse students, but have yet to provide materials that can help teachers engage parents. Without that additional resource, it may be difficult for the program to function as effectively as possible. Given that language barriers are not easy to overcome, model tools should be created to help
teachers personalize their programs. Examples could be Spanish-language videos for parents, informational brochures and how-to guides for English-speaking teachers. Additionally, inservice opportunities common in California agricultural education should prioritize enrichment activities to help improve the understanding of Hispanic cultures among Caucasian teachers.

Of similar value is program marketing through social opinion leaders on a school campus. Since Hispanic students are particularly sensitive to social inclusion, finding methods to engage influential Latino students could prove a boon to a program seeking to engage these students to a greater degree. For example, empowering socially influential Hispanic students to take on leadership roles in the program such as a committee chair, chapter officer or CDE competitor could enable them to serve as an important marketing device to other Hispanic students on campus. Additionally, featuring these same students on program materials such as recruitment brochures, websites and videos will allow their influence to extend beyond their immediate presence. Similarly, identifying socially influential parents in the local Hispanic community can aid in the engagement of their students in school-based activities such as FFA (Huerta & Riojas-Cortez, 2011).

Finally, both Hispanic and Caucasian students identified with a need for a quality teacher-student relationship \( (p\text{-value}=0.01) \). Cited research highlighted the critical nature of mentorships to both the Caucasian as well as the Hispanic adolescent and emphasized their need to identify with authority figures, particularly their teachers (Marin & Marin, 2001). Although a non-Hispanic teacher may struggle to identify with cultural elements relative to Hispanic students, there are certainly opportunities present in the
agricultural education model for the teacher to invest in the student and learn more about their life. Attending community events frequented by Hispanic families as well as school sporting events that showcase the talents of Hispanic students can allow that relationship building to occur. Additionally, teachers must seek ways to validate and empower all students, regardless of ethnicity. Though a Hispanic student may be quieter in class and can potentially fly under the radar when compared to other students, it is the teacher’s responsibility to build a relationship with that child and discover their potential as well.

Regardless of the methodology employed, there must be a concerted profession-wide effort to find appropriate strategies to engage Hispanic students to a greater degree. Not only is there a numerical imperative with the increasing population of Hispanic students in agriculture classroom, there is a moral obligation as well. Agricultural education must serve and grow all students justly, not merely those who are part of a culturally dominant group.

Recommendations

Recommendations for further research include focus group interviews to gain a deeper understanding of the motivations of Hispanic students in their educational decision-making. A lengthier and more comprehensive questionnaire could also be developed that seeks to identify specific elements of FFA and SAE that appeal to Hispanic students as compared to Caucasian students. These strategies, along with the inclusion of free response items on a questionnaire could also identify how to recruit Hispanic students by targeting specific activities they find valuable and interesting. The study should also be extended to more high schools across the state and nation, especially
in different community types (e.g., urban, suburban and rural), and populations (e.g.,
gender and age). Further investigation should seek students who joined agriculture
programs later into their high school years (e.g., 11th and 12th grades) and identify the
factors that caused their late engagement in the program. This could enable researchers to
further identify factors that cause Hispanic students to participate in offerings made by
local agriculture programs. Finally, a longitudinal cohort study that follows Hispanic
students throughout their four years of high school could investigate what factors
encouraged or discouraged engagement over a period of time. This could perhaps provide
methods to retain Hispanic students interest and provide recommendations on building a
program of activities that Hispanic students find interesting and worthwhile.
REFERENCES
REFERENCES


Pilot Study Instrument

The purpose of this survey is to examine the factors that affect a student's decision to become active in FFA organization, both at the local level and beyond.

Ethnicity: ______________________

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<th>Number of Years Enrolled in Agriculture Education (including current): ______</th>
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<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
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<td>D</td>
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<td>A</td>
<td>SA</td>
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<td>2. I am interested in the subjects I learn about in my agriculture class(es).</td>
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<td>D</td>
<td>N</td>
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</tr>
<tr>
<td>3. I actively participate in my local FFA program.</td>
<td>SD</td>
<td>D</td>
<td>N</td>
<td>A</td>
<td>SA</td>
</tr>
<tr>
<td>4. I regularly attend FFA meetings in my local program.</td>
<td>SD</td>
<td>D</td>
<td>N</td>
<td>A</td>
<td>SA</td>
</tr>
<tr>
<td>5. I believe participation in local FFA activities is valuable.</td>
<td>SD</td>
<td>D</td>
<td>N</td>
<td>A</td>
<td>SA</td>
</tr>
<tr>
<td>6. I believe participating in FFA activities is good for my future.</td>
<td>SD</td>
<td>D</td>
<td>N</td>
<td>A</td>
<td>SA</td>
</tr>
<tr>
<td>7. I currently see myself taking on a leadership role in FFA.</td>
<td>SD</td>
<td>D</td>
<td>N</td>
<td>A</td>
<td>SA</td>
</tr>
<tr>
<td>8. If I chose to, I could become a leader in FFA.</td>
<td>SD</td>
<td>D</td>
<td>N</td>
<td>A</td>
<td>SA</td>
</tr>
<tr>
<td>9. I easily relate to leaders I see in FFA.</td>
<td>SD</td>
<td>D</td>
<td>N</td>
<td>A</td>
<td>SA</td>
</tr>
<tr>
<td>10. Other FFA members in my chapter make me feel welcome.</td>
<td>SD</td>
<td>D</td>
<td>N</td>
<td>A</td>
<td>SA</td>
</tr>
<tr>
<td>Question</td>
<td>Strongly Disagree</td>
<td>Disagree</td>
<td>Neutral</td>
<td>Agree</td>
<td>Strongly Agree</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
<td>-------------------</td>
<td>----------</td>
<td>---------</td>
<td>-------</td>
<td>----------------</td>
</tr>
<tr>
<td>Number of Years Enrolled in Agriculture Education (including current):</td>
<td>______</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. FFA is a good organization for students like me.</td>
<td>SD</td>
<td>D</td>
<td>N</td>
<td>A</td>
<td>SA</td>
</tr>
<tr>
<td>12. I think FFA activities are fun.</td>
<td>SD</td>
<td>D</td>
<td>N</td>
<td>A</td>
<td>SA</td>
</tr>
<tr>
<td>13. I see the value in maintaining an active Supervised Agriculture</td>
<td>SD</td>
<td>D</td>
<td>N</td>
<td>A</td>
<td>SA</td>
</tr>
<tr>
<td>Experience Program (SAE).</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. I believe an SAE teaches me skills that I will use later in life.</td>
<td>SD</td>
<td>D</td>
<td>N</td>
<td>A</td>
<td>SA</td>
</tr>
<tr>
<td>15. I would encourage my friends or family to get involved in FFA.</td>
<td>SD</td>
<td>D</td>
<td>N</td>
<td>A</td>
<td>SA</td>
</tr>
<tr>
<td>16. My agriculture teacher cares about my success.</td>
<td>SD</td>
<td>D</td>
<td>N</td>
<td>A</td>
<td>SA</td>
</tr>
<tr>
<td>17. My agriculture teacher sees my potential.</td>
<td>SD</td>
<td>D</td>
<td>N</td>
<td>A</td>
<td>SA</td>
</tr>
<tr>
<td>18. My agriculture teacher has encouraged me to get more involved in the</td>
<td>SD</td>
<td>D</td>
<td>N</td>
<td>A</td>
<td>SA</td>
</tr>
<tr>
<td>agriculture program.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19. My family values my enrollment in agriculture education.</td>
<td>SD</td>
<td>D</td>
<td>N</td>
<td>A</td>
<td>SA</td>
</tr>
<tr>
<td>20. My family supports my participation in FFA activities.</td>
<td>SD</td>
<td>D</td>
<td>N</td>
<td>A</td>
<td>SA</td>
</tr>
<tr>
<td>21. My family has played an important role in determining my high school</td>
<td>SD</td>
<td>D</td>
<td>N</td>
<td>A</td>
<td>SA</td>
</tr>
<tr>
<td>experiences.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22. My friends play an important role in determining how I spend my time</td>
<td>SD</td>
<td>D</td>
<td>N</td>
<td>A</td>
<td>SA</td>
</tr>
<tr>
<td>outside of class.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>23. My friends have a positive impression of agricultural education.</td>
<td>SD</td>
<td>D</td>
<td>N</td>
<td>A</td>
<td>SA</td>
</tr>
<tr>
<td>24. FFA participation is not a financial burden on my family.</td>
<td>SD</td>
<td>D</td>
<td>N</td>
<td>A</td>
<td>SA</td>
</tr>
</tbody>
</table>
25. I have attended the following FFA leadership conferences (please check any that apply):

Greenhand Conference: _____
Made for Excellence Conference: _____
Advanced Leadership Academy: _____
Sacramento Leadership Experience: _____
Chapter Officer Leadership Conference: _____
Washington Leadership Conference: _____
State FFA Leadership Conference: _____
National FFA Convention: _____

26. I have participated in an FFA Career Development Event (CDE/judging team):

Yes: _____
No: _____

27. I have participated in the following Leadership Development Events (please insert any years that may apply):

Opening and Closing Ceremonies Contest: ________________ (Ex: 2013, 2015)
Creed Recitation: ________________
Impromptu Speaking: ________________
Extemporaneous Speaking: ________________
Prepared Speaking: ________________
Job Interview: ________________
Parliamentary Procedure: ________________
28. I have participated in community service activities coordinated by FFA:

Yes: _____
No: _____

29. I participate in fundraiser activities coordinated by FFA:

Yes: _____
No: _____

30. I have chaired a committee in my chapter:

Yes: _____
No: _____

31. I have attended my chapter’s annual FFA banquet:

Yes: _____
No: _____

32. I have earned an award that was presented at our FFA banquet:

Yes: _____
No: _____
Final Survey Instrument

Factors Affecting Engagement in Agricultural Education

Welcome

Thank you for participating in our statewide survey. Your feedback is important for us to study factors that affect engagement of a variety of students in agricultural education. Information gathered from this survey will be used as a tool to help guide agriculture education in the future.

Next

Factors Affecting Engagement in Agricultural Education

Your ethnicity:

1. I believe my enrollment in agricultural education classes to be valuable.
   - Strongly Disagree
   - Disagree
   - Neutral
   - Agree
   - Strongly Agree

2. I am interested in the subjects I learn about in my agriculture class(es).
   - Strongly Disagree
   - Disagree
   - Neutral
   - Agree
   - Strongly Agree

3. I actively participate in my local FFA program.
   - Strongly Disagree
   - Disagree
   - Neutral
   - Agree
   - Strongly Agree

4. I regularly attend FFA meetings in my local program.
   - Strongly Disagree
   - Disagree
   - Neutral
   - Agree
   - Strongly Agree

5. I believe participation in local FFA activities is valuable
   - Strongly Disagree
   - Disagree
   - Neutral
   - Agree
   - Strongly Agree
6. I believe participating in FFA activities is good for my future.
   Strongly Disagree
   Disagree
   Neutral
   Agree
   Strongly Agree

7. I currently see myself taking on a leadership role in FFA.
   Strongly Disagree
   Disagree
   Neutral
   Agree
   Strongly Agree

8. If I chose to, I could become a leader in FFA.
   Strongly Disagree
   Disagree
   Neutral
   Agree
   Strongly Agree

9. I easily relate to leaders I see in FFA.
   Strongly Disagree
   Disagree
   Neutral
   Agree
   Strongly Agree

10. Other FFA members in my chapter make me feel welcome.
    Strongly Disagree
    Disagree
    Neutral
    Agree
    Strongly Agree

11. FFA is a good organization for students like me.
    Strongly Disagree
    Disagree
    Neutral
    Agree
    Strongly Agree

12. I think FFA activities are fun.
    Strongly Disagree
    Disagree
    Neutral
    Agree
    Strongly Agree
13. I see the value in maintaining an active Supervised Agricultural Experience (SAE) program.
   - Strongly Disagree
   - Disagree
   - Neutral
   - Agree
   - Strongly Agree

14. I believe an SAE teaches me skills that I will use later in life.
   - Strongly Disagree
   - Disagree
   - Neutral
   - Agree
   - Strongly Agree

15. I would encourage my friends or family to get involved in FFA.
   - Strongly Disagree
   - Disagree
   - Neutral
   - Agree
   - Strongly Agree

16. My agriculture teacher cares about me.
   - Strongly Disagree
   - Disagree
   - Neutral
   - Agree
   - Strongly Agree

17. My agriculture teacher sees my potential.
   - Strongly Disagree
   - Disagree
   - Neutral
   - Agree
   - Strongly Agree

18. My agriculture teacher has encouraged me to get more involved in the agriculture program.
   - Strongly Disagree
   - Disagree
   - Neutral
   - Agree
   - Strongly Agree

19. My family values my enrollment in agricultural education.
   - Strongly Disagree
   - Disagree
   - Neutral
   - Agree
   - Strongly Agree
20. My family supports my participation in FFA activities.
   - Strongly Disagree
   - Disagree
   - Neutral
   - Agree
   - Strongly Agree

21. My family has played an important role in determining my high school experiences.
   - Strongly Disagree
   - Disagree
   - Neutral
   - Agree
   - Strongly Agree

22. My friends play an important role in determining how I spend my time outside of class.
   - Strongly Disagree
   - Disagree
   - Neutral
   - Agree
   - Strongly Agree

23. My friends have a positive view of agricultural education.
   - Strongly Disagree
   - Disagree
   - Neutral
   - Agree
   - Strongly Agree
Directions for Administering the Survey

Thank you for your participation in this valuable study. Your contributions can hopefully inform decisions that enable agricultural education to make a significant impact on all students. This online survey should take under fifteen minutes for each student to complete. Please follow the directions below so the data collection procedures are consistent among school sites and students.

Procedure
1. Two possible links for the survey are below. You may go about administering the survey in whatever way is convenient for you. I posted it onto our Galt High School agriculture program webpage (see below), which will link students directly to the website. You may also write the links on the whiteboard or already have the survey pulled up on laptops around the room. Typically leading students to a link on an existing website can be a little more straightforward and eliminate issues with typing URLs incorrectly.
2. All students who have completed and turned in the signed parental consent form are eligible for participation in this survey.
3. Please read these directions to your students so as to administer the survey consistently in all classes.

You are about the take a survey that will ask you questions about factors that affect your desire to be an active participant in your local agriculture program and FFA chapter. You will rate each question on a scale of one to five. 1-You strongly disagree with the statement, 2-you disagree with the statement, 3-you are neutral or have no opinion about the statement, 4-you agree with the statement, and 5-you strongly agree with the statement. Keep in mind that if your answer “Strongly Disagree” that means that the opposite is true for the statement. For example, statement one says “I find my enrollment in agricultural education to be valuable”. If you respond “strongly agree” that means you really strongly value what agricultural education provides to you. “Neutral/No Opinion” means you don’t believe strongly either way and “Strongly Disagree” means you are getting nothing or little of value from being enrolled in agricultural education. Please read each questions carefully and consider your response before submitting your survey. You may change your responses to questions before you press the submit button. There are twenty three statements for you to respond to. What questions are there?

The links where students can access the surveys:

Galt High School Agriculture Program  
http://ghs.ghsd.k12.ca.us  
(Survey for students)

Direct SurveyMonkey URL  
https://www.surveymonkey.com/r/Z5TYH37  
#
Informed Consent Form - English

CONSENT FORM (ALL AGRICULTURE PROGRAM STUDENTS UNDER 18)

Project Title: An Investigation of the Factors Affecting the Engagement of Hispanic Students in Agricultural Education
Investigator: Dane White

1. WHAT IS THE PURPOSE OF THIS FORM?
This form contains information you will need to help you decide whether to allow your son/daughter to be in this research study or not. Please read the form carefully and ask the study team member(s) questions about anything that is not clear.

2. WHY IS THIS RESEARCH STUDY BEING DONE?
The purpose of this research study is to determine the motivation of students enrolled in agricultural education, and specifically examine the experiences of Latina/o students who are enrolled in the agriculture program. Up to 500 high school students may be invited to take part in this study.

3. WHY IS MY SON/DAUGHTER BEING INVITED TO TAKE PART IN THIS STUDY?
Your son/daughter is being invited to take part in this study because he/she is a student enrolled in an agricultural education course at one of the four high schools in the study.

4. WHAT WILL HAPPEN IF MY SON/DAUGHTER TAKES PART IN THIS RESEARCH STUDY?
This is a research study that will collect information with the goal of examining students’ motivation in their agriculture courses. The study activities include asking students to complete a paper-pencil questionnaire which asks them a series of questions related to motivation and a few corresponding demographic questions. The study will take place in your son/daughter’s agriculture class and will take approximately 10-15 minutes to complete.

The data collected through the questionnaires will be entered into a password-protected computer for data analysis. The records will remain anonymous and cannot be matched to an individual student. All paper copies will be shredded after the data is entered into the computer. Electronic data will be stored for no longer than five years from the date of this consent form.

Future contact: We may contact you in the future for another similar study. You may ask us to stop contacting you at any time. Some students who participate in this study will be asked to participate in a focus group. An additional consent form (with parent/guardian signatures) will be required for participation in the focus group.
5. WHAT ARE THE RISKS AND POSSIBLE DISCOMFORTS OF THIS STUDY?
There are no foreseeable risks to your son/daughter’s participation in this study.

6. WHAT ARE THE BENEFITS OF THIS STUDY?
This study will help determine students’ motivation for enrolling and participating in Agricultural Education and help explain their experiences in their agriculture program. This information may help improve the overall effectiveness of agriculture programs throughout the country. The study is not designed to benefit individual participants directly.

7. WILL STUDENTS BE PAID FOR BEING IN THIS STUDY?
Your son/daughter will not be paid for participating in this study.

8. WHO WILL SEE THE INFORMATION I GIVE?
The information your son/daughter provide during this research study will be kept confidential to the extent permitted by law. Research records will be stored securely for three years by the principal investigator and only researchers will have access to the records. Some of these records could contain information that personally identifies your son/daughter. If the results of this project are published your son/daughter’s identity will not be made public. To help ensure confidentiality, all questionnaires will remain anonymous. Since this form will be turned into your son/daughter’s teacher, he or she may be aware of their participation in this study. If your son/daughter require language assistance from a school support staff, he or she may also be aware of their participation in the study.

9. WHAT OTHER CHOICES DO I HAVE IF I DO NOT TAKE PART?
Participation in this study is voluntary. If you decide to allow your son/daughter to participate, you are free to withdraw them at any time without penalty. Your son/daughter will not be treated differently if you/they decide to stop taking part in the study. Choosing to participate in this study or not participate has no impact on your son/daughter’s relationship with their ag teacher, their grade, their school, or the ag program. If you choose to withdraw them from this project before it ends, the researchers may keep information collected about you/them and this information may be included in study reports.

10. ASSENT STATEMENT
My son/daughter will be encouraged to ask questions about the study now and at any time in the future. His or her permission to participate will be granted through a separate assent form, which will be distributed in his or her ag class. The assent form will be written in a language my son or daughter can understand and comprehend.

11. WHAT DOES MY SIGNATURE ON THIS CONSENT FORM MEAN?
Your signature indicates that this study has been explained to you, that your questions have been answered, and that you agree to take part in this study. You will receive a copy of form.

Student/Participant's Name (printed):

(Signature of Participant) (Date)

(Parent/Guardian/ Legally Authorized Representative) (Date)
FORMULARIO DE CONSENTIMIENTO (ESTUDIANTES DE TODOS LOS PROGRAMAS DE AGRICULTURA MENORES DE 18 AÑOS DE EDAD)

Nombre del proyecto:
La investigación de los factores que afectan a la participación de los estudiantes hispanos en la educación agrícola (Fase cuantitativa) For Quantitative Instrument

Investigador principal:
Dane White, el maestro de agricultura en Galt High School

1. ¿CUÁL ES EL PROPÓSITO DE ESTE FORMULARIO?
Este formulario contiene información que usted necesitará para ayudarlo a decidir si permitirá que su hijo/a participe en este estudio de investigación o no. Lea el formulario detenidamente y haga preguntas al (a los) miembro(s) del equipo del estudio sobre cualquier cosa que no le haya quedado claro.

2. ¿POR QUÉ SE VA A REALIZAR ESTE ESTUDIO DE INVESTIGACIÓN?
El propósito de este estudio de investigación es determinar la motivación de los estudiantes matriculados en la educación agrícola, y específicamente analizar las experiencias de los estudiantes latinos que están matriculados en el programa de agricultura. Se podrá invitar hasta un máximo de 500 estudiantes de secundaria para que participen en este estudio.

3. ¿POR QUÉ HAN INVITADO A MI HIJO/A PARA PARTICIPAR EN ESTE ESTUDIO?
Se ha invitado a su hijo/a para participar en este estudio porque él/ella esta matriculado/a como estudiante en un curso de educación agrícola en una de las cuatro escuelas secundarias que participan en el estudio.

4. ¿QUÉ PASARÁ SI MI HIJO/A PARTICIPA EN ESTE ESTUDIO DE INVESTIGACIÓN?
Este estudio de investigación recopilará información con el objetivo de analizar la motivación de los estudiantes en sus cursos de agricultura. Las actividades del estudio incluyen pedir a los estudiantes que completen el cuestionario en el cuál se les hará una serie de preguntas relacionadas con la motivación y algunas preguntas demográficas correspondientes. El estudio se realizará en la clase de agricultura de su hijo/a.
Los datos recopilados en los cuestionarios se ingresará en una computadora protegida por contraseña para poder analizarlos. Los registros se mantendrán anónimos y no pueden ser vinculados con ningún estudiante individual. Todas las copias en papel se triturarán luego de que los datos se hayan ingresado en la computadora. Los datos electrónicos se conservarán por no más de cinco años desde la fecha de este formulario de consentimiento.

5. ¿CUÁLES SON LOS RIESGOS Y POSIBLES INCOMODIDADES DE ESTE ESTUDIO?
No hay riesgos previsibles por la participación de su hijo/a en este estudio.

6. ¿CUÁLES SON LOS BENEFICIOS DE ESTE ESTUDIO?
Este estudio determinará la motivación de los estudiantes para matricularse y participar en la educación agrícola, y ayudará a explicar sus experiencias en el programa de agricultura. Esta información podría ayudar a mejorar la eficacia general de los programas de agricultura en todo el país. Este estudio no está diseñado para beneficiar directamente a los participantes de manera individual.

7. ¿LOS ESTUDIANTE RECIBIRÁN UN PAGO POR ESTE ESTUDIO?
Su hijo/a no recibirá ningún pago por participar en este estudio.

8. ¿QUIÉN VERÁ LA INFORMACIÓN QUE YO DÉ?
La información que su hijo/a brinde durante este estudio de investigación se mantendrá confidencial en la medida permitida por ley. Los registros de investigación serán almacenados de forma segura durante tres años por el investigador principal y sólo los investigadores tendrán acceso a los registros. Algunos de estos registros podrían contener información que identifica personalmente a su hijo/a. Si se publican los resultados de este proyecto, la identidad de su hijo/a no se hará pública. Para ayudar a garantizar la confidencialidad, todos los cuestionarios se mantendrán anónimos. Como este formulario se entregará al maestro de su hijo/a, el maestro puede estar al tanto de la participación de su hijo/a en este estudio. Si su hijo/a requiere asistencia con el idioma de una persona de apoyo de la escuela, esta persona también podría estar al tanto de su participación en este estudio.

9. ¿QUIÉN OTRAS OPCIONES TENGO SI NO PARTICIPO EN ESTE ESTUDIO?
La participación en este estudio es voluntaria. Si decide permitir que su hijo/a participe, tiene la libertad de hacer que se retire en cualquier momento sin ninguna penalidad. Su hijo/a no recibirá un trato diferente si usted/el o ella deciden dejar de participar en el estudio. Optar por participar o no en este estudio no tiene un impacto en la relación de su hijo/a con sus maestros de agricultura, su grado, su escuela o su programa de
agricultura. Si decide que su hijo/a se retire de este proyecto antes de que termine, los investigadores pueden conservar la información recopilada sobre usted o su hijo/a, y esta información podría ser incluida en los informes del estudio.

**10. DECLARACIÓN DE ACEPTACIÓN**

Se alentará a mi hijo/a para que haga preguntas sobre el estudio ahora y en cualquier momento en el futuro. Mi hijo/a otorgará su permiso para participar en un formulario de aceptación por separado, que se distribuirá en su clase de agricultura. El formulario de aceptación estará redactado en un idioma que mi hijo/a pueda comprender.

**11. ¿QUÉ SIGNIFICA MI FIRMA EN ESTE FORMULARIO DE CONSENTIMIENTO?**

Su firma indica que se le ha explicado este estudio, que sus preguntas han sido respondidas y que usted acepta participar en este estudio. Usted recibirá una copia de este formulario.

<table>
<thead>
<tr>
<th>No lo firme después de la fecha de expiración:</th>
</tr>
</thead>
</table>

Nombre del estudiante/participante (en letras de imprenta):

________________________________________________________

(Firma del participante)                                         (Fecha)

(Padre/Tutor/Representante legalmente autorizado)                     (Fecha)
March 5, 2015

Dane White
27755 N. Sowles Road
Galt, CA 95632

Dear Dane White,

As the Chair of the Campus Institutional Review Board, I have determined that your research proposal entitled "FACTORS AFFECTING ENGAGEMENT OF HISPANIC STUDENTS IN AGRICULTURAL EDUCATION" is exempt from full committee review. This clearance allows you to proceed with your study.

I do ask that you notify our office should there be any further modifications to, or complications arising from or within, the study. In addition, should this project continue longer than the authorized date, you will need to apply for an extension from our office. When your data collection is complete, you will need to turn in the attached Post Data Collection Report for final approval. Students should be aware that failure to comply with any HSRC requirements will delay graduation. If you should have any questions regarding this clearance, please do not hesitate to contact me.

Sincerely,

[Signature]
John Mahoney, Ph.D., Chair
Human Subjects in Research Committee

Attachment: Post Data Collection Report

The California State University
HUMAN SUBJECTS IN REVIEW COMMITTEE
Post Data Collection Questionnaire

Under Federal law relating to the protection of Human Subjects, this report is to be completed by each Principal Investigator at the end of data collection.

Please return to:  Marshal Osborne, HSRC Assistant
                        Office of Graduate Studies
                        Student Services Center (SSC), Room 460
                        CSU, Chico
                        Chico, CA 95929-0875
Or Fax to: Marshal Osborne, 530-898-3342

Name: Diane White Chico State Portal ID# 081 2013090
Phone(s) 707-621-6751 Email: dwhite20@csuchico.edu
Faculty Advisor name (if student): M Kuchar
College/Department: College of Agriculture

Title of Project: Factors Affecting Engagement of Hispanic Students in Agricultural Education

Date application was approved (mo/yr): 7/15 Date collection complete (mo/yr): 3/15

How many subjects were recruited? 108. How many subjects actually completed the project? 121.

**HARM—Did subjects have severe reactions or extreme emotional response? NO**

If yes, please attach a detailed explanation:

Your signature: Diane White Date: 4/1/15

**Final clearance will not be granted without a complete answer to this question.**

Approved By: John Mahoney Chico
Date: 4/15/15

******************************************************************************

VERY IMPORTANT: If you will or have used this research in your project or thesis you are required to provide a copy of this form (with John Mahoney's signature in place) to your graduate committee.

Do you want a photo copy of this form emailed to you? YES PLEASE
If yes, provide email address: dwhite20@csuchico.edu

4/9/15 in 40 ml