

COLLEGE AND CAREER PLANS OF HORSE ORIENTED YOUTH; LIFE SKILLS
AND ACADEMIC SUCCESS IN FIRST SEMESTER AGRICULTURAL STUDENTS
WITH PREVIOUS AGRICULTURE ORGANIZATION INVOLVEMENT

By

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ABSTRACT

A two-part study investigated college and career goals of horse-oriented youth and measured the effects of previous agricultural organization involvement on first semester agriculture students. Aim 1 used an online survey distributed via breed and discipline groups and social media to horse-interested youth (n=1,730). Aim 2 used an online survey distributed via the academic advisor to college freshmen at Middle Tennessee State University (MTSU). Aim 1 showed most horse youth were interested in obtaining a career (64.5%), and a degree (53%) in the equine industry. Time spent participating in hands-on horse activities increased youth's desire to obtain a horse-related degree, participate in collegiate horse activities, and seek an equine career. Aim 2 showed 52% of college freshmen at MTSU had previous agriculture organization involvement. Those students had higher GPAs ($P = 0.0008$) and scored higher on specific questions relating to persistence ($P < 0.045$).

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CHAPTER ONE: REVIEW OF LITERATURE

Youth as the Future of the Equine Industry

Well-educated, well-rounded individuals are a key to the future of the equine industry. New information becomes available daily about horses and how we can better care for them as well as promote their athletic ability. The factor of drawing young people to the industry, making sure they are educated, and then integrating them into the equine world will help to insure the most prosperous future of the industry. It is imperative that collectively an effort is made to encourage equine youth to become involved in college horse programs.

Success in college horse programs was researched by Johnston at Middle Tennessee State University. She found that becoming highly integrated into the program through avenues of extra-curricular activities offered, gave students an experience that encouraged them to persist throughout the challenges faced in the four years of schooling, and they were more likely to retain until graduation. Additionally, the inclusiveness into a community of support facilitated by their involvement in the extra-curricular activities offered gave students a network of peers and faculty to turn to and made them feel more invested in their futures (2013).

The information known currently about youth involved in the equine industry is limited, and difficult to obtain. Numbers regarding exact involvement, as well as specific areas of interest of youth take much effort to find, if they are available at all. The equine

industry should be invested in doing their part to peak the interest of youth, as well as inspire them to want to continue their involvement into becoming a career-oriented, college educated individuals. Knowing more about the interests and goals of horse-oriented youth will provide a stepping stone to insure every effort is being made to encourage the importance of education. Further, knowing that the retention of students and the effort they make in their education is highly influenced by their immersion into the program they choose to attend, programs should aim to better identify what youth is interested in what type of collegiate programming.

Success in the First Year of College

A student undergoes a large period of change during their transition from a high school student, to a college student. The change in environment and switch of lifestyle presents an onslaught of challenges that students must use their previously developed skill sets to conquer (Tinto et al, 1993, Elkins et al, 2000 Krumrei-Mancuso et al, 2013). Their strategies for coping with this transition are developed from their life experiences to that point. Whether or not they are successful in this transition is formulated largely upon their identification and implementation of a well-rounded life skill set (Krumrei-Mancuso et al, 2013). In order to achieve success during this transition, students must either move-on from the negative life influences they have previously incurred and accept a set of new rules and strategies for navigating through life; or they must pull from the positive experiences that they have incurred and use those experiences as a basis of guidelines for behaviors (Elkins et al, 2000).

In 1993, Tinto and colleagues observed that most students that drop out of college either drop out in the first year, or the reason for them dropping out down the road had a correlation with their experiences within the first year. Due to college admission selection criteria being based largely on academic intelligence factors, the playing field among entering freshman is fairly level academically. Krumrie-Mancuso and colleagues (2013) hypothesized that because of this even playing field among intellectual abilities, the secondary skill values of students outside of the academic set have a higher influence on student's performance in their first year of college.

The value of persistence has been identified as a key to overcoming the statistic of first year dropout (Elkins et al, 2000, Clark, 2005, Tinto, 2017). Persistence is the desire to move forward, even when the situation presented is difficult and requires effort and motivation to overcome (Tinto, 2017). The degree to which a student has the desire to persist through the challenges of their first year of college can highly influence how they choose to become involved, not only academically but socially as well (Tinto, 1997). Students must go through three types of adjustment throughout their first year of college in order to become integrated in the college community: academic, social and personal, or emotional. Most important of those three items is the social and personal aspect. When students were asked to complete a survey about their reasons behind staying or leaving, 8 of the significant factors fell within the social or personal categories, and only two of the significant factors came from the academic category (Gerdes et al, 1994).

Persistence could be influenced by many previous experiences. Elkins and colleagues (2000) found that high school academic achievement, and parental education

positively influenced first to second semester persistence; whereas being a woman or being Caucasian significantly decreased the likelihood of persisting through the first year. In 2017, Tinto concluded that student's persistence was formed less from the interactions they had on campus and their behaviors surrounding them, but from the larger take away messages that originate with those interactions. Their implementation of values and lessons learned from interactions on campus can ultimately affect their decision on whether or not to persist.

A factor that goes hand in hand with that of persistence, is self-efficacy. Having a well-formed sense of self-efficacy plays a role in the task of persistence (Chemers et al, 2001, Tinto, 2017). Chemers and colleagues (2001) described this concept as, "Efficacy beliefs influence the particular courses of action a person chooses to pursue, the amount of effort that will be expended, perseverance in the face of challenges and failures, resilience, and the ability to cope with the demands associated with the chosen course." To successfully make it through the first year of college students must identify the challenges that come within the first year, and develop strategies for dealing with them (Clark, 2005). Krumrei-Mancuso and colleagues (2013) state, "Highly efficacious students tended to believe that they possessed coping abilities adequate to their academic pressures, which related to less stress, better health and better adjustment." Highly efficacious students have higher academic standards which leads to higher grades. Additionally, students with higher self-efficacy are known to persist for a longer amount of time when faced with a difficult situation and have a higher sense of confidence in completing difficult tasks. (Chemers et al, 2001).

Entering college with a sense of self-efficacy can give students skills needed to be successful, but even so they will inevitably face challenges that make them question their abilities (Elkins et al, 2000, Clark, 2005, Tinto, 2017). Challenges to the first-year college student occur both in and out of the classroom, and students must put into play both skills sets of self-efficacy and persistence in order to overcome them. Clark identified in 2005 that first year college students must face challenges centering around four themes: overcoming an obstacle, seizing an opportunity, adapting to a change or pursuing a goal. With each of these challenges, the implementation of personal characteristics into their decision-making skills influenced their outcome, and persistence throughout the challenges were highly influential in success (Clark, 2005). Having an understanding of a student's sense of self-efficacy can allow for the opportunity for colleges to address the issue and assist students in development of skills such as setting goals, organization and study habits which will in turn make them better equipped to face the challenges within the first year of college (Clark, 2005, Krumrei-Mancuso, 2013, Tinto, 2017).

Challenges within the first year are not contained to just the inward sets of values and choices made surrounding them, but present externally as well. Tinto and colleagues (1993) found a critical key for success in first year students came from their development of communities. Within the adjustment period of the first year of college, students must adjust socially, at the same time they are adjusting academically. Tinto and colleagues (1993) used the tool of Freshman Interest Groups (FIGs), to instigate interactions among first year college students. The community that was formed between these students gave them a tool for accountability and inclusiveness that is often lost in large universities,

where students are just one in a classroom of many. The group of friends that was made within a group with common interest, like a FIG group, gave students a tool of commonality to use to face the challenges within the first year of college. They didn't feel so alone, and in turn were able to face the adjustment period more clearly (Tinto et al, 1997). Students who become invested in their college community are also more likely to persist through to graduation. When students find a support system through peers, faculty and inclusiveness in the college community, they are more likely to be successful and stick with the program (Johnston, 2013). Engagement in activities that are seen as purposeful and educationally significant also have a positive effect on the grade point averages and persistence of first year students (Kuh et al, 2008).

Though completion of college is one of the most obvious motivating factors for pursuing a degree, that alone is not a sufficient motivating factor for completion; and the inclusiveness into a community could possibly be just as important (Tinto, 2017). A student must separate themselves from their membership in communities that have defined them before, such as those surrounding their families, friends, high school and other involvements, and accept a new membership into the collegiate community they are now a part of (Elkins et al, 2000). The strategies students implement to deal with their separation and then their inclusiveness into a new community are dependent upon various factors and personal characteristics that have been influenced by their previous experiences and building of their character (Clark, 2005).

Measuring Persistence

A measure to evaluate level of persistence was developed by Angela Duckworth in 2007. She hypothesized that persistence was a two-factor trait, determined by consistent interest and perseverance of effort. Duckworth and colleagues developed a series of questions using a Likert scale response system to measure one's grit, also defined as their persistence, combined with their passion for long term goals (Duckworth and Quinn, 2009). To validate this test, six series of studies were looking at different populations and using different factors considered to be attainment of success, and thus GRIT. For example, one of the studies used members of West Point Military Academy, National Spelling Bee finalists and a group of undergraduate college students. Validity of the questions were found via analysis of their scores to completion of levels of success in each individual group. For the military academy group, completion of summer training was used. National Spelling Bee finalists GRIT scores were compared to the round of the spelling bee they made it to, and the undergraduate student's scores were compared to their GPA's. Throughout conducting six versions of this study to find predictive fit between their GRIT response and their measured individual successes, three versions of this test exist: an eight question, ten question and twelve question option (Duckworth and Quinn, 2009). The GRIT survey is now widely used by a variety of organizations as a predictor of persistence to success.

Youth in Agricultural Organizations

The opportunity to become involved in extracurricular agricultural organizations becomes available to young people as early as their elementary school years. The goals of

these organizations are all fairly similar; they hope to present children, teenagers and young adults the opportunities to be involved in agricultural experiences that produce a valuable set of life skills that they can use throughout their youth, as well as their transition into adulthood.

4-H began as an organization in the late 1800's. People were observing that the older generations of farmers were not as interested as the younger generations in new innovative ideas. As a result of hoping to foster that innovation and promote growth in the agricultural field, 4-H was born (History, 2018). Today, the 4-H organization has almost 6 million participants and 500,000 volunteers operating through 100 public universities (What, 2018). They have evolved from the small organization that was interested in fostering the innovative interests of youth, to an organization focused on developing life skills through vast programming.

4-H has long been invested in researching and learning from the perspectives of those involved and previously involved. The organization as a whole is invested in discovering their active contribution to shape productive members of society (Fox et al, 2003). In 1987, Ladewig and Thomas completed a national survey of random selected individuals, to find the skills gained in 4-H alumni versus non-participants. They found alumni that had been involved in 4-H programming developed a skill set in the areas of coping, expressing themselves in groups, and helping others. Additionally, participants thought retrospectively that their 4-H experiences contributed to them becoming productive members of society. 4-H alumni recognize the many opportunities for development that 4-H gave them. These include: opportunities to lead others, make

important decisions, and plan activities (Radhakrishna and Sinasky, 2005). Alumni perceive their 4-H membership to have primary influence on many life skill areas such as responsibility, the handling of competition, the ability to meet new people, and the ability to produce a product (Fox et al, 2003). Alumni look back at their 4-H experiences positively and acknowledge the importance of the organization. They tend to be highly active community members, and more frequently use Cooperative Extension services in the community in which they reside (Ladewig and Thomas, 1987, Radhakrishna and Sinasky, 2005).

4-H has long recognized the importance of producing youth that have skills necessary to tackle adulthood; including things such as communication, decision making skills, being able to work well with others, understanding self and leadership skills. A significant relationship has been found between the level of involvement in 4-H activities and the development of those previously listed life skills (Boyd et al, 1992). In 2002, 4-H completed a long-term study of their participant's Positive Youth Development. Positive Youth Development (PYD) is described as the theory that, "if young people have mutually beneficial relations with the people and institutions of their social world, they will be on the way to a hopeful future marked by positive contributions to self, family, community, and civil society. Young people will thrive," (Lerner et al, 2005). This concept hopes to use the state of adolescence as a tool to build contributing members of society, through organizations that foster the five C's: competence, confidence, character, connection and caring (Lerner et al, 2005). The building of youth that excel in the five C's (as well as a sixth C, contribution), and PYD is a major goal of the 4-H organization

(Gestsdóttir and Lerner, 2007). The 4-H Study of Positive Youth Development began with fifth graders and followed them through their completion of high school. This research looked at PYD as a variety of contributing factors including: Risk and Problem Behaviors, Depression, Active and Engaged Citizenship, Academic Competence, School Engagement, Healthy Behaviors, Adult Mentors, Science, Engineering and Computer Technology, and Intentional Self-Regulation (Lerner et al, 2013). There are many interesting take away concepts from this study. First, throughout the study youth involved in 4-H programming scored consistently higher on PYD scoring than youth involved in other out of school activities. 4-H'ers are more 4 times more likely to contribute to their communities and twice as likely to be civically active than those who are not involved in 4-H. Additionally, 4-H youth display more active and engaged citizenship and have a consistency throughout adolescence in their contributory behaviors (Lerner et al, 2013).

A special section of the 4-H Study of Positive Youth Development focuses on the concept and fostering of self-regulation in early adolescence. Researchers found that there is an important link between the concept of self-regulation and PYD: “as increases occur in the capacity for selecting goals, for recruiting the means of reaching them, or for making adjustments when goals are blocked, PYD (as an index of adaptive self-regulation) should increase; by the same reasoning, indices of problematic behavior should decrease,” (Gestsdóttir and Lerner, 2007). They found that self-regulation among early adolescence is one process, versus a fully developed three process task that occurs

in mature adults. Instead of going through a phase of selection, optimization and compensation, adolescents tackle the task of self-regulation as one process altogether. Adolescents that score well in the self-regulation area, also have higher PYD Scores (Gestsdóttir and Lerner, 2007).

4-H programming includes project sets that pull in aspects from real world agricultural situations. These include things such as judging or evaluation and the opportunity to show animals such as horses, beef, pigs, sheep, goats and poultry. Livestock judging has been found to have a positive influence on both 4-H'ers personal successes and their workforce preparation. Additionally, it helps develop the life skills of communication, problem solving, decision-making, self-discipline, teamwork, organization, and self-motivation (Rusk et al, 2002, Nash and Sant, 2005). Participants of 4-H livestock judging felt confident when having to defend decisions, as well as felt they gained valuable knowledge of the livestock industry (Rusk et al, 2002). 4-H'ers that participated in animal science projects in general, scored highly in being able to accept responsibility and being able to make a plan and follow through (Ward, 1996). Livestock projects such as showing cattle also fostered the ability in 4-H'ers to set goals, develop and maintain records and be self-motivated (Boleman et al, 2004).

The National FFA Organization, formerly known as Future Farmers of America, is another youth agricultural activity that fosters the growth of life skills. Originally founded in Virginia in 1925, Future Farmers of America (then Future Farmers of Virginia) was an organization for agricultural education that was dedicated to agricultural activity time outside of the classroom. They quickly became a national organization. Due

to the variety of activities that agriculture encompasses, not just that of farming, Future Farmers of America changed their name to The National FFA Organization in 1988 (FFA History, 2018). Their mission statement is, “FFA makes a positive difference in the lives of students by developing their potential for premier leadership, personal growth and career success through agricultural education,” (FFA, 2018). Not only does this organization boast the goal of producing agriculturally aware members, but also the goals of strengthening their confidence, promoting intelligent choices, developing interpersonal skills, building character, promoting citizenship, cooperative attitudes and healthy lifestyles. Their motto, repeated by FFA members every meeting is, “Learning to do. Doing to Learn. Earning to Live. Living to Serve,” (FFA, 2018). This organization is vast and among other activities allows students to participate in Career Development Events that help them to prepare for their future endeavors. Some of these include Public Speaking, Food Science, Livestock Judging and Parliamentary Procedure. On top of those such events, students have ample opportunities to participate in community wide volunteer projects, attend leadership training schools, and to lead agricultural education opportunities for younger members of the community. Each of these activities is designed with the idea of fostering life skill growth in the young adults participating.

FFA members have moderately high life skill development and youth leadership scores (Dormody and SeEVERS, 1994, Wigenbach, 1995). They score highly in the areas such as decision making, interpersonal relationships, resource management, communication and working within a group (Wigenbach, 1995.) They expect a high level of performance from themselves and as a result it positively affects their skill

development (Dormody and Seevers, 1994). FFA members also score highly in the area of critical thinking. Finally, they have been observed to be very good at analysis; the process of looking at a variety of ideas, identifying and then analyzing different arguments and viewpoints (Ricketts and Rudd, 2004).

Youth involved in the equine industry have previously been found to have a significant positive relationship between their life skill development and their horsemanship skills. As their knowledge of handling and safety, nutrition, health management and daily care of horses increased, so did their skill set of communication, decision making and goal setting (Smit et al, 2006). Additionally, of youth involved in 4-H horse projects, 86% indicated that they agreed their life skill set grew significantly (Anderson et al, 2011). Of boarding school students involved in horse programming, trends were found of their involvement influencing their self-efficacy and self-regulation. As well as 68% of students involved believed their involvement inspired them to be a more successful student academically (Davie, 2014)

Agricultural Involvement and Collegiate Success

The effects of youth agricultural educational involvement on collegiate experiences and successes is still being explored. Ball and Garton found that college agricultural freshmen that were previously involved in 4-H or FFA had higher GPA's than those who weren't, as well as were more likely to continue past the first year of college (2001). They concluded that not only should agricultural colleges continue recruiting for students that had previous experiences in agricultural educational activities such as 4-H or FFA, but they should also continue to focus on providing quality

education for students in their programs, so they too can go out and have a significant difference in the role of educating youth in agricultural activities (Ball and Garton, 2001).

Of rural students in an agricultural program, around 16% said they had no agricultural experience prior to enrolling in an agricultural college program, whereas 31% of urban students reported having no prior agricultural experiences (Dyer et al, 2002). When comparing the rural and urban students, researchers found that what made a difference in their retention and success was their involvement in previous agricultural experiences, agricultural education in high school, and being either a 4-H or FFA member (Dyer et al, 2002).

Involvement in agricultural organizations prior to college may also contribute to the likelihood of obtaining a leadership position in an organization during college. At an agricultural university, it was found that of all student leader positions, 32.5% were held by former FFA members, and 28.6% by former 4-H members. Of agricultural ambassadors, 46.5% were involved in FFA, and 25% were involved in 4-H. Also, 88% of FFA alumni, and 78% of 4-H alumni participated in more than one organization in college (Park and Dyer, 2005). Researchers state, “Many of the collegiate student leaders who participated in FFA served as officers and were four-year members, with 20 serving as presidents of their local FFA chapters. Ten-year 4-H members constituted a significant portion of those former 4-H members who served in collegiate leadership positions;” showing the importance of long-term commitment in these organizations (Park and Dyer, 2005).

With the results displayed thus far via research of agricultural educational experiences and the success and retention in college, further research is necessary to help validate and grow these organizations. Looking specifically into success in horse science programs, more information is needed to insure youth are being recruited and matched to programs with the extra-curricular involvement they are interested in. Youth becoming invested in long-term, well-educated career involvement in the equine industry is pivotal to the long-term success of the industry as a whole.

**CHAPTER TWO: COLLEGE AND CAREER PLANS OF HORSE ORIENTED
YOUTH; AND LIFE SKILLS AND ACADEMIC SUCCESS IN FIRST
SEMESTER AGRICULTURAL STUDENTS WITH PREVIOUS AGRICULTURE
ORGANIZATION INVOLVEMENT**

Introduction

Various organizations throughout the United States work to involve youth interested in agriculture, including the equine industry. These organizations work to foster an environment that produces well-rounded individuals skilled both in the agricultural and equine fields and in life skills. Johnston and colleagues previously established that becoming immersed in the college community and involved in collegiate organizations encourages students to persist through to graduation and to be successful in the college environment (2013). Aim 1 of this study sought to identify the college and career goals of horse-oriented youth as well as to identify what collegiate activities they plan to be involved in during their college and career goals. Knowing this information will allow universities to recruit youth individuals that are interested in the programming they have available, and in turn increase the rate of retention. The value of persistence has been identified as a key to overcoming the statistic of first year dropout. Persistence is the desire to move forward, even when the situation presented is difficult and requires effort and motivation to overcome (Tinto, 2017). Aim 2 of this study sought to identify the number of freshmen in Middle Tennessee State University's School of Agriculture had previous agricultural organization involvement, and whether that involvement influenced their persistence and success in their first semester of college. Agricultural

youth organizations seek to develop not only a strong background of agriculture in their participants, but also to encourage the development of a strong life skill set. Knowing the amount of those skills that are instilled into those youth will allow colleges to target individuals with those previous experiences that will perhaps make them more successful students.

Materials and Methods

Aim 1

To investigate the college and career plans of horse-oriented youth, an online survey was developed. The survey was designated EXEMPT by the Institutional Review Board (IRB) at Mississippi State University (Appendix A). The survey was distributed to youth 14-18 via social media, 4-H channels and through breed and discipline groups. The survey was open from September to November 2017.

The administered survey included twenty-one questions. Demographic information was not collected. Respondents were asked about involvement in industry groups, current involvement in industry versus non-industry activities, and college and career plans. They were asked to identify which horse organizations or associations they were members of, as well as which organization or association they competed the most in. They were then asked a series of questions concerning the depth of their involvement; ranging from how many hours a week they spent in the barn, riding, or caring for a horse; as well as how many hours a week they spent taking lessons. A question was also posed to gauge survey participant's level of involvement in non-horse related activities. Finally,

a series of questions were presented about survey participant's college, career and life plans related to horses. For these questions, a five-point Likert scale was used asking participants to strongly agree to strongly disagree to the presented statements.

Aim 2

To investigate life skills of first semester agricultural students with previous agricultural experiences, a fourteen-question online survey (Appendix C) was developed through the same website (www.surveymonkey.com). This survey was distributed in November of 2018 and was open until the end of December of 2018. The IRB at Middle Tennessee State University approved the survey and methods used to obtain responses (19-1044, Appendix D). Distribution of the survey was initiated by the Academic Advisor in the MTSU School of Agriculture to freshmen agricultural students via email. A second survey (Appendix E) was distributed via the Academic Advisor to collect GPA information.

In the first portion of this survey, respondents were asked to identify their previous involvement in agricultural organizations, their hands-on experience with livestock, activities they participated in within these organizations, and whether they had held a leadership position. In the second portion of this survey, respondents were asked to complete the previously validated ten-question GRIT survey, developed by Angela Duckworth to measure their level of persistence. GRIT scores for individual questions, as well as the overall GRIT totals were considered during data analysis. Demographic information was not collected. The second survey distributed in Aim 2 posed only a "yes or no" question concerning previous agriculture organization involvement; as well as

identifying information to collect GPA information from MTSU post-survey distribution. GPA information was looked up via the student's identification number. Personal identifying factors were not included in the final data.

Response data for both surveys were compiled and SAS 9.2 (Cary, NC) was used to analyze data. Frequency counts were obtained. Additionally, the General Linear Models Procedure using Least Square Means was used to compare responses in Aim 1. Tukey-Kramer adjustments were used to account for groups of different sizes. Respondent's association and organization involvement, as well as activities responses were compared to the Likert scale of strongly agree to strongly disagree concerning future goals using Pearson's correlation coefficients. The same SAS 9.2 procedures were performed on the second aim of the study to compare organization involvement responses to individual GRIT answers, as well as the overall GRIT scores. Pearson's correlation coefficients were also used to compare total numbers of organizations involved, total numbers of activities involved, and total numbers of animals to the GRIT responses. Statistical significance was considered at $P < 0.05$, and trends were considered at $0.05 < P < 0.10$.

Results

Aim 1

Responses were collected from 1,730 individuals; representing eighteen different horse organizations: 4-H, The National FFA Organization (FFA), American Paint Horse Association (APHA), American Quarter Horse Association (AQHA), Appaloosa Horse

Club (AHC), Interscholastic Equestrian Association (IEA), Local Saddle Clubs or Other Show Organizations, National Barrel Horse Association (NBHA), National Reining Horse Association (NRHA), Pinto Horse Association (PHA), Pony of the Americas (POA), Spotted Saddle Horse Breeders and Exhibitors (SSHBEA), Tennessee Walking Horse Breeders and Exhibitors Association (TWHBEA), United States Dressage Federation (USDF), United States Equestrian Federation (USEF), United States Eventing Association (USEA), United States Hunter Jumper Association (USHJA) and the United States Pony Club (USPC). The largest number of respondents were involved in 4-H (18.61%), USEF (13.61%), and AQHA (10.23%; Figure 1).

The majority of respondents stated they plan to pursue a career in the equine industry (64.5%; Figure 2). However, fewer respondents (53.29%), stated they planned to obtain a degree in equine science, animal science or a related equine major (Figure 3). The availability of a collegiate riding program was agreed to likely influence the choice of college for 64.42% respondents (Figure 4), and 61.19% of respondents agreed that they plan to participate in a collegiate riding team (Figure 5). Only 28.9% of respondents felt that the availability of a collegiate horse judging team would influence their choice of college (Figure 6). Over 93% agreed they would continue to be involved in the horse

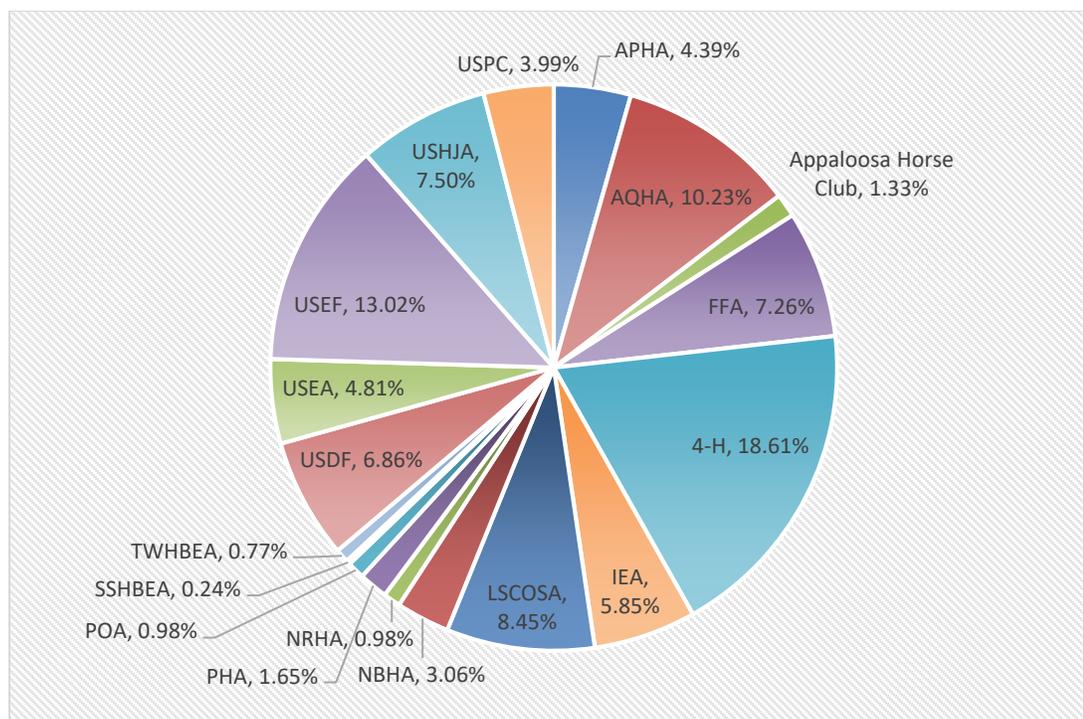


Figure 1- Classification of 1,730 youth horse organization respondents based on involvement in specific youth horse organizations on a survey investigating college and career goals of horse-oriented youth. Organizations represented include:

4-H

The National FFA Organization (FFA)

American Paint Horse Association (APHA)

American Quarter Horse Association (AQHA)

Appaloosa Horse Club (APHC)

Interscholastic Equestrian Association (IEA)

Local Saddle Club/ Open Show Associations (LSCOSA)

National Barrel Horse Association (NBHA)

National Reining Horse Association (NRHA)

Pinto Horse Association (PHA)

Pony of the Americas (POA)

Spotted Saddle Horse Breeders and Exhibitors Association (SSHBEA)

Tennessee Walking Horse Breeders and Exhibitors Association (TWHBEA)

United States Dressage Federation (USDF)

United States Equestrian Federation (USEF)

United States Eventing Association (USEA)

United States Hunter Jumper Association (USHJA)

United States Pony Club (USPC)

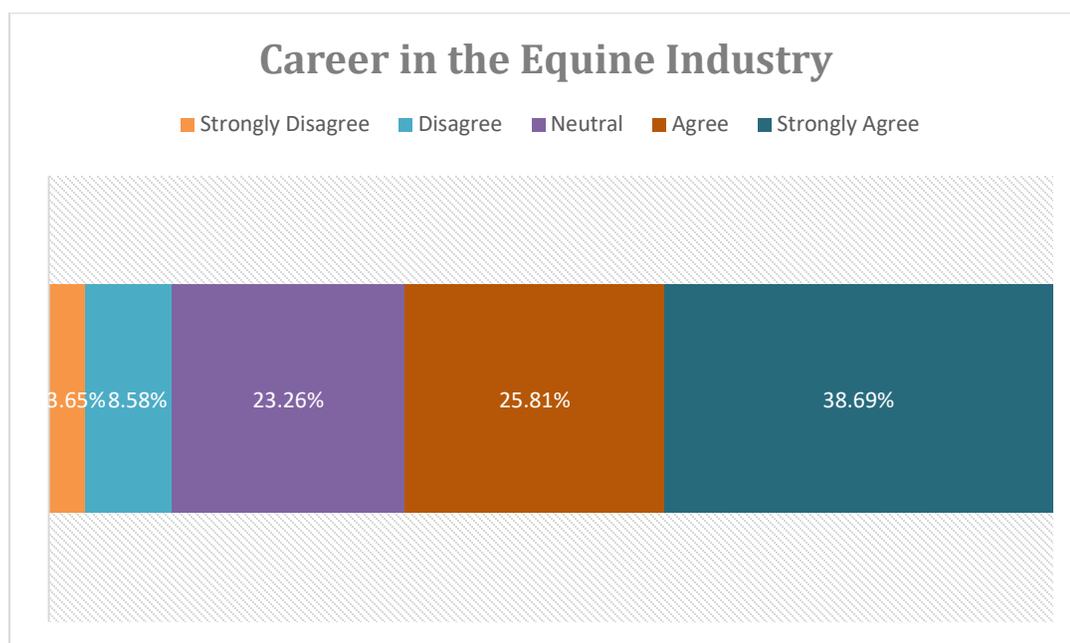


Figure 2- Likelihood of pursuing a career in the equine industry in a survey investigating horse-oriented youth's intended college and career plans (n = 1730).

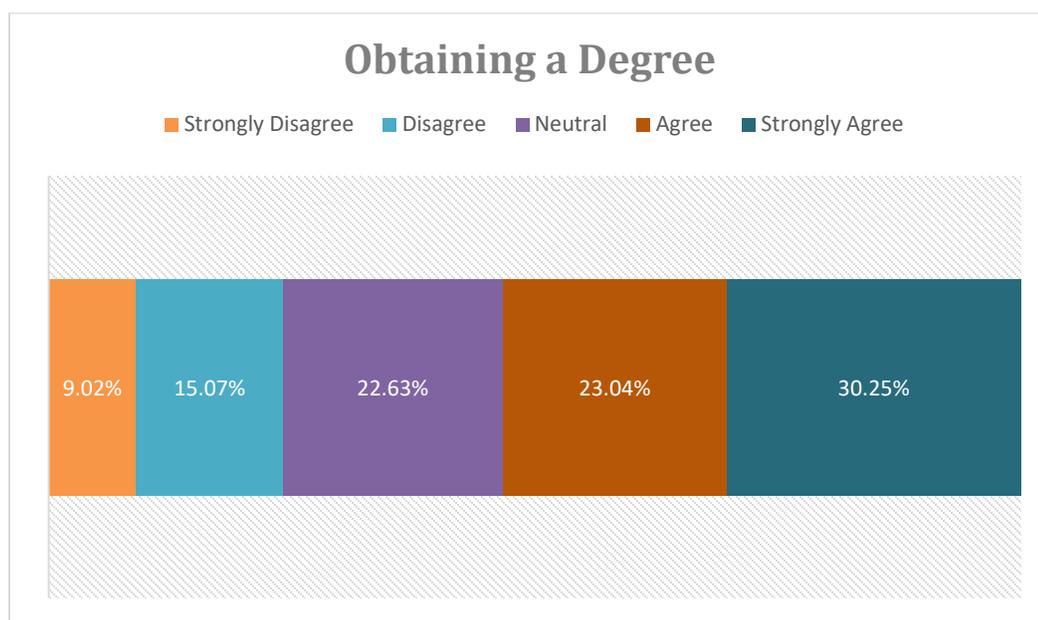


Figure 3- Likelihood of pursuing a degree in equine science, animal science or an equine related major in a survey investigating horse-oriented youth's intended college and career plans (n = 1730).

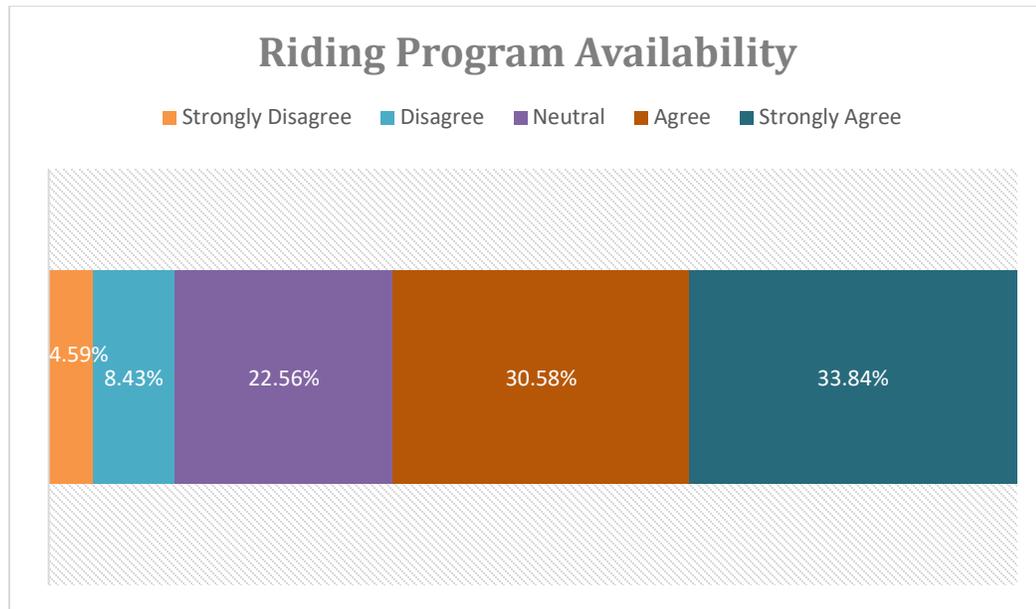


Figure 4- Likelihood of the availability of a collegiate riding program influencing youth's college choice in a survey investigating horse-oriented youth's college and career plans (n = 1730).

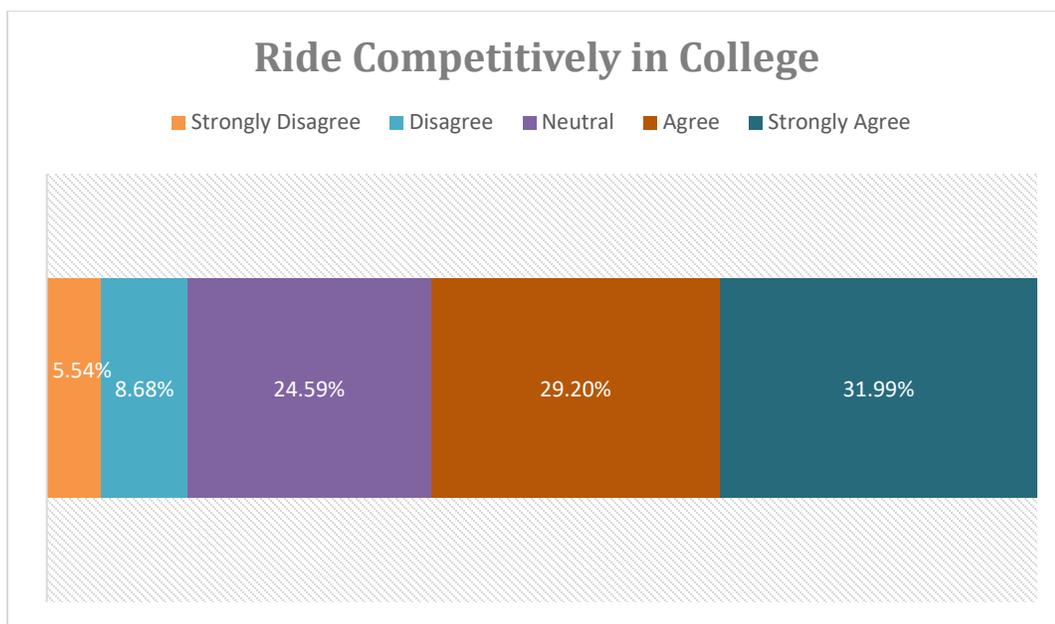


Figure 5- Likelihood of the ability to participate on competitive collegiate horse teams influencing youth's college choice in a survey investigating horse-oriented youth's college and career plans (n=1,730).

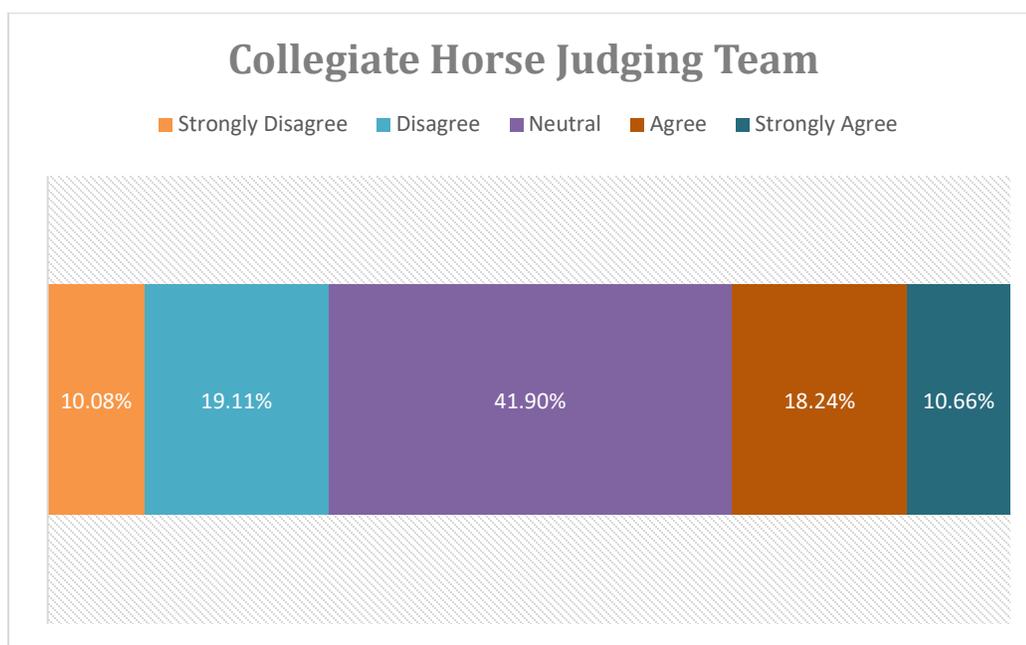


Figure 6- Likelihood of the availability of a collegiate horse judging team influencing youth's choice of college in a survey investigating horse-oriented youth's college and career plans (n = 1730).

industry after college (Figure 7). The highest percentage of responses when asked the level of involvement wished to have were in the areas of a career with hands on horse involvement (49.8%) as well as recreational involvement with some competition (31.85%; Figure 8).

Hours spent riding a week was found to be positively correlated with the interest of pursuing a career in the equine industry ($r = .12$, $P < 0.0001$), the importance of a collegiate riding program in the choice of college ($r = 0.1$, $P < 0.0001$), the importance of a collegiate horse judging team in the choice of college ($r = 0.1$, $P < 0.0001$), the intent to ride on a collegiate riding team ($r = 0.11$, $P < 0.0001$), as well as with the level of post-graduate involvement in the horse industry ($r = 0.1$, $P = 0.0004$). Hours spent riding was not found to be related to the interest in obtaining a degree ($r = 0.02$, $P = 0.38$). Hours spent a week in the barn or with their horse, not riding, was found to be positively correlated to the interest of pursuing a career in the equine industry ($r = 0.16$, $P < 0.0001$), the interest in obtaining a degree ($r = 0.1$, $P = 0.0015$), the importance of a collegiate riding program in the choice of college ($r = 0.1$, $P = 0.0007$), the intent to ride on a collegiate riding team ($r = 0.1$, $P = 0.0014$), and the level of post-graduate involvement in the horse industry ($r = 0.12$, $P < 0.0001$).

The frequency of lessons taken in a month was positively correlated with the importance of a collegiate riding program in the choice of college ($r = 0.1$, $P = 0.02$), the intent to ride on a collegiate riding team ($r = 0.11$, $P < 0.0001$), and the interest in obtaining a degree ($r = 0.1$, $P < 0.0001$).

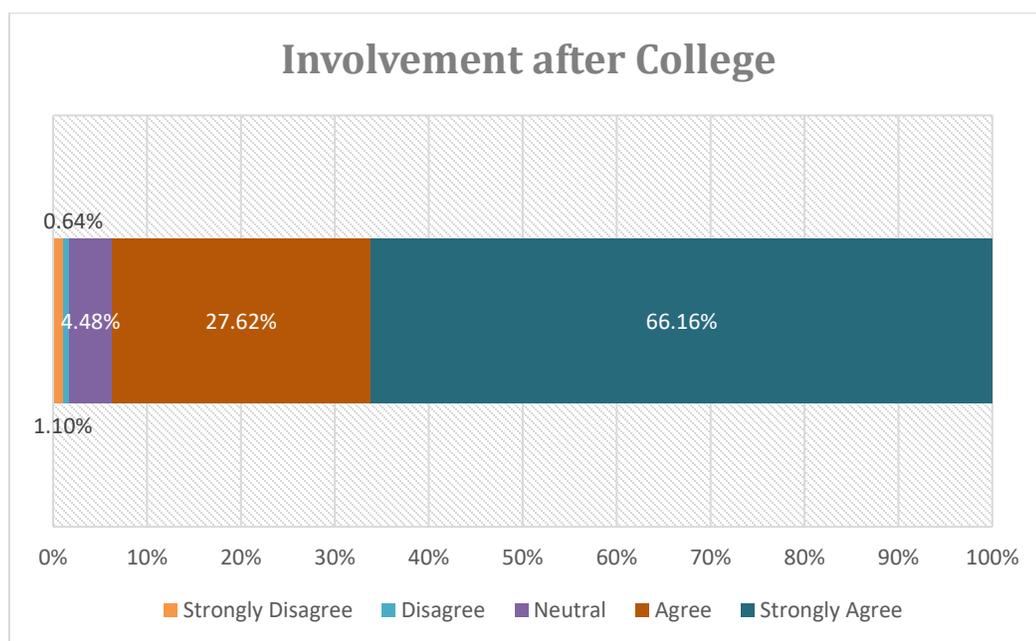


Figure 7- Likelihood staying involved in the equine industry post-college graduation in a survey investigating horse-oriented youth's intended college and career plans (n = 1730).

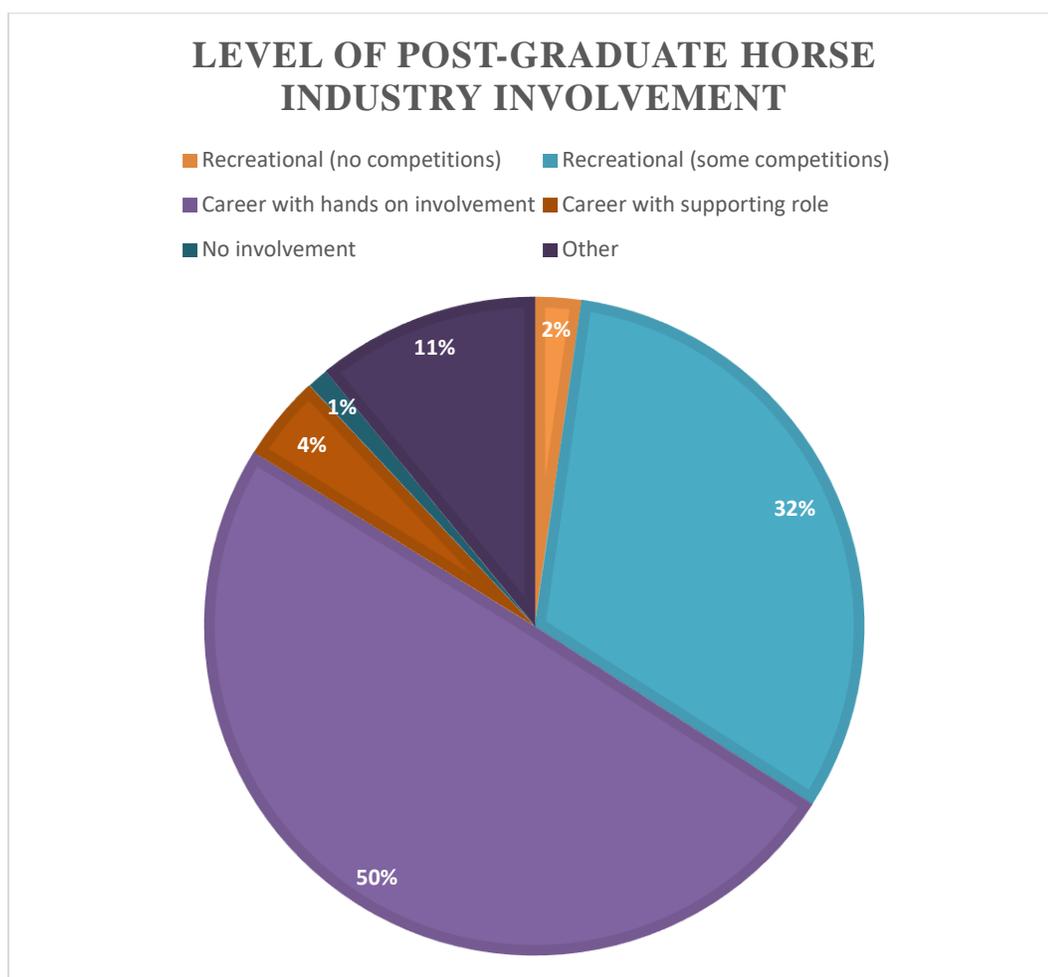


Figure 8- Intended level of participation in the equine industry post-college graduation in a survey investigating horse-oriented youth's intended college and career plans (n = 1730).

Hours a week spent participating in non-horse activities was found to be positively correlated to the intent to ride on a collegiate riding team ($r = 0.1$, $P = 0.008$) and interest in obtaining a degree ($r = 0.1$, $P = 0.0099$).

Breed or discipline group involvement influenced youth's interests. USEF youth were more likely to be interested in having a career in the equine industry than NBHA youth ($P = 0.05$). IEA youth were more likely consider the availability of a collegiate riding program in their choice of college than USDF ($P = 0.009$) and USEF respondents ($P = 0.038$). IEA youth were also more likely to be interested in competing on a collegiate riding team than AQHA, 4-H, NBHA, USDF, USEF youth, and those who competed in local saddle club and open shows ($P = 0.036$). Youth involved in 4-H were more interested in obtaining a degree than those involved in USDF, USEF and USHJA ($P = 0.011$); and National FFA Organization youth were more interested in obtaining a degree than AQHA, APHC, 4-H, USDF, USEF, USHJA and local saddle clubs and open show youth ($P = 0.039$).

Aim 2

Responses were collected from 34 individuals. 53% had previous agricultural organization involvement. Specific organization involvement is represented in Figure 9. 76% of respondents reported having held a leadership role within their organizations. The most popular activity involvements within respondent's organizations were public speaking (20.59%) and horse and livestock judging (17.65%; Figure 10). Responses varied when asked about hands-on experiences with animals of one year or more; with the highest animal responses being horses (58.82%) and cattle (23.53%; Figure 11).

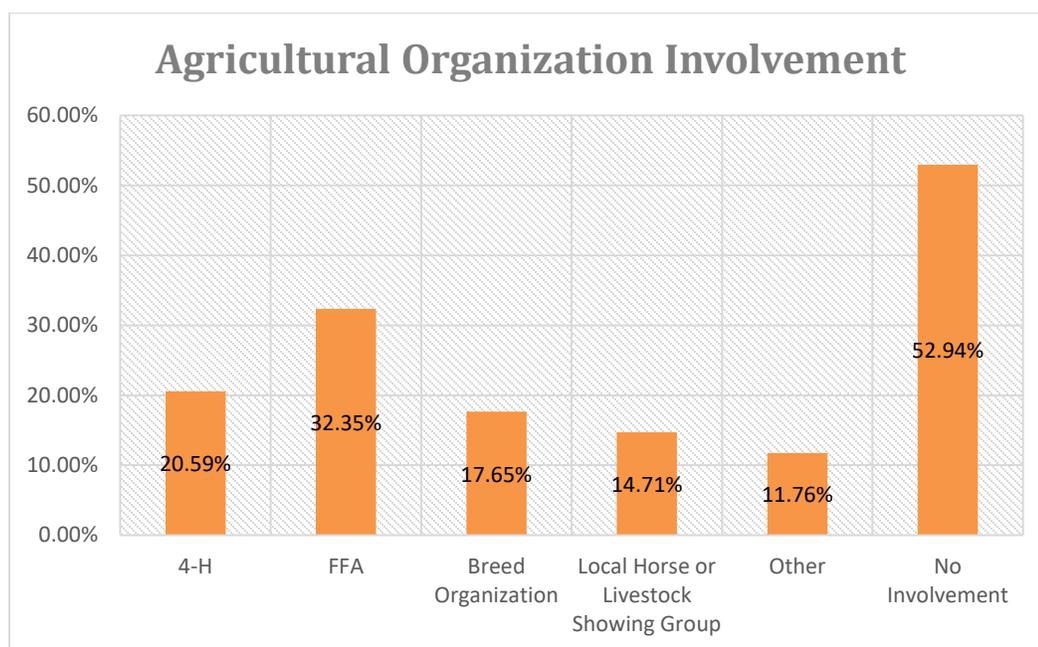


Figure 9- Pre-college involvement in educational agricultural organizations of first semester agricultural students at a public Tennessee university (n=38)

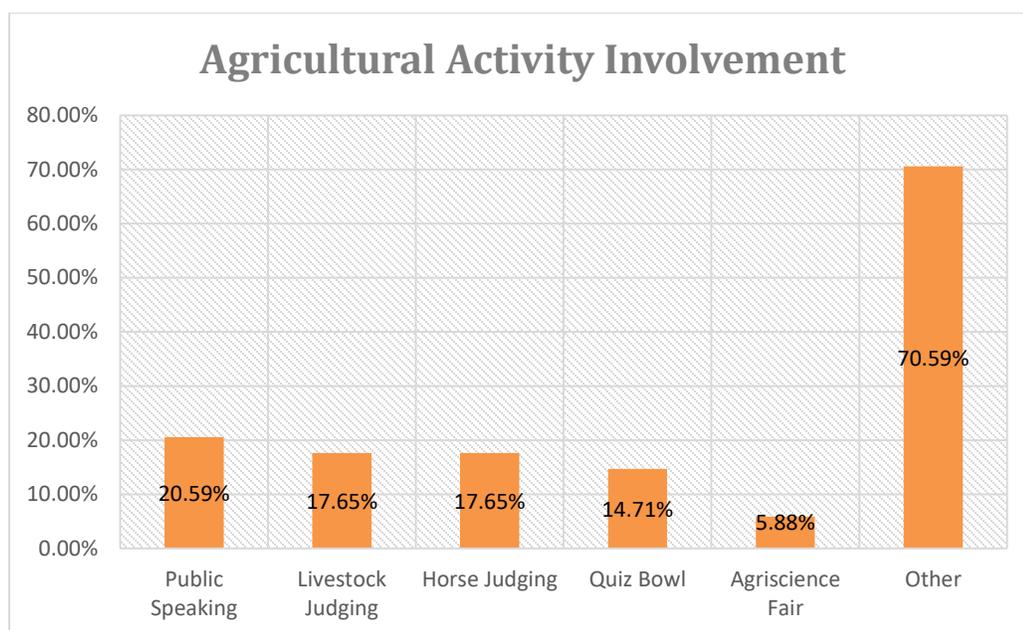


Figure 10- Pre-college activity involvement within educational agricultural organizations of first semester agricultural students at a public Tennessee university (n=38)

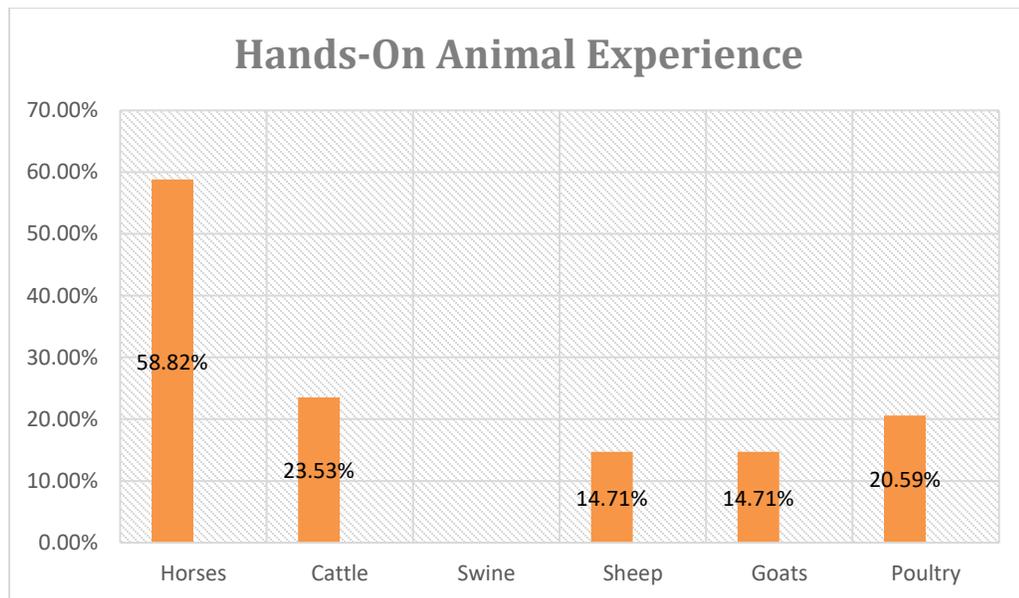


Figure 11- Pre-college hands-on animal involvement of first semester agricultural students at a public Tennessee university (n=38)

While there were not differences found in the GRIT responses on an organization to organization basis, or from animal to animal; there were correlations found between total number of organizations, total activities involved, and the sum of animals with hands-on experience. Positive correlation was found between total organizations ($r = 0.45$, $P = 0.007$), total activities involved ($r = 0.45$, $P = 0.007$), and the sum of animals with hands-on experience ($r = 0.36$, $P = 0.03$); and having consistent interest in the same activities. Correlation was also found between total activity involvement and finishing tasks that they begin ($r = .34$, $P = 0.045$).

GPA data and previous agricultural organization involvement was collected from 20 MTSU agriculture freshmen. 55% reported previous agriculture organization involvement. The average first semester GPA for those with previous involvement was higher (3.65 ± 0.09) than those with no previous involvement (2.42 ± 0.81 ; $P = 0.0008$).

Discussion

Previously, there has been little information available about youth's interest in becoming involved long-term in the equine industry. It is pertinent to recruit and retain youth interested in the equine industry to sustain the industry long-term. This survey suggests that most youth involved with horses are interested in remaining involved in the industry through and post-college. Additionally, certain organizations such as IEA, have more participants that are interested in seeking secondary-education associated with horses. This would suggest these organizations should be the focus of recruiting efforts for university horse programs.

At the same time, organizations that have the intent to build life skills in addition to supplying youth with horse involvement, produce more individuals that are degree-seeking. This includes organizations such as 4-H and FFA that are marketed as having a desire to not only convey a set of agricultural education skills to their participants, but also a desire to produce well-rounded individuals that have strong life skill sets in areas such as communication, leadership, group-work, and decision making. Within these two organizations that have dual focuses, participants were more likely to be interested in pursuing a degree in equine science, animal science or a related equine major.

It has also been previously established that individuals that immerse themselves into activities during college, handle the transition more smoothly and are more likely to persist until graduation (Johnston, 2013). This knowledge brings to light the importance of matching individuals to a college where the activities they wish to become involved in are available. Knowing that IEA members are more likely to be interested in colleges that have riding programs, as well as collegiate riding teams, we can work to encourage IEA members to seek colleges where these programs are available.

The ability of hands-on horse experiences to build life-skills has been noted previously by Smith and colleagues (2006). When youth are involved in the hands-on side of horse care and ownership, they have an increase in the life skill areas of communication, goal-setting and decision making. This study suggests that there is a relationship between the hands-on hours spent riding and in the barn, and the interest in pursuing higher-education, as well as a career in the industry. The more youth are involved with horses, the more interested they are in building themselves into educated

individuals involved in the industry. As they become more immersed in the day to day care of their horses and take an active role in the building of their horsemanship skills a desire is simultaneously fostered to become a higher-educated lifelong member of the equine industry. Youth should be encouraged to be involved in horse activities to play an active role in the day to day activities that come along with horse ownership.

Professionals should be encouraging youth members to participate in the feeding, grooming, horse show prep and management of their horses; or the horses in the barns that they are members of. Coaches and trainers should encourage the development of these horsemanship skills and note their importance, versus giving an environment where the students show up just for a riding portion of a lesson. If program leaders can make it a standard to include the development of horsemanship skills into lesson programming, they can in turn produce more youth members interested in equine-related higher education and careers in the horse industry.

Agricultural students with previous agricultural experiences have been found to be more successful in their college careers and have a higher level of retention (Ball and Garton, 2001, Park and Dyer, 2005). Results of this study suggest that specific organization involvement does not have an effect on students, but the act of becoming involved at all is important. This allows for youth agricultural organizations that have a focus of not only building agriculturally educated students but also students with a set of life skills, can validate their ability to do so. With results showing the importance of involvement in development of the key skill of persistence, it can be concluded that these participants will struggle less in their transition to collegiate student. With the intrinsic

value of persistence, these students are more apt to face the challenges that are thrown their way. The ability of these students to do things such as set goals, communicate and be hard workers; allows for them to have a stronger chance of taking on the challenges faced within the first year, and hopefully to be retained throughout the whole four years of education. Since the differences found lie within the total number of organizations, activities and hands-on animal experience; it can be suggested that becoming involved in any agricultural educational activity available increases first-semester agricultural student's level of persistence.

Ball and Garton previously established that involvement in agricultural youth organizations pre-college has a positive effect on youth's' GPAs (2001). This study found similar results, validating their work and the importance of the pre-college agricultural organization experience on agricultural students. The overall GPAs of these students were considered in this study, not just their GPAs in agricultural courses. This is important to note, because the courses considered in the GPA pool are not specific agricultural courses. Having previous agriculture organization involvement could possibly positively effect performance in agriculture courses, but the numbers represented here are of the overall GPA, reflecting a more cohesive overall view of student success and not limited to the agriculture department.

Colleges should be recruiting from the pool of students that have previous agricultural educational experiences, in hopes of having successful freshmen and more graduates. Future research could be done to follow these students throughout their four years of college and see whether involvement in previous agricultural educational

activities plays a role in their success and persistence throughout the whole college experience. Youth should be encouraged to become involved in agricultural educational organizations and opportunities, with the interest of encouraging more persistent and academically successful college students.

Conclusion

In summary, these findings conclude that most youth involved in horse organizations are interested in being life-long members; with the majority hoping to obtain a career and a degree in the equine industry. The amount of time spent participating in hands-on horse experiences increases the desire of horse youth to go to college, obtain a degree as well as to participate in various collegiate organizations. Colleges can use the information found involving horse-oriented youth to target recruitment of incoming freshmen into programs they will have the opportunity to become immersed in, and in turn be more successful. Also, youth horse organizations can use this information to encourage the development and importance of hands-on horsemanship skills. Youth horse organizations should be encouraging the education of their students into becoming more knowledgeable life-long contributors to the industry. Youth agricultural organizations may use these findings to help validate their ability to foster life skill development in their participants. Colleges can use this information to note the importance of previous agricultural education experiences and focus on recruiting those individuals who have the experiences that will increase their life skill set and make for an easier transition to college student.

Agricultural youth and equine youth should be encouraged to be involved in activities that foster the development and growth of the life skills that will lead them to a successful collegiate career and young adulthood.

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APPENDICES

APPENDIX A: AIM 1: MISSISSIPPI STATE IRB EXEMPTION

From: <nrs54@msstate.edu>

Date: May 26, 2017 at 4:38:30 PM CDT

To: <dj230@msstate.edu>

Subject: Not Human Subjects Research - IRB-17-264, Survey to identify factors influencing youth horse industry involvement

Protocol ID: IRB-17-264

Principal Investigator: Frank Jousan

Protocol Title: Survey to identify factors influencing youth horse industry involvement

The review of your study referenced above has been completed. While we sincerely appreciate the submission of your study, it was determined that your research does not require HRPP/IRB oversight at this time.

If in the future, if your research changes, or you feel that the intent has changed, please feel free to contact our office to determine if an existing data application should be submitted.

Though your research does not require HRPP/IRB oversight, we strongly encourage you to use best practices in the conduct of your research. These can include but are not limited to: (a) providing information pertaining to the study so that the participant can make an informed decision; (b) giving them your contact information for future reference; (c) explaining their participation is voluntary and they can stop at any time without penalty; (d) and (e) proper recruitment of participants.

The project may proceed without further review from this office.

If you have any questions about this determination, please contact the HRPP.

APPENDIX B: AIM 1 SURVEY

1. Are you currently a member of any of the following associations or these related youth horse organizations? (Click all that apply)

- 4H
- FFA
- American Paint Horse Association
- American Quarter Horse Association
- Appaloosa Horse Club
- Interscholastic Equestrian Association
- Local Saddle Club/Open show associations
- National Barrel Horse Association
- National Reining Horse Association
- Pinto Horse Association
- Pony of the Americas
- Spotted Saddle Horse Breeders and Exhibitors Association
- Tennessee Walking Horse Breeders and Exhibitors Association
- United States Dressage Federation
- United States Equestrian Federation
- United States Eventing Association
- United States Hunter Jumper Association
- United States Pony Club

2. Which of these associations do you compete in the most?

- 4H
- FFA
- American Paint Horse Association
- American Quarter Horse Association
- Appaloosa Horse Club
- Interscholastic Equestrian Association
- Local Saddle Club/ Open shows
- National Barrel Horse Association
- National Reining Horse Association

- Pinto Horse Association
- Ponies of America
- Spotted Saddle Horse Breeders and Exhibitors Association
- Tennessee Walking Horse Association
- United States Dressage Federation
- United States Equestrian Federation
- United States Eventing Association
- United States Hunter Jumper Association
- United States Pony Clubs
- I do not compete in any associations

3. Why do you compete in this association the most? (click all that apply)

- Family history in the association
- Financially more appealing
- Friends involved in this association
- Shows/events/activities in my area
- The first association I found out about
- Tried some others and this one was the best fit
- Trainer recommended it as best
- I can be competitive during competition

4. Which of these reasons MOST influences your participation in this association?

- Family history in the association
- Financially more appealing
- Friends involved in this association
- Shows/events/activities in my area
- The first association I found out about
- Tried some others and this one was the best fit
- Trainer recommended it as best
- I can be competitive during competition

5. On average, how many hours a week do you spend riding?

- Less than 1 hour

- 1 hour
- 2-5 hours
- More than 5 hours

6. How many hours do you spend in the barn or with your horse, not counting those spent riding?

- Less than 1 hour
- 1 hour
- 2-5 hours
- More than 5 hours

7. Do you take riding lessons with an instructor?

- Yes
- No

8. If you do take lessons, how often?

- 1-4 times monthly
- 5-8 times monthly
- More than 8 times monthly
- I do not take lessons.

9. What non-riding competitions are you currently or have you recently (in the last two years) competed in? (Click all that apply)

- Hippology
- Horse judging
- Knowledge tests
- Public speaking/ demonstration
- Quiz bowl
- Horse creative arts (photography/art)
- I do not compete in non-riding horse competitions.

10. What other activities outside of horses are you involved in? (Click all that apply)

- Band/instrument lessons/other fine arts
- School sponsored sports

- Other livestock showing
- Other non-school sponsored sports (martial arts, dance, archery, league sports, etc.)
- Other 4H/FFA projects
- I do not compete in other activities outside of horses

11. On average, how many hours do you spend each week practicing or participating in these other activities?

- 1 hour
- 2-5 hours
- More than 5 hours
- I do not practice or participate in other activities.

12. Would you like to be more involved in your horse activities?

- Yes
- No

13. What limits your horse involvement? (Click all that apply)

- Access to instructors/ lesson programs
- Availability of shows
- Family finances
- Family involvement in other activities
- My involvement in other activities
- Time spent on academics
- Transportation
- I do not wish to be more involved in horse activities.

14. What limits your involvement the MOST?

- Access to instructors/ lesson programs
- Availability of shows
- Family finances
- Family involvement in other activities
- My involvement in other activities
- Time spent on academics
- Transportation

15. I plan to pursue a career in the horse industry.

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

16. The availability of a collegiate riding program will likely influence my college choice.

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly Agree

17. I plan to participate on a collegiate riding team (Intercollegiate Horse Show Association, National Collegiate Equestrian Association, Intercollegiate Dressage Association, American Stock Horse Association, or American National Riding Commission).

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

18. The availability of a collegiate horse judging team will likely influence my college choice.

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

19. I plan to obtain a degree in equine science, animal science, or a related equine major.

- Strongly disagree

- Disagree
- Neutral
- Agree
- Strongly agree

20. I plan to continue involvement in the horse industry after college.

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

21. If you plan to continue your involvement in the horse industry after college, what level of involvement do you anticipate having? w

- Recreational (no competitions)
- Recreational (some competitions)
- Career with hands on involvement (i.e. trainer, stable owner, show coordinator, breeder)
- Career in supporting role (i.e. feed representative, jump course designer, researcher)
- I do not plan to continue my involvement
- Other (please specify)

APPENDIX C: AIM 2 PERSISTENCE SURVEY

Life Skills and Academic Success in First Semester Agriculture Students with Previous Educational Agriculture Involvement

1. Were you involved in any of the following organizations in high school? Check all that apply.
 - a. 4-H
 - b. FFA
 - c. Breed specific group or organization
 - d. Local horse or livestock showing group or saddle club

2. Please check any of the following activities you participated in:
 - a. Public Speaking
 - b. Livestock Judging
 - c. Horse Judging
 - d. Quiz Bowl
 - e. Agriscience Fair
 - f. Other Leadership Activities or Educational Contests Related to Agriculture

3. Did you hold a leadership position within a youth agricultural organization?
 - a. Yes
 - b. No

4. Please check all the following animals that you have had more than one-year hands-on experience with:
 - a. Horses
 - b. Cattle
 - c. Swine
 - d. Sheep
 - e. Goats
 - f. Poultry

The following statements may or may not apply to you. Please mark what you believe to be the best answer, when considering your personal values.

5. New ideas and projects sometimes distract me from previous ones.
 - a. Very much like me
 - b. Mostly like me
 - c. Somewhat like me
 - d. Not much like me
 - e. Not like me at all
6. Setbacks don't discourage me. I don't give up easily.
 - a. Very much like me
 - b. Mostly like me
 - c. Somewhat like me
 - d. Not much like me
 - e. Not like me at all
7. I often set a goal but later choose to pursue a different one.
 - a. Very much like me
 - b. Mostly like me
 - c. Somewhat like me
 - d. Not much like me
 - e. Not like me at all
8. I am a hard worker.
 - a. Very much like me
 - b. Mostly like me
 - c. Somewhat like me
 - d. Not much like me
 - e. Not like me at all
9. I have difficulty maintaining my focus on projects that take more than a few months to complete.
 - a. Very much like me
 - b. Mostly like me
 - c. Somewhat like me
 - d. Not much like me
 - e. Not like me at all
10. I finish whatever I begin.
 - a. Very much like me
 - b. Mostly like me
 - c. Somewhat like me
 - d. Not much like me
 - e. Not like me at all

11. My interests change from year to year
 - a. Very much like me
 - b. Mostly like me
 - c. Somewhat like me
 - d. Not much like me
 - e. Not like me at all
12. I am diligent. I never give up.
 - a. Very much like me
 - b. Mostly like me
 - c. Somewhat like me
 - d. Not much like me
 - e. Not like me at all
13. I have been obsessed with a certain idea or project for a short time but later lost interest.
 - a. Very much like me
 - b. Mostly like me
 - c. Somewhat like me
 - d. Not much like me
 - e. Not like me at all
14. I have overcome setbacks to conquer an important challenge.
 - a. Very much like me
 - b. Mostly like me
 - c. Somewhat like me
 - d. Not much like me
 - e. Not like me at all

**APPENDIX D: AIM 2: MIDDLE TENNESSE STATE UNIVERSITY IRB
EXEMPTION**

IRB
INSTITUTIONAL REVIEW BOARD
 Office of Research Compliance,
 010A Sam Ingram Building,
 2269 Middle Tennessee Blvd
 Murfreesboro, TN 37129



IRBN007 – EXEMPTION DETERMINATION NOTICE

Thursday, March 28, 2019

Principal Investigator **Holly Spooner** (Faculty)
 Faculty Advisor NONE
 Co-Investigators Sarah Kenderdine and Rhonda Hoffman
 Investigator Email(s) *holly.spooner@mtsu.edu; skm%mtmail.mtsu.edu;*
rhonda.hoffman@mtsu.edu
 Department Agriculture
 Protocol Title ***Life skills and academic success in first semester agriculture students with previous agricultural organization involvement***
 Protocol ID **19-1044**

Dear Investigator(s),

The above identified research proposal has been reviewed by the MTSU Institutional Review Board (IRB) through the **EXEMPT** review mechanism under 45 CFR 46.101(b)(2) within the research category (2) *Educational Tests*. A summary of the IRB action and other particulars in regard to this protocol application is tabulated as shown below:

| IRB Action | EXEMPT from further IRB review*** | Date | 11/30/18 |
|------------------------|--|------|-----------------|
| Date of Expiration | NOT APPLICABLE | | |
| Sample Size | 100 (OND HUNDRED) | | |
| Participant Pool | Adult MTSU Students (18 years or older) | | |
| Exceptions | NONE | | |
| Mandatory Restrictions | 1. Participants must be 18 years or older 2. Informed consent must be obtained from the participants 3. Identifying information must not be collected | | |
| Restrictions | 1. All requirements for exemption apply. 2. Refer Comment Below: | | |
| Comments | This protocol is approved retrospectively on 03/28/2019. The Principal Investigator resubmitted the revisions in November, 2018 but the scanner did not deliver the email (Refer PI's email). Since the revision satisfied all the requirements, the request for exemption is granted for the previous date of 11/30/2019. | | |

***This exemption determination only allows above defined protocol from further IRB review such as continuing review. However, the following post-approval requirements still apply:

- Addition/removal of subject population should not be implemented without IRB approval
- Change in investigators must be notified and approved
- Modifications to procedures must be clearly articulated in an addendum request and the proposed changes must not be incorporated without an approval

IRBN007

Version 1.3

Revision Date 05.22.2018

- Be advised that the proposed change must comply within the requirements for exemption
- Changes to the research location must be approved – appropriate permission letter(s) from external institutions must accompany the addendum request form
- Changes to funding source must be notified via email (irb_submissions@mtsu.edu)
- The exemption does not expire as long as the protocol is in good standing
- Project completion must be reported via email (irb_submissions@mtsu.edu)
- Research-related injuries to the participants and other events must be reported within 48 hours of such events to compliance@mtsu.edu

Post-approval Protocol Amendments:

The current MTSU IRB policies allow the investigators to make the following types of changes to this protocol without the need to report to the Office of Compliance, as long as the proposed changes do not result in the cancellation of the protocols eligibility for exemption:

- Editorial and minor administrative revisions to the consent form or other study documents
- Increasing/decreasing the participant size

Only THREE procedural amendment requests will be entertained per year. This amendment restriction does not apply to minor changes such as language usage and addition/removal of research personnel.

| Date | Amendment(s) | IRB Comments |
|------|--------------|--------------|
| NONE | NONE. | NONE |

The investigator(s) indicated in this notification should read and abide by all applicable post-approval conditions imposed with this approval. [Refer to the post-approval guidelines posted in the MTSU IRB's website.](#) Any unanticipated harms to participants or adverse events must be reported to the Office of Compliance at (615) 494-8918 within 48 hours of the incident.

All of the research-related records, which include signed consent forms, current & past investigator information, training certificates, survey instruments and other documents related to the study, must be retained by the PI or the faculty advisor (if the PI is a student) at the secure location mentioned in the protocol application. The data storage must be maintained for at least three (3) years after study completion. Subsequently, the researcher may destroy the data in a manner that maintains confidentiality and anonymity. IRB reserves the right to modify, change or cancel the terms of this letter without prior notice. Be advised that IRB also reserves the right to inspect or audit your records if needed.

Sincerely,

Institutional Review Board
Middle Tennessee State University

Quick Links:

[Click here](#) for a detailed list of the post-approval responsibilities.
More information on exempt procedures can be found [here](#).

APPENDIX E: AIM 2 GPA SURVEY

