

An Investigation of School Connectedness Among Agricultural Education Students

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Each year, approximately 1.3 million students fail to graduate from high school. One of the reasons cited for dropping out is a lack of connection to the school environment. One way students can connect to their school is through programs and organizations at their school. While there are a large variety of programs in schools that have the potential to promote school connectedness among its students, the parallels to the school connectedness promotion factors present in the foundational principles of agricultural education evoke further investigation. The purpose of this study was to examine the influence that school connectedness promotion factors (i.e. adult support, peer group, commitment to education, and environment) in agricultural education programs have on students' sense of school connectedness. This study utilized a two-phase sequential mixed methods design in which the qualitative data helped explain or build upon the initial quantitative results. The quantitative phase revealed approximately 45% of the variance of the school connectedness scale in the sample can be accounted for by the linear combination of promotion factor measures. The themes from the qualitative phase closely aligned to the school connectedness promotion factors discussed in the quantitative phase with a few additions and modifications recommended.

Keywords: student engagement; agricultural education; FFA; school connectedness

Each year, approximately 1.3 million students fail to graduate from high school (Editorial Projects in Education Research Center, 2010). There is no single reason why students drop out of high school; yet, there are some commonalities among students' reasons for dropping out. Bridgeland, Dilulio, and Morison (2006) reported the following reasons for dropping out as cited by their participants: (a) a lack of connection to the school environment, (b) a perception that school is boring, (c) feeling unmotivated, (d) academic challenges, and (e) the weight of real world events. Although some of these issues are beyond the control of the school, several of these issues could and should be addressed by public secondary institutions across the nation.

Research suggests schools that provide safe and supportive learning environments for their students are more successful at promoting student achievement and developing qualities of

good character and citizenship (Roeser, Midgely, & Urdan, 1996; Rowe, Stewart, & Patterson, 2007; Van Ryzin, Gravely, & Roseth, 2009). Past studies have also shown that a connected school environment is an important factor in reducing the likelihood that adolescents will engage in health-compromising behaviors and in reducing the likelihood that adolescents will be absent or disengaged from school over time (Juvonen, 2007; Nichols, 2008; Resnick et al., 1997). Research (McNeely, Nonnemaker, & Blum, 2002) also suggests that students in smaller schools felt more attached to school than those in larger ones. McNeely et al. believed that this is because in larger schools, teachers are unable to maintain warm, positive relationships with students.

What remains unknown is the potential influence that factors within a school environment have on promoting students' sense of school connectedness. Once known, edu-

cators and administrators will be able to address the current challenge of identifying, developing, and implementing effective evidence-based strategies promoting school connectedness (Rowe, Stewart, & Patterson, 2007).

Theoretical Framework

The framework of school connectedness proposed by Lohmeier and Lee (2011) stated that a student’s sense of school connectedness is based on a collection of values and behaviors related to a student’s belongingness, relatedness, and connectedness in association with their school, teachers/adults, and peers (Figure 1). Within this conceptualization of school

connectedness discussed by Lohmeier and Lee (2011), the belongingness component incorporates an individual’s perception of the amount of social support they received in general. The relatedness component focuses on an individual’s perception of the amount of social support they receive in specific relationships. Finally, the connectedness component includes the individual’s active involvement with and value of general and specific sources of support (Lohmeier & Lee, 2011). Although all these components are similar, each brings a unique aspect of students’ affiliations with school that should be considered when examining this overarching concept of school connectedness.

Descriptions of Levels and Sources of Connectedness	
Level/Source	Description
<u>Levels of Connectedness</u>	
General support (Belongingness)	Perceived support in general from other students, school adults, and the overall concepts of school and education; includes the student’s sense of membership and acceptance in the student body as a whole.
Specific support (Relatedness)	Perceived support from specific sources such as the student’s teachers, school friends, classmates, classes or membership at the student’s current school; the student’s actions are not presumed to be deliberate and support is acknowledged but not actively sought out.
Engagement (Connectedness)	Demonstrating effort in and enjoyment of schoolwork and school activities or demonstrating active involvement in and valuing of school adult or peer relationships; students explicitly value specific relationships or activities and deliberately seek out support.
<u>Sources of Connectedness</u>	
School	The student’s connection to the aspects of school that are unrelated to social relationships, including classes, activities, the importance of education, and sense of school spirit
Teachers/Adults	The student’s relationship with teachers and other school adults such as coaches, counselors, or principals
Peers	The student’s relationship with the other students at his/her school, including but not limited to classmates and school friends

Figure 1. Descriptions of Levels and Sources of Connectedness. Reprinted from "A School Connectedness Scale for Use with Adolescents" by J.H. Lohmeier and S. W. Lee, 2011, *Educational Research and Evaluation*, 17(2), p. 87.

Conceptual Framework

The concept of school connectedness was also addressed by the Centers for Disease Control and Prevention's (CDC) Division of Adolescent and School Health in their report focused on the benefits of school connectedness and the strategies for increasing protective factors, such as school connectedness, among youth (CDC, 2009). Their model *Promoting School Connectedness* that appeared in that report served as the conceptual framework of this study.

The CDC (2009) report stated, "Students are more likely to engage in healthy behaviors and succeed academically when they feel connected

to school" (p. 5). It discussed that some research has demonstrated a strong relationship between school connectedness, or "the belief by students that adults and peers in the school care about their learning as well as about them as individuals" (CDC, 2009, p. 3), and positive educational and health outcomes.

Along with strategies to increase school connectedness, the CDC proposed a Promoting School Connectedness model (Figure 2) identifying four factors that increase school connectedness: adult support, belonging to a positive peer group, commitment to education, and school environment. The report went on to provide a brief overview of each of these school connectedness promotion factors and the research that supports their importance.

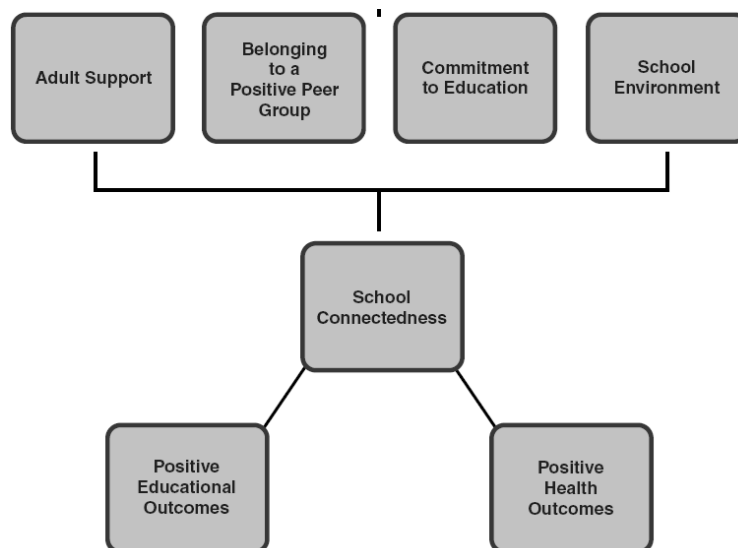


Figure 2. Promoting School Connectedness Model. Adapted from "School Connectedness: Strategies for Increasing Protective Factors Among Youth," by Centers for Disease Control and Prevention, 2009, U. S. Department of Health and Human Services, p. 9.

Despite these previous efforts, there has been no research examining the presence of these factors within specific programs (e.g. agricultural education) in a school and its impact on students' sense of school connectedness. The integrated three-component agricultural education model has served as the predominant model for organizing instruction in agricultural education for many years (Croom, 2008). This model represents the importance of the interrelatedness of three major components: (a)

classroom and laboratory instruction; (b) supervised agricultural experience, which includes practical agricultural activities conducted by students outside of class and laboratory instruction; and (c) agricultural youth organization participation, specifically within the National FFA Organization (Phipps, Osborne, Dyer, & Ball, 2008). An examination of this model reveals that many of the guiding principles of agricultural education programs parallel the school connectedness promotion

factors as discussed by the Division of Adolescent and School Health (CDC, 2009). The National FFA Organization component of agricultural education, for example, provides students with the opportunity to belong to a positive peer group supporting pro-social behaviors while building strong interpersonal skills and healthy relationships with peers. The classroom and laboratory instruction component of agricultural education provides students with positive school environments and demonstrates a commitment to education. With the focus of learning by doing, agricultural educators are encouraging students to be actively engaged in their own learning and fostering an environment of mutual respect as students and teachers work together to learn. Finally, the supervised agricultural experience (SAE) component of agricultural education highlights adult support that agriculture teachers can provide to students as they dedicate their time, attention, and support to their students. Since the components of agricultural education model are interconnected, each of the school connectedness promotion factors has some influence within all the areas of agricultural education (e.g., adult support can be found in the classroom, through assistance of SAE projects, and through FFA chapter advisement).

Purpose and Objectives

This purpose of this study was to examine the influence that school connectedness promotion factors in agricultural education programs have on students' sense of school connectedness. This purpose aligns with the *National Research Agenda for the American Association for Agricultural Education* (Doerfert, 2011) that has research priority areas for "meaningful, engaged learning in all environments" which include examining various meaningful learning environments in assorted agricultural education contexts for their impact on specific affective learning outcomes. The following research objectives were used to address this purpose:

1. Describe students' perceived level of adult support, positive peer groups,

commitment to education, and positive school environment factors and their overall school connectedness based on their involvement with the local agricultural education program.

2. Compare students' summated school connectedness and promotion factor scores by key demographic characteristics (i.e. school size and gender).
3. Determine the amount of variance in student's sense of school connectedness that can be explained by the school connectedness promotion factors present in agricultural education programs.
4. Determine how students in agricultural education programs describe the influence of school connectedness promotion factors on their sense of school connectedness.

Methods and Procedures

To accomplish the research purpose and objectives, a two-phase, sequential mixed methods study was designed to examine the influence that school connectedness promotion factors in agricultural education programs have on students' sense of school connectedness. The four school connectedness promotion factors as identified in the *Promoting School Connectedness* model—adult support, belonging to a positive peer group, commitment to education, and school environment—were examined in this study.

In the first phase, quantitative research questions addressed the relationship of school connectedness promotion factors in agricultural education programs and students' sense of school connectedness. Results from this first phase were explored qualitatively in a second phase. In the second phase, qualitative focus groups was conducted to investigate significant quantitative findings by exploring aspects of school connectedness with a small number of students in the agricultural education program from each participating school. The reason for following with the qualitative research in the second phase was to better understand and explain the quantitative results in more depth.

Quantitative Phase

Population and sampling. The population for this quantitative study was high school students enrolled in secondary agricultural education programs throughout Texas. Students were included in the study based on selection of their agricultural education program. Secondary agricultural education programs were selected through stratified, purposive cluster sampling. Since previous research (McNeely et al., 2002) identified school size as a factor affecting school connectedness, agricultural education programs were initially divided into subgroups by University Interscholastic League (UIL) classification, in which schools are divided into five categories according to enrollment: 1A includes schools with enrollments of 199 and below, 2A includes enrollments of 200 to 429, 3A includes enrollments of 430 to 989, 4A includes enrollments of 990 to 2064, and 5A includes enrollments of 2065 and above (University Interscholastic League, 2012).

Based on these UIL subgroups, agricultural education programs from small (1A), moderate (3A), and large-sized (5A) schools were purposively selected as exemplary agricultural education programs to examine the presence of school connectedness promotion factors in “best case” scenario agricultural education programs. Recommendations of programs that exemplified all the three components of the integrated three-component agricultural education model (i.e. classroom and laboratory instruction, supervised agricultural experience, agricultural youth organization participation) were solicited from the state and regional-level Texas FFA coordinators and teacher education faculty from the six largest agricultural education departments at universities within the state of Texas. Of those nominated school districts, the schools that received the highest percentage of nominations for each UIL classification were chosen as the target sample. These schools included seven 1A high schools, five 3A high schools, and two 5A high schools. Agriculture teachers from those 14 schools were contacted by email to ask for their cooperation in coordinating parental consent collection and questionnaire administration. Finally, the students enrolled in those programs were asked

to complete a questionnaire containing questions about the presence of school connectedness promotion factors in their agricultural education program and their sense of school connectedness. Of the 14 schools contacted to participate, only seven had students complete the questionnaire. These schools included four 1A school districts, three 3A school districts, and no 5A school districts. The agriculture teachers at schools that did not have any participation had originally agreed to participate and were contacted on several occasions but eventually said their students would not be able to participate for a variety of reasons. At that point, it was decided to continue the study with the data from the seven schools, which included 271 completed surveys.

Instrumentation. The instrumentation consisted of two sections combined into one instrument, which was administered through Qualtrics™, an online instrument distribution system. The first section was a modified version of the School Connectedness Scale (SCS) Survey (Lohmeier & Lee, 2011), which consisted of 42 Likert-type items. The second section was a researcher-designed questionnaire related to the four school connectedness promotion factors. At the end of the questionnaire development process, this section of the questionnaire consisted of 58 Likert-type items: 15 adult support items, 10 peer group items, 18 commitment to education items, and 15 environment items. Both sections of the questionnaire asked students to rate how true each statement was for them on a scale anchored by *not at all true* (1) to *completely true* (5). Although this scale was only anchored on each end and each of the numbers did not have its own label, this scale was used on all items to maintain consistency with the SCS portion of the instrument.

Prior to administering the questionnaire to the primary sample, the researcher conducted a pilot test to establish reliability of the researcher-developed portion and confirm reliability with agricultural education students on the SCS Survey. The pilot test for this instrument, which included both sections of the instrument discussed above and a few items about demographics, was conducted in May 2011 with

123 students in three local agricultural education programs chosen based on geographic availability and cooperation of agriculture teachers. The pilot instrument was administered in paper form within the agricultural education classes and results were entered in SPSS[®]. Reliability results as determined by Cronbach's α were calculated for each section of the questionnaire with all results above .87 which are considered very good (DeVillis, 2003).

Data Collection. All students who participated in the study were required to have a parental consent form signed as well as signing an assent form themselves. The first contact by email with agriculture teachers occurred in September 2011. A series of follow-up emails and phone calls occurred in October and November. Agriculture teachers were given the web link to the online questionnaire and were asked to allow students computer access to complete the questionnaire upon returning their parental consent form with approval. The online questionnaire took students about 20-30 minutes to complete. Students completed the questionnaires from mid-October until the first week of December 2011.

Qualitative Phase

Sampling. Purposive sampling of students from participating agricultural education programs was used for the qualitative phase. Based on the findings from the quantitative phase, extreme case sampling, as discussed by Teddlie and Tashakkori (2009), was used to select students who had high and low school connectedness designated by a score above or below their school mean on the School Connectedness Scale (SCS) Survey. Students were then placed in two separate focus groups of 5-10 students each, as recommended by Krueger and Casey (2009), from each of the agricultural education programs. The researcher conducted a total of 10 focus groups at five schools, which included three 1A school districts and two 3A school districts.

Of the focus group participants, 25 were male and 20 were female. Twenty-nine were from 1A schools and 16 were from 3A schools. Twenty-three scored high on the school connect-

edness scale and 22 scored low on the school connectedness scale.

Instrumentation. A moderator's guide was developed by the researcher and peer-reviewed by a panel of experts familiar with focus group methodology and the purpose of this study. All questions were loosely based around CDC's *Promoting School Connectedness* model and were designed to elicit information about the factors that influence students' sense of school connectedness. The moderator's guide included a detailed introduction explaining the study, introductory questions, follow-up questions, transition questions, and ending questions.

Data Collection. The focus groups were semi-structured and designed to investigate significant quantitative findings by exploring the school connectedness promotion factors and considering other factors that might also influence their sense of school connectedness. The lead researcher served as the moderator for each focus group and used a moderator's guide to direct the focus of group discussion. These audio-recorded focus groups lasted 30 to 60 minutes and took place at each agricultural education facility in an area designated by the agriculture teacher; however, the agriculture teacher was not present for the focus group discussions. The focus groups took place at the five schools over a series of four weeks from mid-November to mid-December 2011.

Data Analysis. Data analysis for this study was done using a two-phase, sequential connected mixed method data analysis approach, in which the second data set is dependent on the results of the first phase, considering how the analysis of the second data set can build on what was learned in the first phase (Creswell & Plano-Clark, 2011). The goal of the analysis was confirmatory in nature and the focus of analysis was variable-oriented.

For the quantitative phase, the results were analyzed using SPSS[®] software and are presented in the form of descriptive analysis (e.g., construct-specific means), mean comparison analyses (e.g., *t*-test) to inspect the differences between means of students with different demographic characteristics, and

multivariate analyses (e.g., multiple regression) to examine the influence of the school connectedness promotion factors in agricultural education programs on students' sense of school connected. Initially, descriptive statistics were used to describe how students rated levels of adult support, positive peer groups, commitment to education, and positive school environment factors present in their agricultural education program. *T*-tests were performed to determine if there were any significant differences between the school connectedness promotion factors in agricultural education programs of students with different demographic characteristics. Finally, a multiple regression analysis was conducted to evaluate how well the school connectedness promotion factors in agricultural education programs predict students' sense of school connectedness. The independent variables were adult support, belonging to a positive peer group, commitment to education, and school environment, while the dependent variable was students' overall sense of school connectedness. A forced-entry multiple regression was chosen with part and partial correlations, regression coefficient estimates, and a confidence interval of 95%. The magnitude of the relationships was reported using the guidelines from Davis (1971): .01-.09 negligible association, .10-.29 low association, .30-.49 moderate association, .50-.69 substantial association, and .70 or higher very strong association.

For the qualitative phase, the audio-recorded focus group sessions were transcribed. During transcriptions, pseudonyms were given to each school and each participant to protect the identities of the participants, yet maintain a humanistic nature in the language of the written findings. Transcripts were analyzed using a constant comparative framework to determine how school connectedness promotion factors present in agricultural education programs influence students' sense of school connectedness. The objective of the researcher was to identify patterns in the data and discover relationships between ideas or concepts. To accomplish this, the researcher compared one segment of data with another to identify similarities and differences (Kruger & Casey, 2009). Although the researcher started out analyzing the transcripts separately based on high or low

school connectedness, many of the same themes seemed to emerge across the board so it was decided to analyze all the transcripts together. To ensure representation from multiple schools and from both connectedness groups, the researcher color coded transcripts by school and differentiated transcripts from the high school connectedness groups from the low school connectedness groups through italicizing the text.

Initially, the researcher used open coding to identify, name, categorize, and describe the phenomena found in the text, which created an initial eleven categories. The researcher then went through a process of axial coding, in which those categories were related to each other through inductive and deductive thinking. Through this process, these categories were fit into a basic frame of five themes. Finally, the researcher used a process of selective coding, using those five themes as the core categories and relating all other categories to those themes. Through this process, 13 sub-themes were created based around the five main themes. Another researcher was asked to participate in the coding process to check accuracy and reliability in coding. The final analysis used a combination of the quantitative and qualitative findings to determine how the understandings that emerged from the qualitative data could be used to provide deeper understanding of the influence of agricultural education programs on students' sense of school connectedness.

Findings

The first objective addressed by this study was to describe students' perceived level of adult support, positive peer groups, commitment to education, and positive school environment factors and their overall school connectedness based on their involvement with the local agricultural education program. As displayed in Table 1, students rated items related to a safe and caring environment ($M = 3.93$) and a focus on education ($M = 3.92$) as highest within their agricultural education programs. Students also rated positive peer groups ($M = 3.75$) and adult support ($M = 3.74$) within their agricultural education programs above the mid-point of level of agreement.

Table 1

Students' Mean Perceptions of School Connectedness Promotion Factors and Overall School Connectedness Based on their Involvement in the Agricultural Education Program.

	<i>M</i>	<i>SD</i>
Positive Environment (<i>n</i> = 270)	3.93	0.85
Commitment to Education (<i>n</i> = 271)	3.92	0.84
Peer Group (<i>n</i> = 255)	3.75	0.78
Adult Support (<i>n</i> = 271)	3.74	1.00
Overall School Connectedness (<i>n</i> = 271)	3.62	0.63

Note. The scale was 1 = *Not at all true* to 5 = *Completely true*.

Objective two sought to compare students' summated school connectedness and promotion factor scores by key demographic characteristics (i.e. school size and gender). Although the summated scores on all measures except peer group were slightly higher for 1A schools as compared to 3A schools, independent *t*-tests

revealed there was no significant difference on students' summated scores between school sizes for any of the school connectedness promotion factors. Conversely, a significant difference was found at .05 a priori between summated scores on the school connectedness scale for 1A and 3A schools (Table 2).

Table 2

Independent t-test of Summated School Connectedness Promotion Factors and Overall School Connectedness by School Size

Measure	<i>n</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>df</i>	<i>p</i>
School Connectedness						
1A school	99	159.25	24.69	3.44	257.00	.01*
3A school	160	147.80	26.85			
Commitment to Education						
1A school	105	71.40	13.37	0.64	247.77	.52
3A school	151	70.20	16.44			
Positive Environment						
1A school	104	59.89	11.22	0.93	249.70	.35
3A school	160	58.45	13.88			
Adult Support						
1A school	104	57.37	13.13	1.15	247.92	.25
3A school	162	55.27	15.92			
Peer Group						
1A school	98	36.73	6.93	-1.47	230.09	.14
3A school	152	38.15	8.17			

* *p* < .05

A comparison of students' perceptions based on summated scores of the school connectedness promotion factors in their agricultural education program and overall school connectedness according to gender was also conducted. As seen in Table 3, summated scores on all

measures were slightly higher for females as compared to males. Significant differences between genders were found at .05 a priori not only on the summated scores on the school connectedness scale as with school size, but significant differences were also found between

genders on the peer group promotion factor measure.

The third objective addressed by this study was to determine the amount of variance in student's sense of school connectedness that can be explained by the school connectedness promotion factors present in agricultural education programs. A forced entry multiple regression analysis was conducted to evaluate how well the school connectedness promotion factors predicted students' overall sense of school connectedness. The predictors were measures of the four school connectedness promotion factors, while the criterion variable was the overall school connectedness scale. The linear combination of promotion factor measures was significantly related to the school connectedness scale, $F(4, 250) = 51.56, p < .05$. The sample multiple correlation coefficient (R) was .67, indicating approximately 45% of the variance ($R^2 = .45$) of the school connectedness scale in the sample can be accounted for by the linear combination of promotion factor measures

(Table 4). All the bivariate correlations between the promotion factor measures and the school connectedness scale were positive and all four indices were statistically significant at .05 a priori. Using Davis' (1971) conventions to describe the strength of these relationships, adult support, commitment to education and positive environment have a substantial positive association with the school connectedness scale and peer group has a moderate positive association.

Only the partial correlations between the measure for adult support and the school connectedness scale and the measure for commitment to education and the school connectedness scale were significant. These partial correlations to the school connectedness scale suggest a moderate positive association with adult support, a low positive association with commitment to education, and negligible associations with positive environment and peer group (Davis, 1971).

Table 3

Independent t-test of Summated School Connectedness Promotion Factors and Overall School Connectedness by Gender

Measure	<i>n</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>df</i>	<i>p</i>
School Connectedness						
Female	114	157.53	25.49	2.69	253	.01*
Male	141	148.72	26.50			
Commitment to Education						
Female	112	72.74	14.83	1.76	249	.08
Male	139	69.35	15.37			
Positive Environment						
Female	117	59.48	13.10	.27	257	.79
Male	142	59.04	12.63			
Adult Support						
Female	114	56.55	15.19	.18	259	.85
Male	147	56.21	14.56			
Peer Group						
Female	113	39.40	7.52	3.19	243	.01*
Male	132	36.30	7.65			

* $p < .05$

Table 4

Bivariate and Partial Correlations of the Predictors with the School Connectedness Scale (SCS)

Predictor	Correlation between each promotion factor and the SCS	Correlation between each predictor and the SCS controlling for all other predictors
Adult Support	.63*	.32*
Commitment to Education	.61*	.24*
Positive Environment	.55*	-.01
Peer Group	.41*	.02

* $p < .05$ **Qualitative Results**

Objective four sought to determine how students in agricultural education programs describe the influence of school connectedness promotion factors on their sense of school connectedness. Even though students were divided into focus groups by their level of connectedness, common themes were found among all students when the transcripts were analyzed. Upon analysis of all the focus group transcriptions, five main themes emerged that aligned closely to the CDC's Promoting School Connectedness model (2009). Themes included school connectedness, adult support, friendship/peer groups, commitment to education, and school/classroom environment.

School connectedness. When discussing being connected or feeling like they are a part of the school, one student summed it up in the following way.

CLARA: You have to find like your place in the school and once you get in that place, you start knowing everybody and it's the same way, you have to be in extracurricular activities to actually fit in for the school.

This student recognized several elements needed to fit in or become part of the school: finding your place, knowing people, and involvement in extracurricular activities. In coding for the overall "school connectedness" theme, three sub-themes emerged: finding your place, knowing people, and history.

Finding your place. Based on their experiences, several students expressed the key to school connectedness is finding the place you fit. Since everyone is different, students should look to different people and organizations to find where they are most comfortable and accepted.

HENRY: I think we belong in our own way. Not many of us play a lot of sports like we're not in athletics and stuff like that, but we still have our own group because we are in ag or whatever.

The downside to the need to find your place is some students discussed their lack of connectedness due to not participating in any activities and in turn, not having a place.

PENNY: I sort of [feel like I belong] because I'm not really in most of the extracurricular activities and I don't stay after school like most of them do for basketball practice, track practice, or stuff so usually, I just do my homework and stuff from school and then nothing else.

Knowing people. Other students discussed how getting to know other students will help you to feel connected to school. Taking the first step of being able to talk to others allows you to build friendships and feel like you belong. When asked what it takes to fit in or belong at their school, this is how students responded.

MAX: Just get to know everyone personally and you'll make more friends. Then, more people with like you and you'll fit in a lot better.

Along with getting to know people, many students contended the reason they felt connected was due to the fact that the school has an environment conducive to all the students knowing each other.

PARIS: Because you know everyone, you belong. It's not like bigger schools where you don't even know everyone.

History. Another common theme among several students was having a history in your family of attending a school assisted in you feeling like you are connected to that school.

LEONARD: Well, I have been here since the very first of my time coming to school. And also, my father came here since he was in kindergarten and my grandfather came here until 6th grade and then he had to drop out to help his family but I feel a deep connection to this school.

CLARA: Well, like my family, they live here and all my cousins go to this school and its connection in a way, but at the same time, I am kind of still an outsider.

Some students also discussed their personal history with their school played a part in how connected they felt. When asked if they felt like they belonged at or were a part of their school, students responded in the following ways.

LINDSAY: I guess just like being here my whole life and being around the same people...I feel like since we all know each other and most of us have like known the teachers so [we] know them from like friends of family friends.

DEAN: I do[feel connected] too, because I was born and raised here and I've always been in one school.

Adult Support

Students identified the community and teachers, especially their agriculture teachers, as supportive influences in their lives. In coding for the overall "adult support" theme, three sub-themes emerged: teacher support, community support, and the characteristics of agriculture teachers.

Teacher support. In the school in general, some students discussed the support that teachers throughout the school can provide to students and the impact that caring and supportive teachers can have on students. When talking about supportive teachers, many of the comments focused around how supportive the agriculture teacher was toward students.

BERNADETTE: I just feel safe out here like I can go to any teacher and say anything I need to and talk to them about it and they'll like help me through it.

Discussions about the supportiveness of the agriculture teacher specifically included the following comments.

PENNY: Because he always encourages us and he's like "you all can do it." He would say "you all are doing really good...you work on these questions and you'll be great."

Community support. Students discussed the community was supportive of their schools, as well as their agricultural education programs.

TRISTAN: Especially at livestock shows and everything [they are supportive]. All the administration goes to the shows. There is a bunch of people.

LORELEI: They acknowledge our accomplishments...we have been on the front page [of the newspaper] several times for numerous things including sports.

Characteristics of agriculture teachers. Although agriculture teachers were mentioned some in the discussion of supportive teachers, many of their other positive characteristics were discussed at length. Students commented how their agriculture teachers were laid back but serious, knowledgeable, fun, motivating, and dedicated. Several students noticed their agriculture teachers had a tendency to be laid back but serious when necessary.

AMY: When he tells you do something, he wants you to get it done but he's just very laid back.

JOE: There are a lot of rules, but he's laid back about it until you actually break one.

Many students also expressed their admiration at how knowledgeable they felt their agriculture teachers were.

HENRY: It don't matter what it is, he'll learn it. He'll pick it up and help you with it. Like if he doesn't know what it is, or know about the contest or something.

MAX: If you want to learn, even if they don't know it, they find out the information that way you can learn.

Another characteristic in which students used to describe their agriculture teachers was fun. Whether discussing the agricultural education classroom or FFA events, almost half of the students commented on how fun they were to be around.

TAYLOR: If you like go to a contest with him, you're guaranteed a fun time. You get to do all your stuff and once you're done, you're going to have a fun time after that.

Students also discussed at length how motivating their agriculture teachers could be. Many of them talked about being pushed to perform beyond their expectations.

EMILY: They're very much pro-student. They want the students to succeed.

BARRY: He'll always like push to do your best, telling you that you're doing a good job.

One final characteristic in which students emphasized during their discussions of their agriculture teachers was their dedication. Students commented on the extra time and effort their agriculture teachers would put in to help the students with what they were doing.

PENNY: I mean he's here like really early or really late, working on ag stuff, not just during a regular day. He'll be here and he'll stay after school like for land judging,...even though he probably could be at home having dinner or something.

Peer group/friendship

When asked to think about their closest friends and why they like to hang out with them, students responded by discussing a variety of characteristics of their best friends and the reasons for having these friends. Some students also discussed having no specific best friend. Based on these discussions, three sub-themes emerged: reasons for friendships, best friend characteristics, and having no specific best friend.

Reasons for friendships. Although many students acted as though they had not previously thought about the topic, students were able to identify some common reasons about why they are friends with their friends. Most commonly, students cited their similar interests or personalities with their friends as the reason.

JACKSON: My friends are in ag and I guess the reason why I hang with them is we all just about do the same stuff. I guess we do a lot of the same things.

Another reason that students gave for the friendships they have is the fact that they have known their friends for a long time.

LORELEI: Our parents were actually friends and so we were just destined to be friends because we've known each other since we were little.

Best friend characteristics. When students discussed their best friends, they described what they were like and why they liked them. Some of the characteristics they sought out in their friendships were supportive and fun. Several students mentioned the importance of a friend that were supportive to them.

AMY: Well, the people that we hang out with are mostly the girls in that class and we're really close because we can tell each other everything pretty much and we're always there for each other.

A few students also talked about the importance of having fun with your friends, enjoying them and laughing with them.

EMILY: [My friends] are always there to help me. Always there to listen to me and they're fun. I love to laugh, I love to laugh a lot and that's what they do.

Having no specific best friend. In the discussions of friendship, some students did not view themselves as having a specific best friend. In both the high and low school connectedness groups, there were some students who discussed not having a definite best friend they hang out with.

SOOKIE: I've had different friends throughout the years. I've changed friends a lot. I don't know, like I guess I don't get really close to people easily.

SHELDON: I don't want to say that I don't have friends but I don't really have a best friend. I am just around those people that I have things in common with depending on the class. I am not too fond of hanging out after school. I am fairly busy, busy guy.

Commitment to education

When talking about their schools, one thing that was a common topic was the quality of their schools. They also identified the importance of scholarship in furthering their education. The two sub-themes that emerged from students conversations about "commitment to education" were school quality and scholarships.

School quality. When discussing their school and the quality of their education, some students had positive things to say about their teachers and their school.

FRANCINE: But the teachers care though. They're good teachers. They all take the time really sit down with you and if you are not really learning then they will take their time out of their day to actually go through it with you.

Other students recognized where the school or teacher instruction were lacking.

LINDSAY: I think our school could have a better curriculum and I think that teacher wise...I feel like they're always on their email and stuff and they don't teach you and when you want help, they'll say go ask somebody else.

Scholarships. Students also recognized the need for scholarships in helping them to further their education after high school. Many of them

talked about their agricultural education programs being able to provide avenues to good scholarships.

HENRY: You can do what you're good at [in FFA]. You can focus on that and then the good part is in the end, when you get all this stuff, you can add it up and you can get like scholarships from them. And it's good to have it on your resume or whatever to get scholarships from other places.

School/classroom environment

Due to the nature of this study and its focus on agricultural education, one of the topics discussed in this theme was the agricultural education classroom environment. Other topics that came up when discussing the school environment were about the drama and rumors at their schools and some of the rules students didn't like or thought were hypocritical. In turn, the three sub-themes that emerged were the agricultural education classroom, drama/rumors, and rules.

Agricultural education classroom. Sometimes without being prompted, students began to discuss the advantages of their agricultural education classroom environment over the other classrooms in their school. Some of the characteristics they used to describe the environment were autonomous, interesting, and boring. Some students talked about how they liked the autonomy of the agricultural education classroom. They appreciated the freedom and choice they were provided when it came to what they were learning and how they were learning it.

LINDSAY: Like when the bell rings to come to my 5th period, a weight gets off my shoulders. I like knowing that I come out here and its separate from the school and it's not someone looking down on me. I get to go do my own thing and they help me and I like it.

Students also viewed the agricultural education classroom as either interesting or boring. Some found it to be interesting because it was hands-on or they valued what they learned while others found it boring.

LESLIE: It's like things that you can go out of the classroom and apply to life.

JACKSON: Just doing the same stuff everyday is kind of boring.

Drama/rumors. Although it came up in different parts of the discussion, at least one person from almost every school talked about drama or rumors and its impact on the school environment. Students discussed how drama and rumors were the source of fights and other issues in their schools.

CLARA: All the drama. Everybody always starts everything with somebody or over the stupidest little thing and it gets so old. Rumors start going around.

LEONARD: Ok, you say something to somebody and they say it to somebody else. That's just disrespectful...And the rumors don't just stop at the school, I mean, it goes throughout towns.

Rules. In the discussion of what students liked and did not like about their schools, rules was a common topic among the things they did not like. Many of the students felt that certain rules were too strict or were hypocritical.

HENRY: After school, if you had your phone out, teachers would take it up and stuff but now it's from like the start of school till the end of school as long as you don't have it out but then teachers are sitting there at their desks and playing on their phones.

MADLINE: Guys have to shave and like the teachers, we have a lot of guy teachers, they get to have facial hair. I don't see why the boys have to shave.

Conclusions, Implications, and Recommendations

Upon examination of students' perceived level of adult support, positive peer groups, commitment to education, and positive school environment factors and their overall school connectedness based on their involvement with the local agricultural education program, it was found that students rated all four school connectedness factors above the mid-point on

level of agreement of prevalence in their agricultural education programs.

However, respondents rated the school connectedness promotion factors of positive environment and commitment to education as the highest in their agricultural education program. Since these factors are strongly tied to the classroom and laboratory instruction component of agricultural education, this suggests students may perceive the classroom and laboratory instruction component as the strongest part of the agricultural education model.

An independent *t*-test revealed no significant differences between the students' summated scores on the school connectedness promotion factor scales from 1A and 3A schools. However, there was a significant difference found between the students' summated scores on the peer group school connectedness promotion factor scale for males and females, indicating females' summated scores were statistically significantly higher for the peer group construct. These findings on gender differences with friendships or peer groups are comparable to those of Parker and Asher (1993), who found girls were more likely than boys to have a friend. They also found girls had significantly more friends than boys. Independent *t*-tests also revealed differences in overall school connectedness between the school size and gender characteristics. The difference in overall school connectedness between 1A and 3A schools was statistically significant suggesting students at 1A schools feel significantly more connected than those from 3A schools. The difference in overall school connectedness between males and females was also statistically significant indicating females feel more connected than males. These findings about differences in school connectedness are comparable to previous studies. When looking at differences in school size, McNeely et al. (2002) found students in smaller schools felt more attached to school than those in larger schools and the school size coefficient explained a meaningful proportion of the variance in school connectedness.

When a multiple regression was conducted, a statistically significant relationship, $F(4, 250) = 51.56, p < .05$, was found between the linear

combination of promotion factor measures and the school connectedness scale. Approximately 45% of the variance of the school connectedness scale in the sample could be accounted for by the linear combination of promotion factor measures (Figure 3). Additionally, all the bivariate correlations between the promotion factor measures and the school connectedness scale were positive and statistically significant ($p < .05$). However, when controlling for all other predictors, only the measures for adult support ($r = .32, p < .05$) and commitment to education ($r = .24, p < .05$) were significantly correlated with the school connectedness scale. These relationships indicated the school connectedness promotion factors present in agricultural education programs should be considered when determining what affects students' sense of connectedness. The variability explained by these factors suggests agricultural education programs have an opportunity to make an impact in the lives of students and how connected they feel to their school, especially in the areas of adult support and commitment to education.

In analyzing the transcriptions of the focus groups, five main themes emerged: school connectedness, adult support, friendship/peer groups, commitment to education, and school/classroom environment. A conceptualization of the focus group themes and sub-themes (Figure 4) illustrates the themes that emerged were closely aligned to the CDC's Promoting School Connectedness model (2009). Although most of the themes and sub-themes that emerged focused on positive aspects, new factors emerged with a few focused on negative or mixed perspectives. Within the school/classroom environment theme, the "drama/rumors" and "rules" sub-themes focused on students' negative feelings about their school environment. The "finding your place" sub-theme within school connectedness and the "school quality" sub-theme within commitment to education contained both positive and negative feelings about those topics. As these new themes as well as the potential directional nature of some of these themes we not reflected in previous research efforts including, the CDC's *Promoting School Connectedness* model (2009), the results of this research raises

additional research questions as to the validity of the existing models and/or the uniqueness that may exist within singular curriculum programs found in a secondary school system.

This study also raises a number of questions needing further investigation. This study should be replicated with a larger population to increase the confidence and subsequent generalizability of these findings. Future research should also consider how differences in teacher quality may impact students' perceptions students' overall sense of school connectedness and adult support as this potential factor also emerged throughout the qualitative portion of this study. Of particular importance, future research should consider the newly identified factors and directional nature of some of the factors as found in the qualitative portion. These factors should be reflected in modifications of the quantitative instrumentation in future studies. These modifications create potential to explain a greater portion of the variance in the CDC's *Promoting School Connectedness* model (2009) as they would be applied to the factors that did not explain a large portion of the variance in the model.

In regards to the findings on school size and gender, additional research is needed to further examine the differences that appeared between 1A and 3A school students and between males and females. Finally, further study is encouraged to better understand the relationship between students' various demographic variables and the impact they have on school connectedness. An increased understanding will facilitate educational efforts to provide interventions to students who are likely to drop out of school or engage in negative health behaviors due to a lower sense of school connectedness.

Agriculture teachers serve as a foundation of agricultural education programs. Adult support and commitment to education, the most highly correlated factors, should be visible throughout all three components of the agricultural education model. Agriculture teachers should realize the important role they provide in supporting students and focus on the importance of education. Ag teachers should make an effort to get to know their students and show sincere care and concern for them since students

discussed their appreciation of caring and supportive teachers. Ag teachers should also be available to students and encourage students to do their best since students commented they appreciate dedicated and motivating teachers.

Overall, agriculture teachers should be encouraged to be caring and supportive toward students, as well as be invested in their students' educations.

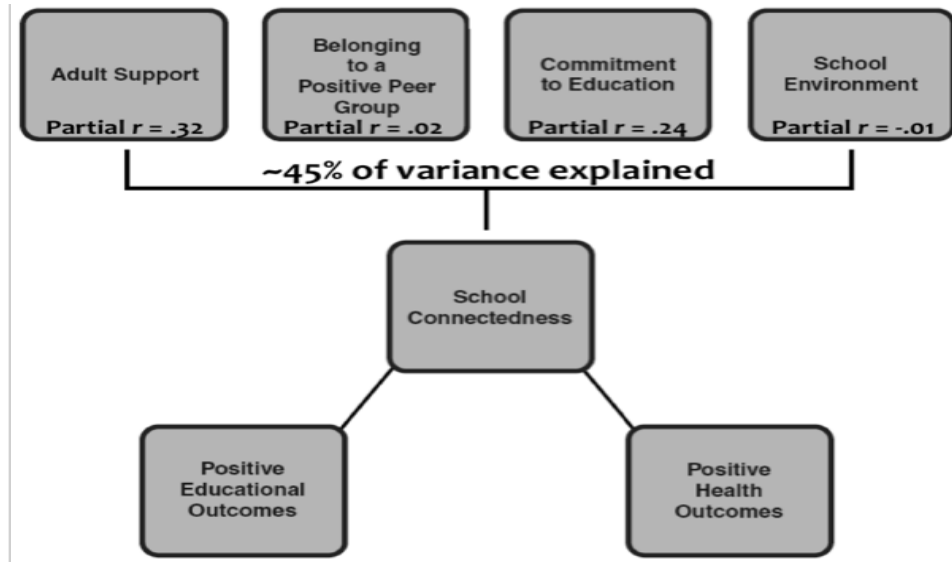


Figure 3. Visual representation of the factor analysis results using the CDC's Promoting School Connectedness Model (2009).

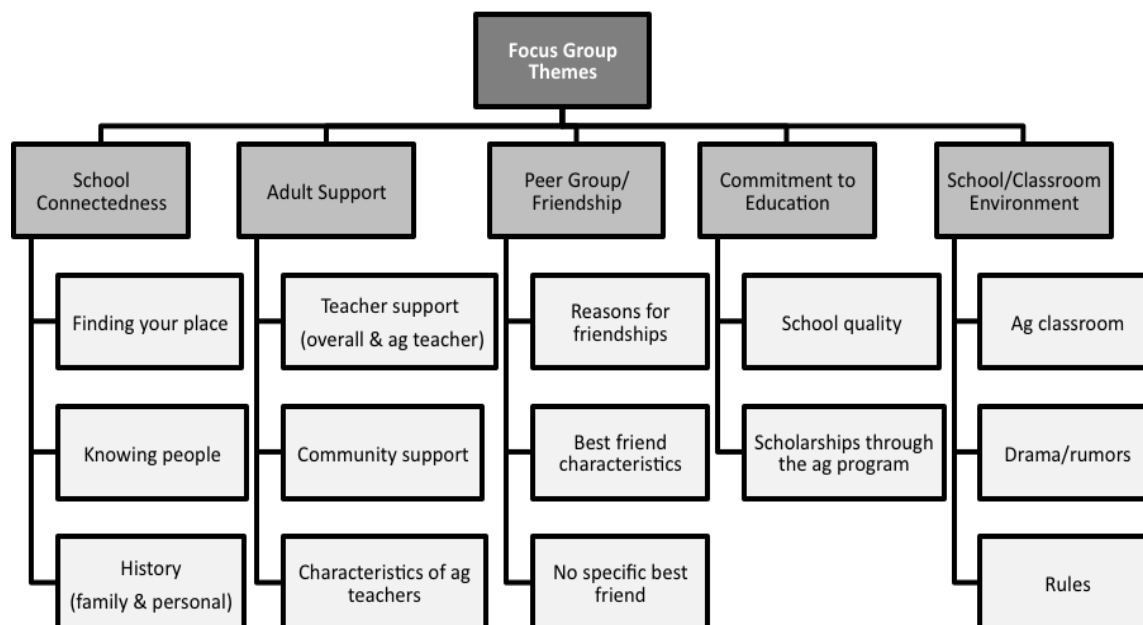


Figure 4. School connectedness themes and sub-themes that emerged from student focus groups.

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