

MOTIVATIONAL NEEDS OF STUDENTS ENROLLED IN
AGRICULTURAL EDUCATION PROGRAMS
IN GEORGIA

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Abstract

The purpose of this study was to examine the motivational needs of students enrolled in agricultural education classes in Georgia. The study was based on McClelland's motivational needs theory. The data determined that agricultural students were motivated by the need for achievement and that FFA members had a greater need for achievement, affiliation, and power than non FFA members. The study also determined that female agricultural education students had a higher need for affiliation and power than male students, and that African-American students had a higher need for achievement and power. Freshmen had a lower need for power than students in the upper grades. Caucasians students had a higher need for affiliation: students living on a farm and in a rural setting had a higher need for power than students living in an urban setting.

Some educators consider Agricultural education at the high school level to be successful at motivating students to learn. The FFA program has been an integral component of the program aimed at motivating students to learn a variety of different skills at all levels of learning (Phipps and Osborne, 1988). Dormody and SeEVERS (1994) suggested that students should be encouraged to join the FFA and participate in leadership activities regardless of self-esteem, years in the FFA, age, ethnicity, or place of residence. Cheek, Arrington, Carter, and Randell (1994) recommended that teachers should encourage students to join the FFA. They further wrote that educators should devise strategies to encourage students to actively participate in the FFA and the Supervised Agricultural Experience Program (SAEP). A major problem in Georgia is that the number of students enrolled in FFA is substantially lower than the number enrolled in agricultural education.

This study was unique in that there had not been a study conducted on the subject of motivation

and agricultural education students in the state of Georgia. Over the years, a number of national studies have addressed the issue. However, recent national studies concerned with motivation centered around factors educators believed to motivate students but not with the motivational needs as perceived by students (Connors, Moore & Elliot, 1990; Dormody & SeEVERS, 1994; Hoover & Scanlon, 1991a; Luft & Giese, 1991; Marshal, Herring & Briers, 1992; Talbert & Larke, 1993).

Theoretical Framework

The motivational theory developed by McClelland (1987) was selected for the theoretical foundation of the study. McClelland's theory described three different types of motivational needs: the need for achievement (nAch), the need for affiliation (nAff), and the need for power (nPower). His theory suggests intrinsic motivators as being critical to meeting the needs of students because they describe a pattern of how a person may behave. He proposed that people have either

one or a combination of three needs which motivate them toward a certain pattern of behavior.

McClelland (1962) described the person with a high need for achievement as one who likes situations in which he/she takes personal responsibility for finding solutions to problems. They set moderate achievement goals and take calculated risks. People with a high need for achievement like to make things better. This is indicated by a willingness to compete with a standard of excellence as a guideline to evaluate personal performance. McClelland and Steele (1973) also wrote that they want concrete feedback on how well they are doing.

A student with a high need for achievement does not like work that is too easy or too hard (McClelland, 1987). If a task is too easy, then there is no "real" improvement. If the task is too hard, then by not completing the task, no improvement was accomplished either provide concrete feedback to students with a high need for achievement.

A person with a high need for affiliation tends to think often about the quality of his/her relationships (McClelland, 1987). This person will cherish the positive experiences while worrying about any shortcomings in a relationship. A person with a high need for affiliation will seek the companionship of others and take steps to be liked by them, as well as wanting to project a favorable image. This person will tend to be the peacemaker by smoothing out disagreements and often chooses to work and make decisions in a group.

The characteristics of a person with a high need for power are control and influence (McClelland, 1987). This person will spend more time thinking about how to obtain and exercise power and authority. A person with a high need for power needs to win arguments, persuade others, to prevail, and to obtain positions where they can exert influence (McClelland & Steele, 1973). McClelland (1987) suggested that there are two

faces of power. The first face has a negative connotation, one that is concerned with having one's way by controlling and dominating others. The other face of power is called "social" or "institutional." It reflects the process of leadership that uses persuasion and inspiration to help people achieve, *to be* happy, and to learn. This type of person is one who helps people form and attain goals while not dominating them.

If the motivators can be identified, then behavior may be predicted. By exploring these motivational needs; educators can determine what motivates their students to enroll and participate in agricultural education classes and the FFA. An important part of participating in an activity for any student is that the student is responsible for choosing the activity in which he/she would like to participate in activities such as those provided through FFA (Carter & Nelson, 1984).

There may be a variety of factors that motivate young people to affiliate with a group such as agricultural education and the FFA. In order to begin to comprehend these reasons, agricultural educators need to understand the motivational need structure of their students. The information from this study should aid educators in recruiting students and in developing programs that will help retain students.

Objectives of the Study

The overall objective of the study was to examine motivational needs of students who enroll in agricultural education classes.

The research questions for this study were:

1. What are the motivational needs of students enrolled in secondary agricultural education programs in Georgia?

2. Are there differences in the need for achievement, need for affiliation, and/or the need for power among students enrolled in agricultural education programs in Georgia based on membership/non-membership in the FFA?
3. Are there differences in the need for achievement, need for affiliation, and the need for power of students enrolled in agricultural education programs in Georgia when grouped by: gender; geographic location; ethnic background; and scholastic standings?

Methodology

The population for this study was all of the approximately 15,000 students in Georgia enrolled in agricultural education classes in January and February 1996. According to Kingery, Bryant, Palmer, and Araghi (1989) "the sample size is determined in part by the population size, however, once the population is more than 1,000, the size of the population has little added influence on the sample size" (p. 53). For example according to the table developed by Kingery, et al, a sample of 383 is sufficient for a population of 100,000 subjects. There were approximately 15,000 students enrolled in high school Agricultural Education Programs in Georgia at the time of the study. To ensure an adequate sample, 24 schools having high school agricultural education programs were randomly selected to participate in the study. State Department of Education personnel estimated the average number, of students in agricultural education programs in Georgia to be between 90 and 100 students (Wilkinson, J. K. personal communication, November 12, 1996).

To collect data for the study, a questionnaire instrument was developed by the researchers. Some questionnaire items were modified from an instrument used by Chusmir (1989) and some were designed by the researchers. To help ensure validity, the instrument was reviewed by a panel of

faculty and graduate and undergraduate students at The University of Georgia. Revisions were made based on input from the first review and the instrument was submitted to the panel for a second review. After additional refinement based on the second review, the instrument was pilot tested using thirty students at a high school that was not part of the study. Minor refinements were made to the instrument as a result of the pilot study. The data from the pilot study were analyzed using Cronbach's alpha to measure the internal consistency reliability. Litwin (1995) suggested that "when developing an instrument it is imperative to test for reliability before using it to collect data from which you will draw inferences" (p. 27). The overall Cronbach's alpha for the study was .82. The alpha for the five items measuring achievement was .89. The alpha for the items measuring affiliation was .77 and the alpha for power was .81.

The instrument was divided into two parts. The first part was designed to determine the motivational needs of agricultural education students. Five statements focused on each of the three motivational factors (achievement, affiliation, and power) responses were obtained using a five-point Likert scale where 1 equaled Strongly Disagree; 2 equaled Disagree; 3 equaled Undecided; 4 equaled Agree, and 5 equaled Strongly Agree. The second part of the instrument was designed to collect demographic information from the population.

An original contact letter was mailed to the twenty-four schools randomly selected to participate in the study. The letter explained the purpose of the study and asked the instructors for their participation. With the letter, each instructor was sent a response card with a self-addressed, stamped, return envelope. On the card, they were asked to write the name of the school, check whether or not they would participate in the study, indicate their largest class size, the total number of students in the program, and to sign their name. Follow-up phone calls were made to the non-respondents. If the instructors of the non-respondent programs agreed

to participate in the study, they were asked to give the size of their largest class and the total number of students in the program. All twenty-four schools agreed to participate in the study. Packets containing a cover letter, an instrument for the teacher, an instruction sheet, and enough questionnaires for all the students in the program were mailed to each of the twenty-four programs participating in the study. Two weeks later, follow-up phone calls were made to the schools who had not returned their packages. A total of 22 out of 24 schools returned the surveys for a return rate of 92%. This resulted in a total of 1,952 respondents which provided substantially more than enough respondents to provide a significance level of .05.

Findings

The first research question was concerned with determining the motivational needs of students enrolled in secondary agricultural education programs. The fifteen questions that examined the need for achievement, need for affiliation, and need for power were summated for each motivator and analyzed with an Analysis of Variance (ANOVA). Because this analysis revealed that there were statistically significant differences in these variables, Tukey HSD (Honestly Significant

Differences) method was utilized to compare the group mean scores. These data are presented in Table 1.

The need for achievement had the highest mean ($M = 3.86$), and the lowest mean was the need for power ($M = 3.36$). As a whole, the agricultural education students expressed a higher need for achievement than affiliation or power and a higher need for affiliation than power. However, it should be noted that the mean responses were lower than the Agree @ level of 4.

Research question two determined differences in the need for achievement, need for affiliation, and the need for power among students enrolled in agricultural education programs in Georgia based on membership/non-membership in the FFA. The fifteen questions that examined the need for achievement, need for affiliation, and need for power and the demographic variable of FFA membership/non-membership were examined with a series of t-tests. The results revealed that there were statistically significant differences for need for achievement ($p = .000$), need for affiliation ($p = .007$), and the need for power ($p = .000$) based on FFA membership and non-membership. These data are presented in Table 2.

Table 1. Means, Standard Deviations, and Analysis of Variance for Agricultural Education Students and the Need for Achievement, Affiliation, and Power

Source	M	SD	df	F	p>F	Tukey Post Hoc
Agriculture Education Students			2	387.4	.0001	1>2>3
Motivational Needs			1902			
Achievement (1)	3.86	.626				
Affiliation (2)	3.58	.672				
Power (3)	3.36	.781				
Corrected Total			1904			

Compared to non-members, agricultural education students who were members of the FFA had a higher need for achievement ($M = 3.90$), a higher need for affiliation ($M = 3.61$), and a higher need for power ($M = 3.46$) than agricultural education students who were not members of the FFA.

Research question three sought to determine differences in the need for achievement, need for affiliation, and the need for power for agricultural education students in Georgia when grouped by

gender: geographic location, ethnic background, and scholastic standings. A series of Analysis of Variance (ANOVA) and t-tests were used to determine the differences based on each dependent variable. The first series of t-tests included the variable of gender. There were no statistically significant differences based on gender for the need for achievement ($p = .915$); however, statistically significant differences were identified for the need for affiliation ($p = .004$) and the need for power ($p = .000$) between male and female students. These data are presented in Table 3.

Table 2. T-test for nAch, nAff and nPower of Agricultural Education Students Based on FFA Membership/Non-membership

FFA Membership	n	M	SD	t-value	p
<u>Achievement</u>					
Yes	1344	3.90	.614	4.06	.000
No	605	3.79	.646		
<u>Affiliation</u>					
Yes	1344	3.61	.664	2.69	.007
No	605	3.52	.688		
Power					
Yes	1344	3.46	.767	8.95	.000
No	605	3.13	.761		
Total	1949				

Table 3 T-test for Gender Differences in nAch, nAff and nPower

Gender	n	M	SD	t-value	p
<u>Achievement</u>					
Male	1319	3.87	.638	.107	.915
Female	629	3.86	.603		
<u>Affiliation</u>					
Male	1319	3.55	.688	-2.89	.004
Female	629	3.65	.628		
Power					
Male	1319	3.31	.787	-4.34	.000
Female	629	3.47	.760		
Total	1948				

Female students had a higher need for affiliation ($M = 3.65$) and a higher need for power ($M = 3.47$) than male students enrolled in agricultural education classes.

The next variable in research question three was geographic location. The first part of geographic location was concerned with students who lived on a farm and students who did not live on a farm. Results from the t-tests are presented in Table 4.

The results from the t-tests indicate that there were no statistically significant differences for the need for achievement ($p = .275$) and for the need for affiliation ($p = .906$). However, students living on a farm had a higher need for power ($M = 3.50$) than students who did not live on a farm ($M = 3.33$).

The second category of geographic location was concerned with students who live in a rural or an urban setting. Results from the t-tests are presented

in Table 5. They indicate that there were no statistically significant differences in the need for achievement ($t(p = .118)$) and in the need for affiliation ($p = .920$). However, there were statistically significant differences in the need for power ($p = .002$). Students living in a rural setting had a higher need for power ($M = 3.39$) than students living in an urban setting ($M = 3.26$).

The third variable for research question three was ethnic background. An Analysis of Variance (ANOVA) was utilized to determine if there were differences in the need for achievement, the need for affiliation, or the need for power based on ethnic background.

The results revealed that there were statistically significant differences for all three variables, the need for achievement ($p = .000$), need for affiliation ($p = .001$), and need for power ($p = .032$). The data for these analyses are illustrated in Table 6, Table 7, and Table 8.

Table 4. T-test for Achievement, Affiliation, and Power based on Geographic Location: Students Living on a Farm vs. Students not Living on a Farm

Geographic Location	n	M	SD	t-value	p
Achievement					
Live: On Farm	380	3.90	.641	1.09	.274
Not on Farm	1565	3.86	.622		
Affiliation					
Live: On Farm	380	3.58	.688	-.118	.906
Not on Farm	1565	3.58	.668		
Power					
Live: On Farm	380	3.50	.824	4.08	.000
Not on Farm	1565	3.33	.765		
Total	1945				

Table 5. T-test for nAch, nAff, and nPower based on Geographic Location: Students Living in a Rural Setting and Students living in an Urban Setting

	Geographic Location	n	M	SD	t-value	p
<u>Achievement</u>	Rural	1514	3.88	.618	1.56	.118
	Urban	431	3.82	.651		
<u>Affiliation</u>	Rural	1514	3.58	.672	.1010	.920
	Urban	431	3.58	.672		
Power	Rural	1514	3.39	.775	3.07	.002
	Urban	431	3.26	.789		
Total		1945				

Because differences in the need for achievement were found to be statistically significant, Tukey HSD (Honestly Significant Differences) method was utilized to compare the means of the groups. Agricultural education students who are African-American expressed a higher need for achievement ($M = 4.04$) than students who are classified as other ($M = 3.56$) or Caucasian ($M = 3.86$). Agricultural education students who are Caucasian ($M = 3.86$) had a higher need for achievement than students classified as other ($M = 3.56$).

Caucasian agricultural education student ($M = 3.60$) had a higher need for affiliation than African-American students ($M = 3.52$) and students classified as other ($M = 3.32$). African-American students ($M = 3.52$) had a higher need for affiliation than students classified as other ($M = 3.32$).

African-American agricultural education student ($M = 3.41$) had a higher need for power

than agricultural students who are classified as other ($M = 3.14$) and Caucasian ($M = 3.36$). Caucasian agricultural education student ($M = 3.36$) had a higher need for power than students classified as other ($M = 3.14$).

The last category in this research question was the scholastic standing of the students. Results of the ANOVA revealed no significant differences among freshmen, sophomores, juniors, and seniors in regard to achievement and affiliation. However, freshmen students had a lower need for power than did sophomores, juniors and seniors (see table 9).

Conclusions

The findings reflected several significant differences; however these differences were, in most cases only a fraction of step between the scale indicators ranging from strongly disagree to strongly agree. Findings, conclusions, and recommendations should be viewed and assessed in light of these differences.

Table 6. Means, Standard Deviation, and Analysis of Variance for Ethnic Background and the Need for Achievement

Source	M	SD	df	F	p>F	Tukey Post Hoc
Ethnic Background			2	16.51	.000	1>2&3 3>2
African America n(1)	4.04	.58				
Other (2)	3.56	.99				
Caucasian (3)	3.86	.61				
Achievement			1946			
Corrected Total			1948			

Table 7. Means, Standard Deviations, and Analysis of Variance for Ethnic Background and the Need for Affiliation

Source	M	SD	df	F	p>	Tukey F Post Hoc
Ethnic Background			2	6.84	.001	3 >1&2 1>2
African-America n(1)	3.52	.71				
Other(2)		3.32	.86			
Caucasian (3)	3.60	.66				
Affiliation			1946			
Corrected Total			1948			

Table 8. Means, Standard Deviation, and Analysis of Variance for Ethnic Background and the Need for Power

Source	M	SD	df	F	p>F	Tukey Post hoc
Ethnic Background			2	3.44	.032	1>2&3 3>2
African-America n(1)	3.41	.76				
Other (2)	3.14	1.08				
Caucasian (3)	3.36	.77				
Power			1946			
Corrected Total			1948			

Table 9. Means, Standard Deviations, and Analysis of Variance for Scholastic Standing and the Need for Power

Source	M	SD	df	F	p>F	Tukey Post Hoc
Scholastic Standing			3	8.12	.0001	1 < 2,3,4
Freshman	3.23	.77				
Sophomore	3.37	.77				
Junior	3.41	.79				
Senior	3.49	.78				
Achievement			1944			
Corrected Total = 1947						

Note. 1 = freshman 2 = sophomore 3 = junior, and 4 = senior.

- As a whole the respondents were less than agreeable with the 3 needs as expressed by McClelland. Almost all of the mean responses were less than 4 (Agree) which seems to suggest that the students were not strongly motivated by the three motivators.
- As a whole, agricultural education students had a higher need for achievement than the need for affiliation. Agricultural education students = need for affiliation was stronger than their need for power.
- Agricultural education students who join the FFA had a higher need for achievement, a higher need for affiliation, and a higher need for power than agricultural education students who did not join the FFA.
- Female agricultural education students had a higher need for affiliation and a higher need for power than male students. However, there was no difference in the need for achievement between male and female agricultural education students.
- Students living on a farm had a higher need for power than students not living on a farm. However, there were no differences in the need for achievement and the need for affiliation between students living on a farm and students not living on a farm.
- Students living in a rural setting had a higher need for power than students living in an urban setting. There were no differences in the need for achievement and the need for affiliation between students who lived in a rural setting and students who lived in an urban setting.
- Agricultural education students who were African-American had a higher need for achievement than students who were classified as others and Caucasian. Agricultural education students who were Caucasian had a higher need for achievement than students classified as other. Caucasian agricultural education students had a higher need for affiliation than African-American and students classified as others. African-American students had a higher need for affiliation than students classified as others. African-American agricultural education students had a higher need for power than agricultural students who are classified as others and Caucasian. Caucasian

agricultural education students had a higher need for power than students classified as other students.

8. Freshmen had a lower need for power than students the higher grades. This is probably a reflection of the age difference and the maturing process.

Recommendations

The following recommendations are based on the findings and conclusions of this study.

1. Since the data suggested that students are not strongly motivated by the 3 motivators advocated by McClelland, more research should be conducted to determine if there are other areas that are stronger motivators. However, the data in the study should provide a comparison for the motivators as described by McClelland. This should give educators an idea of how different sub groups are motivated.
2. Agricultural educators should emphasize activities that appeal to agricultural education students = need for achievement more than the need for affiliation. They should also emphasize activities that appeal to the students need for affiliation more so than the need for power. Even though the need for power is the weakest need of agricultural students, it should not be overlooked. African-American students have this as a high need, and situations should be created for these students.
3. Students who enroll in the FFA have a higher need for achievement, need for affiliation, and the need for power than students who do not join the FFA. Agricultural educators can utilize the agricultural education program to meet these needs. For example, students with a high need for achievement are hardworking, energetic, determined and productive (Chusmir, 1990). They set moderate goals and take calculated risks. These students like to work with a standard of excellence because it provides a guideline to evaluate personal performance (McClelland & Steele, 1987).
4. Female agricultural students need activities that will meet their need for affiliation and the need for power more so than male agricultural students. If teachers can provide these needs, then female students should be motivated to participate. Agricultural educators should be aware that female students are motivated to participate in different ways than male students.
5. Students living on a farm had a higher need for power than students not living on a farm. As there are more students who do not live on farms, agricultural educators should try to meet the need for power of the students living on a farm, as well as the greater motivational needs of nonfarm students = achievement and affiliation to motivate participation.
6. Students living in a rural setting had a higher need for power than students living in an urban setting. As agricultural educators try to increase diversity within their programs, they should try to meet the need for power of the students living in a rural setting and the motivational needs of urban students = need for achievement and need for affiliation in order to motivate them to participate.
7. Agricultural education has traditionally been composed of white, rural male students. Agricultural educators must provide opportunities to meet the motivational needs of African-American

and students classified as others to participate.

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