

CONTRIBUTIONS OF AGRICULTURAL EDUCATION, FFA, AND 4-H TO STUDENT LEADERSHIP IN AGRICULTURAL COLLEGES

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Abstract

University administrators have questioned the value of FFA and 4-H to agricultural colleges. Student leadership may be one unforeseen value of these organizations. FFA and 4-H have proclaimed to develop high levels of leadership in youth. To date, little research exists on the leadership outcomes of students who have participated in FFA and 4-H. Research presented in this paper identifies undergraduate student leaders in an agricultural college, delineates their prior leadership training and participation in high school activities, and proposes relationships between involvement in FFA and 4-H and undergraduate student leadership in a land-grant college of agriculture. The population studied in this research was undergraduate positional leaders (n=167) in the College of Agricultural and Life Sciences (CALs) at the University of Florida. Findings indicated that student leaders, one-third of which were former FFA members, were involved in a variety of high school leadership organizations. Student leaders across the college served in an average of 1.45 offices and participated in 2.36 organizations. Former FFA and 4-H members held more offices and participated in more organizations than non-FFA and non-4-H members.

Introduction and Theoretical Framework

What is the value of agricultural education, FFA, and 4-H to a college of agriculture? How does secondary agricultural education benefit the university's endeavors to provide a balanced education for students, including academic classroom preparation, as well as opportunities for leadership through clubs and organizations?

According to Gardner (1990), leadership is "the process of persuasion or example by which an individual (or leadership team) induces a group to pursue objectives held by the leader or shared by the leader and his or her followers" (p. 1). Bennis (1989) theorized that leadership is "first being, then doing," (p. 141) and defined by "the ability to create and realize a vision" (p. 194). Maxwell (1993) greatly shortened the definition of leadership as, "influence" (p. 1). Leaders make a difference in their work, their community, and their families (Kouzes & Posner, 2002; Schumacher & Swan, 1993).

Leadership can be taught and learned (Bennis, 1989; Kouzes & Posner, 2002; Maxwell, 1993). Leadership may be inborn, but is more about practice and reflection on experiences than personality or genetic birthright (Bennis; Kouzes & Posner). Thus, colleges of agriculture and agricultural education departments have worked to develop leadership curricula, however many undergraduate students initiated their leadership development through experiences and activities well before entering the collegiate setting.

The theoretical framework for this research is Ajzen and Fishbein's theory of planned behavior (Figure 1). The theory posits, "perceived behavioral control, together with behavioral intention, can be used directly to predict behavioral achievement" (Ajzen, 1991, p. 184). The *perceived behavioral control* construct builds upon a foundation of Bandura's research on self-efficacy. Students who served as officers in high school organizations developed self-efficacy about

leadership and will serve as officers in collegiate organizations.

Agricultural youth organizations focus on developing leadership in members. The National FFA Organization mission statement states, “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” (National FFA Organization, 2002, p. 4). To accomplish the mission, FFA “develops competent and assertive agricultural leadership” and “develops interpersonal

skills in teamwork, communications, human relations, and social interaction” (National FFA Organization, p. 4). The National FFA Organization has developed leadership curricula, *FFALifeKnowledge*[®], for secondary agricultural education students, and the national 4-H website (National 4-H, 2003) professes that, “4-H builds the leaders of tomorrow.” This research proposes to answer questions about how these youth organizations develop leadership skills and attitudes that carry forward into collegiate student leadership positions.

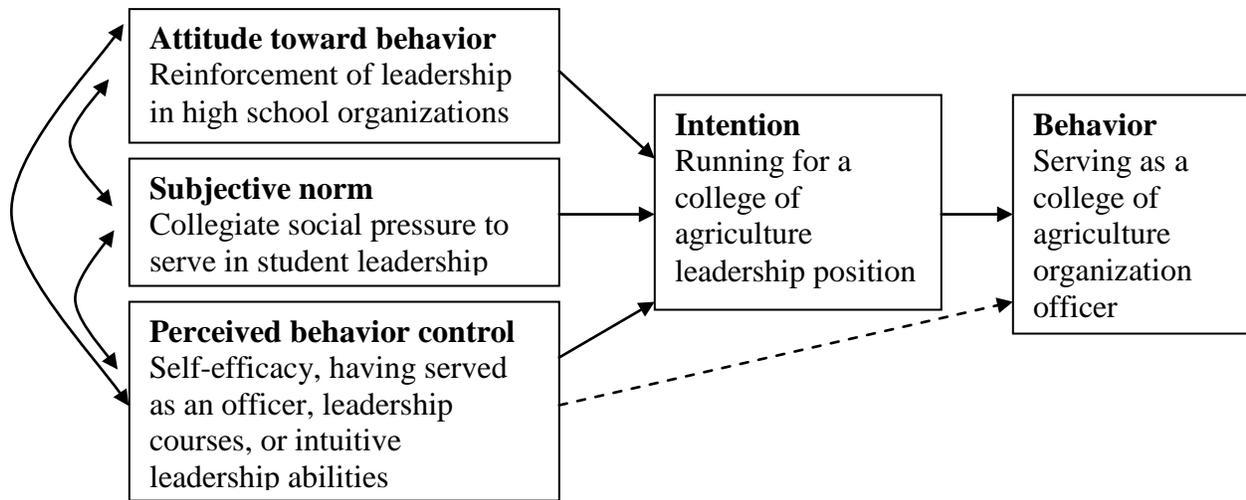


Figure 1. Theory of planned behavior (Ajzen, 1991)

Studies have indicated that participation in FFA enhances leadership abilities. Several researchers (Townsend & Carter, 1983; Wingenbach & Kahler, 1997) found a positive relationship between leadership skills scores and FFA participation. Ricketts (1982) concluded that FFA members possessed significantly higher leadership abilities than students who had not participated in FFA. Dodson (1996) found low, positive relationships between both number of leadership positions-leadership skills and FFA involvement-perceived leadership skills. FFA participation translated into collegiate participation, as Al-Karni (1986) determined a positive relationship between high school extracurricular participation and college participation in organizations. Brick (1998)

found that FFA members who planned to attend college were confident in their leadership skills developed through participation as chapter FFA officers.

Most recently, Balschweid and Talbert (2000), through the Purdue University/Horatio Alger study of FFA members, determined that members earned higher grade point averages and participated in sports, school, and community activities more than non-members. Balschweid and Talbert (2001) determined that only 43.2% of FFA members had served as a chapter officer, and an additional 8.2% served as a committee chair. Balschweid and Talbert (2000) concluded that FFA members were more engaged in school and community activities and career preparations than either

non-members or *typical high school students*.

Leadership development begins prior to enrollment in college and participation in collegiate organizations. Birkenholtz and Schumacher (1994) concluded that participation in student activities in high school and college was positively related to leadership development. Memberships in high school organizations, serving as club officers, and participation in community activities, such as 4-H, have been found to contribute to a student's leadership skills (Birkenholtz & Schumacher). Specifically, participation in FFA and 4-H were found to contribute to students' communication abilities (McKinley, Birkenholtz, & Stewart, 1993).

Enrollment in secondary agricultural education courses and participation in FFA has been shown to contribute to undergraduates' success in colleges. Researchers concluded that undergraduates who enrolled in high school agriscience and participated in FFA and/or 4-H were more likely to complete their degree program than students who did not participate (Ball, Garton, & Dyer, 2001; Cole & Bokor, 1989; Dyer, Breja, & Andreasen, 1999; Dyer, Lacey, & Osborne, 1996). Those students were also more inclined to select agriculture for their major (Dyer, Lacey, & Osborne), less likely to change majors (Cole & Bokor), and earn higher grade point averages (Ball, et. al.). College students who enrolled in secondary agriscience courses spent less time completing degrees than those who did not participate in such courses (Cole & Bokor). Dyer and Breja (1999) posited that more accurate predictors of student retention in college included enrollment in secondary agricultural education courses and experience in agriculture.

In *Returning to our Roots*, the Kellogg Commission on the Future of State and Land-Grant Universities (1997) called for the development of leadership in undergraduates as an important component of a student's total educational experience. The report recommended that universities assist students in developing critical thinking, communication, global perspectives, responsibility, leadership, and

cooperation. Undergraduate students echoed this need for leadership development at the collegiate level. Schumacher and Swan (1993) noted that 87% of undergraduates in a study of 283 students believed leadership training was needed in college.

Agricultural colleges have realized the importance of undergraduate leadership development and have undertaken the development of students' leadership potential through courses in leadership. Schumacher and Swan (1993) determined that a leadership development program in colleges of agriculture was needed. In the colleges housing the agricultural education department, Fritz and Brown (1998) found that 14 of 53 (25.4%) required undergraduate leadership courses for all agricultural and natural resources students enrolled in the institution, and 32 departments (58.1%) required leadership courses of all agricultural education students. Extracurricular experiences of college students contributed greatly to leadership development and prepared students with the skills necessary for workplace competence (Kuh, 1995).

Purpose and Objectives

The purpose of this study is to describe the value of agricultural education, FFA, and 4-H to a college of agriculture. The following objectives for the study were:

1. To identify prior leadership experiences of undergraduate positional leaders,
2. To identify student leadership positions at departmental, university, and community levels,
3. To determine the relationship between positions of leadership in a college of agriculture and prior high school FFA and 4-H experience.

Methods and Procedures

The study was conducted utilizing a sample population survey of undergraduate students serving in current leadership positions in a college of agriculture. According to Dillman (2000), sample

surveys are conducted to “estimate the distribution of characteristics in a population” (p. 9). Web surveys are conducted in much the same way as paper surveys, except the web survey has the ability to use email as a means of contacting potential participants. Likewise, the link to the web page containing the survey may be embedded in the email. Contacting survey participants via email is an acceptable means of communicating (Dillman).

The population for the study was undergraduate student positional leaders in CALS for the 2002-2003 academic year. Undergraduate agricultural student organizations were identified by the listing of organizations on the CALS website, the individual departmental websites within the college, and the Student Activities Center database of college organizations registered with the university. From these sources, 38 student organizations and 167 individual undergraduate student leaders ($N = 167$) were identified.

The study used a researcher-developed survey instrument consisting of the vital demographics and organizational participation as outlined by the study’s objectives. The survey included 27 questions regarding student leadership positions within the college of agriculture, on campus, and in the community; high school extracurricular participation and leadership roles; agricultural education enrollment; and 4-H and FFA participation and leadership.

An expert panel of four teacher educators and five teacher education doctoral students evaluated face and content validity. Minor revisions were made due to recommendations of the expert panel. Because all questions on the survey involved questions for which respondents had “an accurate, ready-made answer” (Dillman, 2000, p. 37), items did not elicit demands for considerable time, thought, nor variation, and thus posed no considerable reliability risk.

After securing contact information for current undergraduate student leaders in the college, they were sent an email outlining their selection and procedures for survey participation. Data were collected from an online survey between December 8, 2002 and January 16, 2003. The online survey

garnered a 75.4% response rate ($n = 126$) after five reminder emails were sent.

To control for non-response error, the researchers compared early to late responders (Ary, Jacobs, & Razavieh, 2002). Research has shown that late responders are often similar to non responders (Goldhor, 1974; Krushat & Molnar, 1993). Early responders were those participants who returned their survey prior to the first reminder, while late responders were those who responded after the fourth reminder. Researchers compared students based upon highest office, number of offices and organizations, student council participation, academic contest participation, 4-H involvement, FFA involvement, college grade level, gender, ethnicity, and enrollment at the university. No significant difference existed between early and late responders.

Results

Student leaders in CALS were primarily upper classmen. Seniors accounted for 56.3% of the respondents, followed by juniors (26.2%), sophomores (7.9%), and one freshman. The majority of student leaders (59%) were admitted to the university as freshmen. Fifty students transferred to the university as juniors (41%). Females dominated the leadership positions with 72.2%, while 27.2% were male; this compares to the campus-wide population of 52% females and 48% males. Whites held 84.1% of the leadership positions, followed by African-Americans and Hispanics (4.8% each), Asian Americans (0.8%), and other ethnicities (4%). Campus-wide, whites constitute 77% of the population, followed by African-Americans (7.2%), Hispanics (9.6%), and Asian Americans (6.8%).

Most student leaders (55.3%) attended a high school where agricultural education courses were offered ($n = 76$). Fifty-one percent ($n = 23$) of FFA members and 36.1% ($n = 13$) of 4-H members were admitted to the university as freshmen. FFA members serving in collegiate office were 62.2% female, 37.8% male, and 88.9% white. 4-H members were 72.2% female, 27.8% male, and 94.4% white.

Objective 1 sought to identify prior leadership experiences of undergraduate positional leaders. Of the 126 student leaders, 28.6% participated in 4-H and 32.5% in FFA. Several high school organizations were most often cited as providing leadership experiences for student leaders prior to their enrollment in college (Table 1). These were academic contests, student council, FFA, agricultural education, 4-H, foreign language clubs, class officers, and science clubs. Several organizations fell into the

middle range of participation (10-20% participation): National Honor Society, intramurals, SADD, volleyball, swimming, basketball, soccer, track, and Beta. Organizations with lower participation included softball (9.5%), cheerleading (8.7%), band and football (7.9% each), debate team (7.1%), cross-country, drill and dance team, and Key Club (5.6% each). For agricultural education, FFA, and 4-H, missing data represents those individuals who did not respond to that individual question.

Table 1
High School Organization Involvement of Leaders in Collegiate Organizations^{ab} (n=126)

High School Organizations	Yes		No		Rank
	<i>n</i>	%	<i>n</i>	%	
Academic Contests	46	36.5	80	63.5	1
Student Council	45	35.7	81	64.3	2
Agricultural Education (missing = 3	42	33.3	81	64.3	3
FFA (missing = 47 (37.3%))	41	32.5	38	30.2	4
4-H (missing = 4 (3.2%))	36	28.6	86	68.3	5
Foreign Language Club	31	24.6	95	75.4	6
Class Officer	30	23.8	96	76.2	7
Science Club	29	23.0	97	77.0	8
National Honor Society	22	17.5	104	82.5	9
Intramurals, SADD ^c	21	16.7	105	83.3	10
Volleyball	18	14.3	108	85.7	12
Swimming	17	13.5	109	86.5	13
Basketball, Soccer, Track ^c	16	12.7	110	87.3	14
Beta	13	10.3	113	89.7	17

^a Organizations with less than 10% participation are omitted. ^b Numbers represent duplicated participation. ^c Numbers represent participation in each listed organization or event.

Several organizations had less than five percent participation. These included baseball, ecology, tennis, Fellowship of Christian Athletes, golf, Interact, yearbook, choir, drama, mock trial, Mu Alpha Tau, weight lifting, wrestling, Anchor, English honor society, Future Business Leaders of America, newspaper, rodeo, Amnesty International, Bible club, Campus Ministry, chess, computer club, crew, equestrian, family and consumer science club, Future Educators of America, literary magazine, math team, pre-vet club, science honor society, Scouts, tae kwon do, varsity leadership club, VICA, water polo, wildlife club, Youth Alive, and Youth for Christ.

Of members who participated in FFA, 78% were at least four-year members. Of 41 students who participated in FFA, 87.8% were officers. Twenty of these (48.8%) served as president. Sixteen students held offices above the

chapter level: two served as national FFA officers, five were state FFA officers, five served at the district level, and four served as sub-district officers. Eight (22.2%) of the student leaders participated in 4-H for 10 years. Fifty percent of former 4-H members had served as an officer in 4-H with 16 (44.4%) students serving as club officers, four as county officers, and one as a state 4-H leader.

Objective 2 sought to identify current leadership positions in organizations held by students (Table 2). Twenty-eight college of agriculture ambassadors responded to the survey, of which 46.5% were former FFA members and 25.0% were 4-H members. Former FFA members comprised 30.7% of the president positions and 37.5% of all officer positions in the college. 4-H members accounted for 23.0% of the president positions and 30.9% of all officer positions.

Table 2
Leadership Positions Held in College Organizations (n = 126)

4-H/FFA Participation	President		Ambassador		Total Offices	
	<i>n</i>	% ^a	<i>n</i>	% ^a	<i>n</i>	% ^a
Non-FFA/4-H	15	57.7	13	46.4	87	51.8
4-H only	3	11.5	2	7.1	18	10.7
FFA / Ag Ed only	5	19.2	8	28.6	29	17.3
Both 4-H & FFA	3	11.5	5	17.9	34	20.2
Total Offices	26	---	28	---	168	---

^aPercent of total officer positions.

Many students held more than one leadership position during the year (see Table 3). Of the 116 students who reported leadership positions in the college of agriculture, 40 students (35.3%) held more than one leadership position. Former 4-H members, former FFA members, and students who had completed secondary agricultural education programs held multiple leadership positions at a higher

rate. Likewise, 16 former 4-H members (44.4%) held more than one leadership position throughout the year, as did 17 former FFA members (41.5%). Eighty-two undergraduate student leaders (70.7%) participated in more than one student organization (see Table 4). Nearly 78% percent of former 4-H members and 88% of former FFA members participated in multiple organizations.

Table 3
Number of Offices Held by Undergraduate Student Leaders (n = 116)

4-H/FFA Participation	Number of Offices				Average
	1	2	3	4	
Non-FFA/4-H	47	14	4	0	1.26
4-H only	6	3	2	0	1.29
FFA / Ag Ed only	15	4	2	0	1.32
Both 4-H & FFA	8	9	0	2	1.62
Total	76	30	8	2	1.45

Table 4
Number of Organizations in which Undergraduate Students Leaders Participate (n=121)

4-H/FFA Participation	Number of Organizations						Average
	1	2	3	4	5	6	
Non-FFA/4-H	30	17	13	4	4	0	2.04
4-H only	4	3	3	1	1	0	2.33
FFA / Ag Ed only	5	6	6	2	1	1	2.57
Both 4-H & FFA	0	8	5	2	5	0	3.20
Total	39	34	27	9	11	1	2.36

As noted in Table 5, 46.8% of undergraduate leaders participated in organizations outside of the college and 50.8% participated in organizations outside the university. Fifteen former 4-H members (41.7%) participated in organizations outside of CALS and 20 (55.6%) participated in an organization outside of the university. Eighteen former FFA members (42.9%) participated in organizations outside of CALS and 26 (61.9%)

participated in organizations outside of the university. Seven FFA members (16.7%) and five 4-H members (13.9%) served in leadership positions in organizations outside the college compared to six non-4-H and non-FFA student leaders (8.7%). Five former FFA members (11.9%) and four former 4-H members (11.1%) led organizations outside the university compared to four non-member student leaders (5.8%).

Table 5
Student Leaders' Participation in Organizations Outside of the College of Agriculture (n=126)

	Outside of CALS				Outside the University			
	Organization		Officer		Organization		Officer	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
4-H/FFA Participation								
Non-FFA/4-H	34	49.2	6	8.7	30	43.5	4	5.8
4-H only	7	---	1	---	8	---	0	---
FFA / Ag Ed only	10	---	3	---	14	---	1	---
Both 4-H & FFA	8	---	4	---	12	---	4	---
Total	59	46.8	14	11.1	64	50.8	9	7.1

Objective 3 sought to determine the relationship between current leadership positions and prior FFA or 4-H experience. On average, FFA and 4-H members held more than one office and participated in more than two organizations. As noted in Table 6, Former 4-H members participated 2.69 organizations per person and held an average of 1.53 leadership

positions per person. This compares to non-4-H members with 1.24 offices and 2.02 organizations per person. Former FFA members held an average of 1.51 officer positions per person, and they participated in an average of 2.83 organizations per person. This compares to non-FFA members with 1.29 offices and 2.08 organizations per person.

Table 6
Average Number of Offices Held and Organizational Membership Based on Prior 4-H and FFA Membership

4-H/FFA Participation		Offices Held	Organizational Membership
4-H	Yes	1.53	2.69
	No	1.24	2.02
FFA	Yes	1.51	2.83
	No	1.29	2.08

Conclusions and Discussion

Student leaders participated in 65 different high school activities, ranging from athletics and academics to community service and honorary organizations. They participated in academic contests, student council, FFA, and 4-H most often. Diversity of prior leadership experiences may reflect the diversity of students attracted to a college of agriculture. Additionally, this study reinforces leadership development through the culmination of many opportunities to practice leadership skills. People accumulate organizational experiences and influences of diverse activities to form perceptions of leadership (Bennis, 1989; Kouzes & Posner, 2002).

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. This may reinforce students' commitment to the organization, derivation of useful skills, and enjoyment in membership.

One of the contributions that former 4-H and FFA members make to a college of agriculture is through recruitment of new students. Many students responsible for recruiting new undergraduate students to the university were FFA and 4-H members. Nearly one-half of the ambassadors were FFA members, and over a quarter were 4-H members. FFA and 4-H affect these

recruitment efforts as many of the ambassadors were trained in leadership and communication through either FFA or 4-H. Perhaps the motivation for former 4-H and FFA members to serve as ambassadors may be generated through the contact that these students have with the college of agriculture during their 4-H and FFA involvement. Thus, a contribution to CALS is through the communication and recruitment efforts of former 4-H and FFA members.

Another contribution that former 4-H and FFA members make to the college of agriculture is through their leadership in campus organizations. Former FFA and 4-H members served in more leadership positions and participated in more organizations than typical CALS student leaders. Nearly 68% of the total student leader population participated in multiple organizations, compared to 78% of former 4-H members and 88% of former FFA members. Former 4-H members led 1.53 organizations and participated in 2.69 organizations. Former FFA members held 1.51 offices per person and participated in 2.83 organizations. Former FFA and 4-H members participated in fewer organizations per person outside of CALS, but did lead those organizations at a slightly higher rate than their peers.

Implications and Recommendations

Leadership abilities are not generated from a sole source of experience. Leadership development arises from participation in different activities with

different people for different purposes (Bennis, 1989; Kouzes & Posner, 2002). Student leaders in CALS participated in a wide array of organizations in high school, including student council, academic contests, FFA, and 4-H. Perhaps these experiences helped forge or at least contributed to the leadership skills necessary to successfully lead in a collegiate setting. Research is needed into the other extracurricular activities in which 4-H and FFA members participate.

FFA and 4-H members provided greater leadership potential than their student population would suggest. They led and participated in more organizations than their peers. When questioning the value of FFA and 4-H to a college of agriculture, one source of contribution is the leadership in student organizations. Student organizations provide valuable experiences for the students, as well as contribute to the entire collegiate experience (Kellogg Commission on the Future of State and Land Grant Universities, 1997), yet not all students participate in organizations as leaders. Leadership appears to be originating from several areas, among which 4-H and/or FFA involvement appears to be foremost.

Former 4-H and FFA members contributed to further the undergraduate leadership experiences of students in agricultural colleges by leading student organizations. By leading and participating in student organizations, former 4-H and FFA members contribute to the overall health of student life in the college. Through these student organizations, former 4-H and FFA members lead community service events, organize college banquets, serve on committees, interact with alumni, and perform a variety of other functions.

Further, former 4-H and FFA members are involved with and lead organizations outside of the college of agriculture and the university. This involvement and leadership helps promote the college of agriculture on campus and the university in the community. Through involvement with ambassador organizations, community service, and other functions that cross the boundaries of the college and the university, former 4-H and FFA members may

contribute to the "face" of the university in a positive, articulate way.

Similar to research on volunteerism and community service (Sax, Astin, & Avalos, 1998), this study found that leadership development and organizational participation in high school appears to translate into continued involvement in college. If a similar pattern would hold true into professional careers, some of the current undergraduate leaders may develop into community and state leaders in agriculture. Thus, continued support for the university, both philosophically and financially, may be an added benefit that 4-H and FFA provide, as students become professionals and community leaders.

Recommendations posed by this study include the need for additional research across land-grant colleges of agriculture throughout the country to determine the generalizability of these findings. Do former 4-H and FFA members contribute to the leadership pool at other universities? Are they leading and participating at a higher rate? If findings are similar at other land-grant universities, then colleges of agriculture may do well to recruit and offer scholarships to exemplary 4-H and FFA leaders. The justification for these recruitment efforts could include on-campus student leadership, recruitment efforts, and positive involvement across campus and in the community.

Further, questions have arisen about the ability of 4-H and FFA to quantitatively demonstrate the development of leaders (National 4-H, 2003; National FFA Organization, 2002). This study provides a glimpse into the efficacy of these organizations to develop leaders. 4-H and FFA are producing leaders who are more active in organizations and more willing to serve as leaders than their counterparts at land grant universities. Leadership development in these youth organizations appears to be carrying forward in to their collegiate endeavors. Longitudinal study is needed to follow former 4-H and FFA members into their professional careers to help determine the impact of leadership development in agricultural youth organizations. Additionally, further study

is needed to determine associations between leadership programming in both organizations, including the *FFALifeKnowledge*® instructional materials, and the impact on students current and future leadership.

Because leadership development appears to occur in a variety of settings (Bennis, 1989; Kouzes & Posner, 2002), secondary agriscience instructors should encourage their students to expand their leadership experiences to encompass organizations outside 4-H and FFA. In order to communicate with peer leaders and understand people of diverse backgrounds, student leaders should share common experiences, such as student council, academic teams, and athletics. While 4-H and FFA prepare young leaders, other organizations also prepare leadership.

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