

Forestry Students' Perspectives about Participation in Leadership Development¹

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Abstract

This study focused on forestry students' perspectives about and barrier to participation in leadership development. Data collection occurred via the descriptive, census survey research method. Study population was all undergraduate forestry students enrolled in Alabama's two nationally accredited forestry programs during the 2013 spring semester. The objectives were to describe students' level of participation in leadership development while in high school and college and describe the students' attitude toward and barriers to participation in college- and community-based leadership development. Each variable was analyzed based upon the statement's intent. Descriptive statistics of means, standard deviations and frequencies were used as the main analysis approach. Respondents reported a high level of participation in extracurricular activities while in high school and in college. Current members of organizations responded differently to the variable "I have a positive vision of my future" from students who were not current members of an organization. A t-test of that variable's means was statistically significant at the 0.002 level. The data analysis also revealed that students' mother's education level influenced the students' attitudes toward participation in extracurricular activities. As students' mother's level of education increased, the students experienced "coaching fatigue" and they reduced their participation in extracurricular activities.

Introduction

According to Boyd (2011), the need for leadership education/development exists at every level of our

society, from youth to business executives. College students have many opportunities to develop and hone their leadership skills and abilities. There are many college- and extra-credit leadership development classes available to students. Other organizations and opportunities available to forestry students to develop leadership skills include: performing art, debate, student government, departmental clubs, church youth groups, fraternities and sororities, intramural and varsity sports, conclave events, Minorities in Agriculture, Natural Resources and Related Sciences (MANRRS), the Society of American Foresters (SAF), etc.

Benefits of participation in leadership development and/or extracurricular activities include: better grades, social aspects or exposure to different groups of people, positive attitudes toward school, leadership skills, teamwork, organization skills, analytical thinking, problem solving, time management, multitasking and long term commitment (Massoni, 2011; Lawhorn, 2008-2009). Other benefits include: behavior modification, school completion, positive aspects to become successful adults, better self-respect, higher self-esteem, higher self-confidence, enhanced status among peers, discovery of talents, career development, higher career aspirations and students have less conformity to gender stereotypes (Massoni, 2011). Because the list of potential benefits is comprehensive, Pracz (2011) argued that the benefits are valued more by employers than academic performance.

Participation in leadership development organizations also help to enhance participants' team spirit and

¹The human subjects' review was approved by the IRB committees at Alabama A&M University, Auburn University and Tuskegee University. Subjects' consent was implied by completing and returning the survey.

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ability to function effectively in a team environment, two traits which are critical for success in today's work place. Students who participated in leadership development activities grew in civic responsibility, leadership skills, multiculturalism, awareness, understanding leadership theories and personal and societal values (Cress et al. 2001).

There are hundreds of definitions of leadership and no single definition is universally accepted, as the definition used depends upon the circumstance. For this paper, we will use the following definitions of leadership, development, leadership development, barriers to leadership development and membership, respectively: 1) leadership is defined as people working in a given situation (Pearce and Conger, 2003); interactions or relationships among individuals (Kouzes and Posner, 2008); a focus on the needs of the group (Greenleaf, 1977) and the result is an achieved goal; 2) development is defined "as the evolution of skills (defined broadly to include abilities, capacities, ways of understanding) over time, where early level skills are reorganized into higher-level skills that allow individuals to manage more complex units of information, perspectives and tasks" (King 2009, p. 598); 3) leadership development is defined as an activity that "involves engaging with learning opportunities in one's environment over time to build one's capacity or efficacy to engage in leadership. ...moves from simple to more complex dimensions of growth" (Komives et al., 2006, p. 402); 4) barriers to leadership development are obstacles and challenges that prevent the individual from engaging in leadership development; and 5) membership is being a member in an organization.

The future of the forestry industry rests in the hands of today's forestry students. Therefore, it is imperative for young people of today to become proactive in preparing for and shaping tomorrow's world (Kleon and Rienhart 1998). Cox (1996) stated that we all face and must embrace the challenge of preparing today's youth for their role as tomorrow's leaders.

The main hypothesis is there is no difference in the responses of the male and female respondents regarding perspectives about participation in leadership development. Study objectives were to describe: 1) Alabama's undergraduate forestry students' level of participation in leadership development organizations/activities while in high school and while in college; 2) Alabama's undergraduate forestry students' attitudes toward participation in college- and community-based leadership development organizations/activities; 3) Alabama's undergraduate forestry students' perceived barriers to participation in college- and community-based leadership development organizations/activities; 4) the relationship between the overall rating of attitudes toward and barriers to participation in leadership development organizations/activities constructs and selected demographic variables; and 5) how male and female responses differ regarding leadership development.

Methods

Data collection occurred via the descriptive, census survey research method. Study population was all undergraduate forestry students, sophomores, juniors and seniors, enrolled in the Forestry, Ecology and Wildlife Program at Alabama A&M University and the Department of Forestry at Auburn University during the 2013 spring semester. The survey instrument was sub-divided into four constructs and consisted of a total of 67 variables. Construct I focused on background/demographic information, construct II covered organizations the students were members of while in high school, construct III focused on attitudes toward participation in leadership development organizations/activities and construct IV covered barriers to participation in leadership development organizations/activities.

Overall Cronbach's alpha coefficient of reliability for constructs III and IV combined was 0.92, construct III was 0.95 and construct IV was 0.82. Constructs III and IV were modified slightly after Connors and Swan (2006). Content and face validity of the instrument occurred via a panel of experts and a field test of six students. No revisions were necessary following the pilot test. Test surveys were omitted from this analysis. Eighty-six surveys were distributed to Alabama's undergraduate forestry students. Forty useable surveys were returned, yielding a response rate of 46.51%.

Data analysis occurred as follows: 1) descriptive statistics of means, standard deviations (S.D.) and frequencies were used as the main analysis approach; 2) to control for non-response error, following each solicitation, the returned questionnaires were kept separately and analyzed via t-test to measure any differences between the overall means of the early and late respondents. No differences occurred between the two groups; 3) the t-test tested the differences between the variables of students who were current members of an organization and the students who were not current members of an organization for constructs III and IV; 4) Pearson correlation analyses measured the relationship between selected demographic variables and attitudes toward participation in leadership development organizations and barriers to participation in leadership development organizations; and 5) categorical analysis of means for constructs III and IV occurred using the following scale: 1 strongly disagree (M = 1.00 – 1.74); 2 disagree (M = 1.75 – 2.49); 3 agree (M = 2.50 – 3.24); 4 strongly agree (M = 3.25 – 4.00).

Results

The majority of the respondents (77.5%) reported Caucasian as their ethnicity, 12.5% reported African American, 2.5% reported Asian or Pacific Islander and 2.5% reported Native American. Two students (5.0%) did not report an ethnicity. Respondents' indicated gender was 20.00% females and 80.00% males. Reported mean age was 22.50 years old, n=36, SD=1.65. A total of 72.50% of the respondents indicated that they were current members of an organization. Respondents'

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(95%) indicated that their parents/guardian encouraged me to participate in leadership development/activities. Respondents, 42.50%, reported membership in the student chapter of SAF and 55.00% reported membership in other organizations. Sixty percent of the students indicated that they hold, plan to hold, or have held a leadership position in a student organization while in college. About one-third of the students, 32.50%, indicated that they had taken a leadership development class.

Table 1 shows the membership in organizations while in high school frequency and the students who are and are not currently participating in an organization. The three highest "yes" responses were in answer to "I participated in extracurricular activities, 97.50%", "I participated in church youth ministry, 72.50%"; "I held a leadership position while in high school, 62.50%."

Table 2 shows the attitudes toward leadership development mean variable scores of the students who are currently and are currently not participating in an organization. The table also shows n, standard deviation, t value and p-value for the variables. Overall mean score of attitudes toward participation in leadership organizations/activities (construct III) for students who currently participate in leadership development organizations/activities was M=3.19, SD=0.78 and overall mean score for students who currently do not participate in leadership development organizations/activities was M=2.68, SD=0.86.

Table 3 shows the barriers to leadership development mean variable scores of the students who are currently and are currently not participating in an organization. The table also shows n, standard deviation, t value and p-value for the variables. Overall mean score of barriers to participation in leadership organizations/activities (construct IV) for students who currently participate in an organization was M=2.16, SD=0.75 and overall mean score for students who currently do not participate in an organization was M=2.19, SD=0.88. Not one of the variables of the construct had a statistically significant t value.

Table 4 shows the Pearson correlation analyses of overall rating of attitudes toward and barriers to participation in leadership development organizations/activities constructs. We used the descriptions outlined by Hopkins (2000) to interpret the correlation coefficients. Only statistically significant moderate associations, $r > 0.30$, are discussed here. Students' reported a high relationship with attitudes toward participation in leadership and currently a member of an organization, $r=0.43^{**}$ and membership in an organizations other than SAF, $r=0.42^{**}$. A moderate relationship was reported with mother's level of education and attitudes toward participation in leadership development organizations/activities, $r=0.34^*$. Students' reported a moderate relationship with barriers to participation in leadership development organizations/activities and, mother's level of education, $r=0.38^{**}$ and planned highest level of education sought, $r=-0.31^*$.

Table 1. Membership in organizations while in high school frequency and the students who are and are not currently participating in an organization (n=40).

Organization	Frequency "Yes"	Currently a member of an organization (currently not a member of an organization)
Future Farmer of America	35.0	25.0 (10.0)
Distributive Education Clubs of America	5.0	0.0 (5.0)
Business Professionals of America	5.0	2.5 (2.5)
Future Business Leaders of America	12.5	7.5 (5.0)
Future Career and Community Leaders of America	7.5	5.0 (2.5)
4-H	22.5	20.0 (2.5)
Skills USA-VICA	10.0	10.0 (0)
Extracurricular Activities	97.5	70.0 (27.5)
Held Leadership Position	62.5	52.5 (10.0)
Scouting	25.0	15.0 (10.0)
Held Leadership Position in Scouting	15.0	7.5 (7.5)
Church Youth Ministry	72.5	57.5 (15.0)
Leadership Position in Your Church's Youth Ministry	30.0	27.5 (2.5)

Table 2. Attitudes toward participation in leadership development organizations mean variable scores, n, standard deviation (SD), t value, and p value of the students who are and are not currently participating in an organization. () represent n, mean, and standard deviation of the students who are not currently participating in an organization. Students who are current members of an organization n, mean, and standard deviation are without ().

	n(n)	mean(mean)	SD(SD)	t-value	p-value
I participated in activities because:					
Activities will be fun.	29(11)	3.24(2.91)	0.74(1.04)	1.13	0.2657
I have a positive vision of my future.	29(11)	3.62(2.73)	0.49(1.01)	3.77*	0.0006
I want to be a leader in my future career.	29(11)	3.48(3.00)	0.69(0.77)	1.92	0.629
I can clearly see the benefits to participating in leadership activities.	29(11)	3.48(2.91)	0.51(0.83)	2.65	0.0115
I have a positive view of the organization.	29(11)	3.31(2.73)	0.54(0.90)	2.51	0.0166
Activities benefit my future career.	29(11)	3.48(3.09)	0.51(0.94)	1.70	0.0978
Activities are a good use of my time.	29(11)	3.55(2.91)	0.51(0.83)	2.98	0.0050
They provide opportunities for me to assume leadership responsibilities.	29(11)	3.38(2.82)	0.49(0.75)	2.77	0.0087
They helped me set goals for my future.	29(11)	3.34(2.73)	0.61(0.79)	2.63	0.0123
They have improved my inter-personal skills.	29(11)	3.45(2.73)	0.63(0.79)	3.01	0.0046
They will help me in my future academic studies.	29(11)	3.28(2.73)	0.59(1.01)	2.14	0.0391
They help me achieve my personal goals.	29(11)	3.28(2.91)	0.75(0.83)	1.34	0.1882
They help achieve my professional goals.	29(11)	3.31(2.91)	0.76(0.94)	1.39	0.1715
The leader of the organization/activity motivates me to participate.	29(11)	3.07(2.55)	0.75(0.69)	2.01	0.0517
They have made me more concerned for my school, home, and community.	29(11)	3.07(2.27)	0.80(0.90)	2.72	0.0099
They have made me a better public speaker.	29(11)	3.28(2.64)	0.65(0.92)	2.47	0.0182
I want to be a leader in my community.	29(11)	3.21(2.82)	0.82(0.87)	1.32	0.1957
Leadership activities have helped me improve my grades in college.	28(11)	3.07(2.27)	0.81(0.65)	2.91	0.0061
My friends influenced me to participate.	29(11)	2.76(2.45)	0.83(0.69)	1.08	0.2871
I have not been motivated to participate in any leadership development organizations.	29(11)	2.97(2.27)	0.80(0.90)	-0.70	0.4912
My boy or girlfriend influenced me to participate.	28(11)	2.14(1.91)	0.93(0.54)	0.78	0.4411
Overall mean score		3.19(2.68)	0.78(0.86)		

*Bonferroni significant (0.05/21 = 0.002)

Discussions

The number, 7, of minority students who participated in this study are too small to make a meaningful interpretation about their views on leadership development and barriers to leadership development. However, NCES (1995) reported that minority and low income high school students participate in extracurricular activities at a much lower rate than majority students. In spite of low level participation, Everson and Millsap (2005) stated that these groups, low income and minority students, tend to benefit from extracurricular activities as much or more than their more advantaged peers.

The three highest “yes” responses of membership while in high school are in answer to: ‘I participated in extracurricular activities’; ‘I participated in church youth ministry’; and ‘I held a leadership position while in high school.’ The high participation in church youth groups may be unique to Alabama simply because a large percentage of families in Southeastern U.S. are active in the church. The above

all relate to the students being steered toward participation in extracurricular and/or leadership development activities. Existences of close adult relationships and/or mentoring increased the students’ participation in leadership development activities (Komives et al., 2006).

The variable ‘I have a positive vision of my future’ was the only statistically significant variable via the t-test of construct III, between current members of an organization and students who are not current members of an organization. The variable is statistically significant at the 0.002 level (0.05/21). The level is based upon Bonferroni’s correction for multiple t-test comparisons. This finding is not surprising as positive aspects to become successful adults, higher self-confidence and a positive attitude toward school were some of the benefits of participation in leadership development activities (Massoni, 2011; Park and Dyer, 2003).

Not one of the variables of construct IV had a statistically significant t value. The above finding is surprising as only 15.20% of the upper division courses of a typical forestry curriculum required social science and humanity classes (Vonhof, 2010). Fuertes and Sedlacek (1993)

Table 3. Barriers to participation in leadership development organizations mean variable scores, n, standard deviation (SD), t value, and p value of the students who are and are not currently participating in an organization. () represent n, mean, and standard deviation of the students who are not currently participating in an organization. Students who are current members of an organization n, mean, and standard deviation are without ().

I have not gotten more involved with organizations/activities because:	n(n)	mean(mean)	SD(SD)	t-value	p-value
I am getting ready for graduate school after college.	29(11)	1.90(1.91)	0.72(0.83)	-0.05	0.9628
I would rather spend my time and/or money on other things.	28(11)	2.32(2.64)	0.77(1.03)	-1.04	0.3038
I have hobbies that keep me too busy.	28(11)	2.54(2.73)	0.64(0.90)	-0.75	0.4590
I focus my time on sports.	28(11)	2.11(2.09)	0.74(0.54)	0.07	0.9476
I am too busy working at my job after classes.	28(11)	2.50(2.45)	0.96(0.93)	0.13	0.8943
I am too busy with homework.	28(11)	2.71(2.64)	0.71(1.03)	0.27	0.7883
The membership costs are too expensive.	28(11)	2.07(2.27)	0.66(1.01)	-0.73	0.4682
I can not afford to go on outings and trips.	28(11)	2.25(2.18)	0.70(0.87)	0.26	0.8001
None of my close friends participate.	28(11)	2.18(2.27)	0.55(0.79)	-0.43	0.6727
Getting to activities is difficult.	28(11)	2.00(2.09)	0.38(0.54)	-0.59	0.5580
I focus my time on band/choir activities.	28(11)	1.61(1.36)	0.57(0.50)	1.24	0.2219
I live too far from school to attend activities.	28(11)	1.82(1.64)	0.72(0.67)	0.73	0.4685
Overall mean score		2.16(2.19)	0.75(0.88)		

*Bonferroni significant (0.05/12 = 0.0042)

Table 4. Pearson correlations between selected demographic variables, attitudes toward participation in leadership development organizations, and barriers to participation in leadership development organizations.

Variables	Attitudes toward participation in leadership (n=40)		Barriers to participation in leadership (n=40)	
	Coefficient	Description	Coefficient	Description
Attitudes toward participation in leadership (n=40)			0.12	Low
Age (n=36)	0.17	Low	0.13	Low
College GPA (n=40)	0.13	Low	-0.23	Low
Currently a member in an organization (n=40)	0.43**	Moderate	0.03	Trivial
Mother’s education (n=40)	0.34*	Moderate	0.38**	Moderate
Father’s education (n=40)	0.18	Low	0.21	Low
Membership in SAF (n=40)	-0.11	Low	0.03	Trivial
Membership in other organizations (n=40)	0.42**	Moderate	0.16	Low
Hold, plan to hold, or have a leadership position in a student organization (n=40)	-0.19	Low	-0.02	Trivial
Taken a leadership class (n=40)	0.02	Trivial	0.02	Trivial
Planned highest level of education (n=40)	-0.25	Low	-0.31*	Moderate
While in high school, did you participate in extracurricular activities (n=40)	0.08	Trivial	0.20	Low
While in high school, did you hold a leadership position in one or more organizations (n=40)	-0.29	Low	-0.05	Trivial

*Correlation is significant at the 0.05 level

**Correlation is significant at the 0.01 level

reported that barriers to Hispanic students’ leadership development included institutional racism, assimilation vs. integration and differences in socialization.

The Pearson correlation analyses examined the relationship between the overall rating of attitudes toward and barriers to participation in leadership development organizations/activities constructs. As attitudes toward participation in leadership development/activities go up, membership in an organization also goes up and membership in an organization other than SAF goes up. These findings agree with those of Park and Dyer (2003) and Smart et al. (2002). When students’ mother’s level of education goes up, the students’ attitudes toward participation in leadership development/activities go up and barriers to participation in leadership development go up. This finding, mother’s level of education affecting barriers to participation in leadership development, was unexpected. One interpretation of this is that the mother’s level of education is a “double edged sword.” The student feels compelled to participate in leadership development organizations/activities even more than he/she would otherwise.

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The result is that the student experiences “coaching fatigue.” Students find barriers or reasons to preclude their participation in extracurricular activities. The involvement of adults, especially parents, in shaping a student’s leadership development is not surprising as this finding mirrors the finding of Komives et al. (2006). As the students’ planned highest level of education sought goes up, perceived barriers to leadership development/activities go down. Students who come to college with leadership development values tend to display those behaviors while in college (Smart et al., 2002).

Summary

Parents or guardians influenced the students to participate in leadership development/activities. While in high school and college, the students reported a high level of participation in extracurricular activities. The students had a positive vision of their future. Regardless to whether the students participated in extracurricular activities or not, they reported a low level of barriers that precluded them from participating in extracurricular activities. As the students’ attitudes toward participation in leadership development/activities go up, the students’ membership in organizations also go up. As the students’ mother’s level of education increased, the students experienced “coaching fatigue” and they reduced their level of participation in extracurricular activities. And as the students’ planned highest level of education sought goes up, perceived barriers to leadership development/activities go down.

Recommendations

Thus, forestry administrators, advisors and instructors should: 1) become proactive in encouraging students to participate in leadership development/activities, particularly the low income and minority students; 2) encourage students who are capable of completing advanced degrees to pursue them. As students plan to pursue advanced degrees, they also seek leadership development/activities; 3) communicate the importance of high school students’ participation in extracurricular activities to high school administrators, counselors and teachers. Students who participate in high school extracurricular activities also tend to do so while in college; and 4) push and promote the competitive edge students can gain from participation in leadership development organizations/activities. The future of forestry education and the forestry industry is strongly related to the promotion, student acquisition and development of leadership skills and/or abilities.

Study Limitations

Due to distributing and collecting the survey in a classroom setting caused the following: 1) the fraction of responses was not randomly selected; 2) some students may have felt forced to take a survey, complete it and return it; and 3) assumed all units would be present on the day the survey was distributed. Due to a host of reasons, students may have refused to participate in the

survey and caused self-selection bias. Due to a small response number, the survey results are subject to unit non-response bias. Due to the limited number of unit responses, the survey results can only be generalized to Alabama’s forestry students.

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