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Abstract
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Keywords
undergraduate leadership development, undergraduate extracurricular involvement, Social Change Model, Socially Responsible Leadership Scale

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Undergraduate Involvement in Extracurricular Activities and Leadership Development in College of Agriculture and Life Sciences Students

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Introduction

Recent higher education reforms have led a greater focus on student learning outcomes, including professional skill development, and the impact of experiences outside the classroom as learning opportunities. Many institutions of higher education include leadership development in their mission statements (Astin & Astin, 2000; Boatman, 1999). The Council for the Advancement of Standards in Higher Education (CAS) identified leadership development as one of 16 student learning and development outcomes and suggested that leadership can be intentionally learned (CAS, 2006). "There is a growing recognition that this task [purposefully develop socially responsible leaders] is the responsibility of all members of the campus community, not just those teaching leadership courses or those working with co–curricular leadership programs" (Dugan & Komives, 2007, p. 5).

In recent years, higher education has recognized participation in extracurricular activities as a strategy to reach learning outcomes, such as leadership development, and not simply as a social activity (Birkenholz & Schumacher, 1994; Ewing, Bruce, & Ricketts, 2009; Layfield, Radhakrishna, & Andresen, 2000; Rubin, Bommer, & Baldwin, 2002). However, to facilitate learning experiences, educators need to know more about specific experiences that result in increased leadership development. "By identifying specific learning tasks and goals associated with leadership development, one can intentionally create

opportunities which foster such development in college" (CAS, 2006, p. 93).

Conceptual Framework

Dugan (2006) identified a gap between research on college student leadership development and models used in practice: "Researchers' use of general measures of leadership development rather than those tied to existing models has contributed to a scarcity of empirical studies grounded in the theory that informs leadership practice" (p. 335). An adaptation of Terenzini and Reason's (2005)

model explaining first–year college student experiences served as the framework for this study. The collegiate leadership development model developed for this study has three constructs (Figure 1). The first two constructs are precollegiate and college experiences, which previous literature suggests contribute to leadership development in undergraduate college students. The third construct, leadership development, is the outcome of the model and was conceptualized using the social change model (SCM; Higher Education Research Institute, 1996).
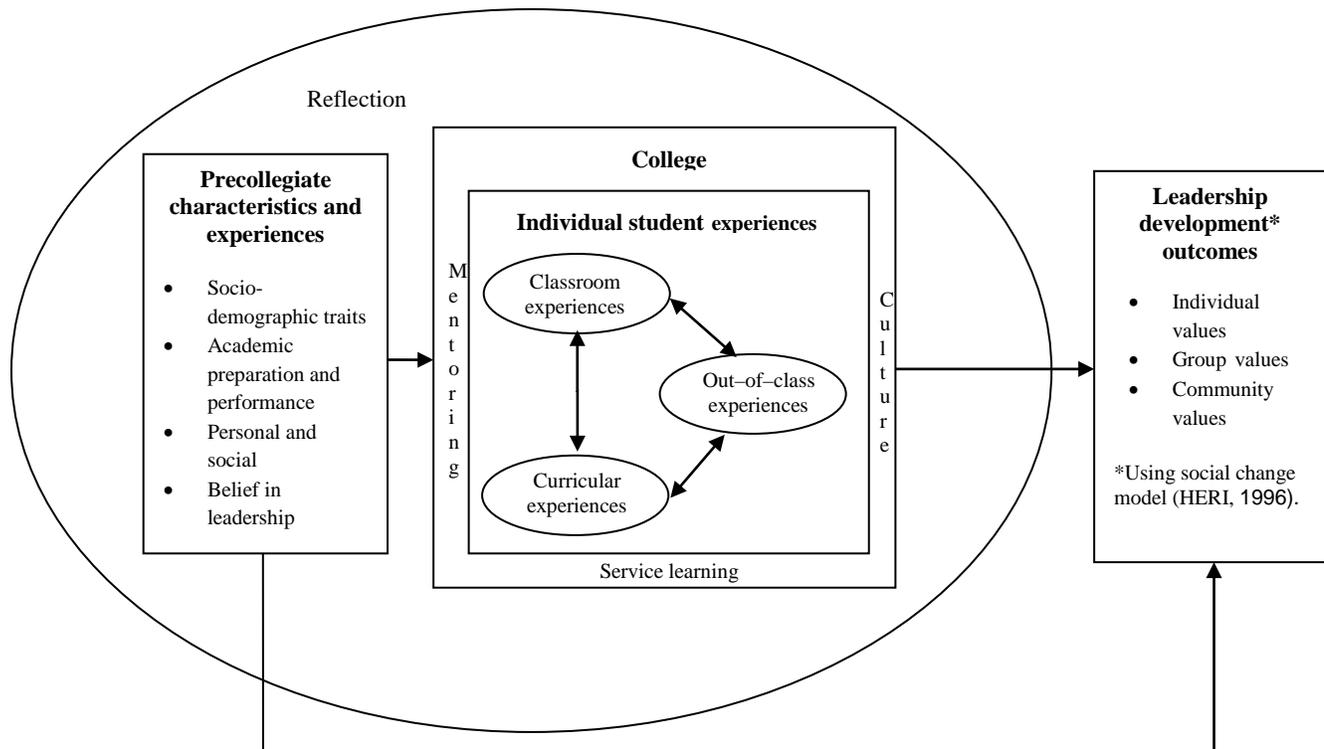
Figure 1. Collegiate leadership development model. Adapted from "Parsing the first year of college: A conceptual framework for studying college impacts" by P.T. Terenzini and R.D. Reason, 2005, paper presented at the meeting of the Association for the Study of Higher Education. Philadelphia, PA. Adapted with permission.

Precollegiate Characteristics and Experiences

The precollegiate construct of this model includes socio–demographics that have been linked to leadership development, including race (Armino et al., 2000; Kimbrough, 1998; Phinney, 1990) and gender (Josselson, 1987; Kezar, 2002; Kezar & Moriarty, 2000). In this study, academic success prior to entering college

was defined by high school class rank. Additional personal and social experiences related to undergraduate leadership development, such as precollegiate extracurricular experiences (Astin, 1977; Park & Dyer, 2005) and leadership self–efficacy (Astin, 1999), are also included in this component.

College Experiences

The college experience construct includes three types of individual student experiences that have been associated with leadership development: classroom experiences, including subject matter, teaching and learning strategies, and peer interactions; curricular experiences, including major, involvement in a departmental learning community, internships, and study abroad experiences; and out–of–class–experiences. This study focused on out–of–class experiences, specifically extracurricular involvement in a student club or organization.

Extracurricular experiences are often perceived as important to students' social and personal growth. However, when extracurricular activities are viewed solely as social functions, they are also seen as competing with academic work (Rubin, Bommer, & Baldwin, 2002). Studies have shown that participation in extracurricular activities contributes positively to interpersonal skills (Birkenholz & Schumacher, 1994; Ewing et al., 2009; Layfield et al., 2000; Moore, Prescott, & Gardener, 2008; Pascarella & Terenzini, 1991; Rubin et al., 2002), academic achievement and persistence (Astin, 1999; Wang & Shively, 2009), peer–to–peer interactions (Abrahamowicz, 1988; Astin, 1996; Pascarella & Terenzini, 1991), and positive faculty interactions (Abrahamowicz, 1988; Campbell & Campbell, 1997; Retallick & Pate, 2009).

Kouzes and Posner (2007) suggested that exposure to a variety of out–of–classroom experiences provides concrete experiences as students apply leadership theories and skills. Additional researchers have examined this idea and concluded that participation in extracurricular clubs and organizations contributes to positive leadership development (Birkenholz & Schumacher, 1994; Ewing et al., 2009; Layfield et al., 2000). Similarly, students who participate in extracurricular clubs and organizations have been found to have higher scores in developing purpose (Cooper, Healy, & Simpson, 1994) and establishing and clarifying purpose (Martin, 2000; Stanford, 1992). College juniors who were members of student organizations scored higher than nonmembers on educational involvement, career planning, lifestyle planning, cultural participation, and academic autonomy (Cooper et al., 1994). Montelongo (2002) concluded that personal or affective development of attitudes, values, aspirations, and personality disposition were positive outcomes associated with extracurricular participation.

Involvement. Astin (1999) defined involvement as an investment of physical and psychological energy that occurs along a continuum, meaning different students exhibit different levels of involvement at different times. Involvement has both quantitative (how much time a student spends on an activity) and qualitative (how focused the student is on the activity) aspects. Using these principles along with concepts prominent in cognitive structural and psychoanalytic theories, Astin (1999) developed a conceptual framework to explain how educational programs and policies translate into student achievement and development, which are directly proportional to the quality and quantity of student involvement.

Positional leadership role. Another important aspect of involvement in extracurricular organizations is the impact of serving in a positional leadership role. Holding an office in an extracurricular organization can enhance the richness and magnitude of learning experiences and personal development during college years (Astin, 1984). Serving as a club officer was related to increased leadership development (Ewing et al., 2009) and increased decision making (Rubin et al., 2002). Kuh (1985) found that serving as an officer of an organization correlated positively with developmental gains in interpersonal competence, practical competence, cognitive complexity, and humanitarianism. Serving as a leader of an organization was associated with higher levels of developing purpose, educational involvement, life management, and cultural participation (Cooper et al., 1994). Dugan (2006) found that undergraduate students who served as positional leaders scored higher on the Socially Responsible Leadership Scale (SRLS–R2) group values scale and the SRLS–R2 societal values scale.

Although much research suggested that serving as an officer of a club or organization has added benefits for students, Foubert and Grainger (2006) studied the psychosocial development of students and found no increased benefit for students who served as officers of their extracurricular clubs and organizations over students who were members. Similar

findings have been reported concerning the impact of serving as a club officer on a student's initiative (Rubin et al., 2002) and in the perception that belonging to the organization had a positive impact on leadership development (Ewing et al., 2009).

Leadership Development Outcomes

Leadership development is the outcome construct of this model. Many different definitions and theoretical frameworks have been used to study leadership development. For the purposes of this study, leadership is defined as an influential relationship among leaders and followers who intend real changes that reflect their mutual purposes (Rost, 1991). The Social Change Model (SCM), developed by the Higher Education Research Institute of UCLA in 1993 was used to conceptualize leadership development.

The SCM describes leadership as a purposeful, collaborative, values–driven process. Its central principles—social responsibility and change for the common good—are assessed through eight core values that describe students' level of self–awareness and ability to work with others. The model views leadership as a process, not a position, and encourages leadership development in all participants, including those who hold formal leadership positions and those who don't. The SCM promotes the values of equality, social justice, self–knowledge, personal empowerment, collaboration, citizenship, and service (Astin & Astin, 1996). The model for this study includes all three elements of the SCM: individual values, group values, and community values.

The SCM is a widely cited model of student leadership in higher education (Haber & Komives, 2009) For example, the social change model of leadership development, measured by the Socially Responsible Leadership Scale (SRLS–R2), is used in the Multi–Institutional Study of Leadership (MSL). This study, first conducted in 2006 and conducted annually since 2009, includes nearly 200 higher education institutions. In addition, studies have been conducted that examine the relationship between the SCM and community service (Bonnet, 2008; Gasiorski, 2009), military education programs (Wilson, 2009), and Greek membership (Dugan, 2006).

Problem Statement

Although professionals in higher education espouse the value of extracurricular experiences, little research has been done to identify specific experiences that contribute to student development (Von Stein & Ball, 2008). Literature shows links between extracurricular participation and leadership outcomes (Birkenholz & Schumacher, 1994; Ewing et al., 2009; Layfield et al., 2000). However, a better understanding of the extracurricular experiences of undergraduate students and which of those experiences result in desired leadership outcomes are unclear.

Research Purpose and Objectives

The purpose of this quantitative study was to identify and describe experiences of undergraduate extracurricular involvement that result in increased leadership development.

Four research objectives guided this study:

1. Describe the demographics of students who participate in extracurricular activities.
2. Describe the extracurricular experiences of undergraduate students.
3. Explore whether the average hours per week spent in extracurricular clubs and organizations influences the level of leadership.
4. Determine if serving as an officer in extracurricular clubs and organizations influences the level of leadership.

Methods

This study was a part of a larger study designed to examine the role of undergraduate extracurricular participation in leadership development. Full–time undergraduate college students classified as seniors in the College of Agriculture and Life Sciences at Iowa State University ($N = 969$) were surveyed. Students over 24 years old were excluded to reduce outliers in the data.

Instrumentation

The university database and a researcher–designed questionnaire were used to meet the research objectives. The questionnaire contained three sections: precollegiate

characteristics and experiences, collegiate experiences, and leadership development outcomes.

Precollegiate characteristics and experiences. For the purposes of this study, demographic and academic information was collected from student records received directly from the university registrar's office. This information included, gender, age, race, high school class rank, cumulative grade point average, and entry type (i.e., direct from high school or transfer). The researchers chose to obtain this information from official student records to reduce the length of the online questionnaire and ensure the accuracy of the data.

College experiences. Researcher–designed questions were used to collect data about college experiences. Subjects were asked to indicate whether or not they participated in extracurricular organizations, competitive teams, and the Greek system. Based on the responses to these questions, subjects were asked additional questions to learn more about their experiences.

Subjects who were involved in these extracurricular activities were given a list of activities and organizations and asked to select the ones in which they participated. This list included college–level clubs that have a seat on the student council, judging or other competitive teams, Student Government, university–related clubs and organizations, social or recreational clubs and organizations, faith– or religious–based organizations, community–based organizations, and the Greek system. "Other" was also included to allow subjects to fill in additional organizations not included on the list. The researchers developed the list with input from current students, academic advisors, and college and university websites.

Leadership development outcomes. Leadership development outcomes were assessed using the Socially Responsible Leadership Scale (SRLS–R2; National Clearinghouse for Leadership Programs, 2009). The scale consists of 68 Likert–type items which comprise eight separate scales that measure specific leadership components (i.e., individual values, group values, and community values) of the SCM. Each of the eight scales had six to nine questions. The researchers chose to use the group values scale for this study because of the

importance of group skills to participation in clubs and organizations. In addition, the Omnibus SRLS–R2 was used to measure the overall construct of leadership development. Omnibus SRLS–R2 as defined by Dugan and Komives (2007) is a measure that "accounts for all eight values of the SCM" (p. 12). The researchers obtained permission to use the SRLS–R2 for this study.

Reliability. The reliability of the SRLS–R2 has been established by the Multi–Institutional Study of Leadership, which has used the SRLS–R2 with more than 60,000 students (National Clearinghouse for Leadership Programs, 2009). Reliability for the SRLS–R2 group and Omnibus scales were computed for this study using Cronbach's alpha and were .86 and .87, respectively.

Validity. A group of professionals comprised of faculty and graduate students with expertise in undergraduate outcomes, extra–curricular experiences, and leadership development reviewed the instrument for validity. Based on the purposes and objectives of the study, these experts provided feedback about the content of the questionnaire. In addition, the instrument was field tested with students similar to those in the sample to establish validity of the instrument. To ensure these students were not part of the sample population, all students on the panel had completed between 60 and 85 credits, which equals junior status. Based on their feedback, changes to content, question format and data collection procedures were made to improve the validity of the instrument.

Data Collection

Qualtrics (Qualtrics Labs, Inc., Provo, UT), a web–based survey program, was used to collect data because of the program's capabilities to improve the flow of the instrument. Qualtrics uses skip/display logic to customize which questions a subject receives. On the basis of initial responses, subjects were asked additional questions that related to their experiences.

The researchers modified Dillman's (2007) five–step data collection approach on the basis of suggestions from students on the expert panels. The panels suggested that undergraduates would view a pre–notice as junk mail and would be less likely to respond favorably to follow–up e–mails. Therefore, the

survey link was included in the first e–mail contact, which also described the purpose of the study and included information about general consent. The distribution list obtained from the university registrar's office contained 969 subjects. Subjects were contacted one to five times via e–mail (over a 14–day period) to reduce non–response. Those who responded were removed from the e–mail list and not contacted again. This process resulted in 270 responses (27.9%), 199 of which were complete and usable (20.5%).

Non–response error was controlled using two different methods. First, independent sample *t* tests were used to compare early and late respondents, as suggested by Lindner, Murphy, and Briers (2001). According to this analysis, differences in involvement in extracurricular activities did not exist between early and late respondents. Second, the researchers compared demographics of the population list from university records with demographics of survey respondents. Females, students who entered the university directly from high school, and students with a higher GPA were more likely to respond. Therefore, caution should be used when generalizing beyond those who responded.

Data Analysis

Qualtrics automatically recorded survey results as subjects completed the survey. E–mail addresses were used to match students' university record information with survey results. To ensure confidentiality, all identifying data were removed before developing the spreadsheet for data analysis. SPSS (Version 17) was used to analyze the data.

Objectives 1 and 2. Descriptive statistics, including frequencies, means, and standard deviations, were analyzed to address objectives 1 and 2; *t* tests were computed to determine if participation in extracurricular activities varied based on gender or college entry type.

Objective 3. Average hours per week spent in extracurricular clubs and organizations was a categorical variable with 20 possible answers. This variable was recoded into four categories. An ANOVA was computed using the recoded average hours per week as the independent variable and each of the leadership scales as the independent variable to determine the relationship between the amounts of time spent

in extracurricular clubs and organizations and leadership development.

Objective 4. A *t* test, using the dichotomous variable of serving as an officer as the independent variable and leadership development (measured by SRLS–R2) as the dependent variable, was calculated to determine the relationship between serving as an officer in an extracurricular club or organization and leadership development.

Results

Ninety–one (45.7%) males and 108 (54.3%) females responded to this study. All were full–time students and were classified as seniors; 151 (75.9%) entered the university directly from high school, and 48 (24.1%) entered as transfer students.

Ninety–six percent of respondents indicated they were involved in an extracurricular activity, including 21% in the Greek system, 95% in extracurricular clubs and organizations, and 29% in competitive teams. The number of extracurricular clubs and organizations that students reported being involved in ranged from 0 to 11 ($M = 3.41$, $SD = 2.44$) extracurricular clubs and organizations. Females ($M = 3.91$, $SD = 2.29$) were involved in more clubs than males ($M = 2.82$, $SD = 2.48$, $t(197) = –3.20$, $p = .002$).

Time Spent in Extracurricular Clubs and Organizations

The average amount of time students spent in extracurricular clubs and organizations ranged from 0 to 20 or more hours per week ($M = 5.33$). Gender differences were not found ($p \leq .58$). Students who entered as freshman ($M = 5.96$, $SD = 4.80$) spent more hours per week in extracurricular clubs and organizations than those who entered as transfer students ($M = 3.34$, $SD = .66$), $t(197) = 3.30$, $p = .001$. An ANOVA using the average hours per week as the independent variable and leadership development (SRLS–R2) as the dependent variable was computed to examine the relationship between average hours per week spent with extracurricular clubs and organizations and leadership development showed that students who spent more hours per week involved in extracurricular clubs and organizations scored higher on both SRLS–R2 scales (Table 1).

Table 1
Analysis of Variance for Average Hours per Week Spent in Extracurricular Clubs and Organizations and Leadership Development (SRLS–R2)

Dependent variable	Groups	SS	df	MS	F	p	Cohen's f
Group scale	Between	1174.28	3	391.43	3.85	.011*	.26
	Within	17813.86	175	101.79			
	Total	18988.13	178				
Omnibus scale	Between	4395.22	3	1466.07	3.28	.022*	.24
	Within	75830.97	170	446.07			
	Total	80226.19	173				

Note. *p ≤ .05

Because the ANOVA provided significant results, post hoc testing was conducted to compare and contrast mean differences between groups. A Tukey post hoc test indicated that the statistically significant differences were between students who spent 0 to 1 hours per week and those who spent 7 or more hours per week (Table 2)

Table 2
Tukey HSD Post Hoc Results for Average Hours per Week Spent in Extracurricular Clubs and Organizations and Leadership Development (SRLS–R2)

Test	(I) Hours per week	(J) Hours per week	Mean differences (I – J)	SE	p	Cohen's d
Group Scale Tukey HSD	0–1	2–3	-1.96	2.23	.816	.19
		4–6	-4.33	2.17	.186	.42
		7 or more	-6.91	2.17	.009*	.66
	2–3	0–1	1.96	2.23	.816	.19
		4–6	-2.40	2.11	.666	.25
		7 or more	-4.95	2.12	.094	.51
	4–6	0–1	4.36	2.17	.186	.42
		2–3	2.40	2.11	.666	.25
		7 or more	-2.55	2.05	.600	.26
	7 or more	0–1	6.91	2.18	.009*	.66
		2–3	4.95	2.12	.094	.51
		4–6	2.55	2.05	.600	.26
Omnibus Scale Tukey HSD	0–1	2–3	-6.20	4.73	.557	.27
		4–6	-10.30	4.61	.118	.46
		7 or more	-13.79	4.61	.017*	.65
	2–3	0–1	6.20	4.72	.557	.27
		4–6	-4.10	4.48	.797	.20
		7 or more	-7.59	4.48	.331	.38
	4–6	0–1	10.30	4.61	.118	.46
		2–3	4.10	4.48	.797	.20
		7 or more	-3.49	3.36	.854	.18
	7 or more	0–1	13.79	4.61	.017*	.65
		2–3	7.59	4.48	.331	.38
		4–6	3.49	1.36	.854	.18

Note. *p ≤ .05

Positional Leadership Role

One hundred forty–two students (71.4%) reported serving as an officer; 57 (28.6%) did not. Pearson Chi Square indicated no gender differences between students who served as an officer and those who did not ($\chi^2(1, N = 199) = 1.076, p = .30$). However, students who entered as freshmen were more likely to serve as officers than those who entered as transfer students

($\chi^2(1, N = 199) = 23.434, p = .000$). In addition, officers ($M = 7.02, SD = 4.69$) spent more time per week involved in extracurricular clubs and organizations than those who didn't serve as officers ($M = 3.55, SD = 4.39$), $t(196.957) = 5.40, p = .000$. The results of a t–test show that students who served as an officer in a club or organization scored higher on the SRLS–R2 scale (Table 3).

Table 3

t Test for Serving as an Officer and Leadership Development (SRLS–R2)

Dependent variable	*t*	*df*	Sig.	Mean difference	SE difference	*Cohen's d*
Group scale	-2.63	167.58	.009*	-4.03	1.52	.40
Omnibus scale	-2.95	157.09	.004*	-9.50	3.22	.45

Note. *$p \leq .05$.

Conclusions

Students who responded to this survey were active in extracurricular clubs and organizations. Students who entered the university directly from high school belonged to more extracurricular clubs and organizations, spent more time per week involved in these activities, and were more likely to serve as an officer than those who entered as transfer students. Although all students who participated in this study had completed at least 90 credit hours, not all students were enrolled at the university the same amount of time. The number of semesters students had been enrolled at the university was not a variable in this study. However, it seems intuitive that this factor might play a role in student involvement.

Gender differences varied in this study. Females were involved in more extracurricular clubs and organizations. However, they did not report spending more time per week involved in these activities and were not significantly more likely than their male counterparts to hold a club office.

Students who held a positional leadership role in a club or organization spent more time involved in clubs and organizations and scored higher on both the SRLS–R2 group and SRLS–R2 Omnibus scales. These findings are consistent with previous researchers that examined the impact of serving as a club officer and found it related to increased leadership development (Ewing et al., 2009). Dugan

(2006) discovered that students who served as positional leaders scored higher on the SRLS–R2 group values scale and the SRLS–R2 societal values scale. However, the findings of this study differ from those of Foubert and Grainger (2006), who found no increased benefit in terms of psychosocial development for students who served as officers in extracurricular clubs or organizations over students who were members.

The amount of time per week spent in extracurricular clubs and organizations was related to higher scores on both the SRLS–R2 group and SRLS–R2 Omnibus scales. These findings are consistent with Astin's (1984) involvement theory, which suggests that involvement is related to both quality and quantity of involvement. For example, previous research (i.e., Astin 1999; Pascarella & Terenzini, 1991; Rubin et al., 2002) as well as this study connected the amount of time per week spent in extracurricular clubs and organizations to leadership abilities. Results of the post hoc test revealed statistically significant differences exist only between the least (0–1 hours per week) and most (7 or more hours per week) time spent in extracurricular clubs and organizations.

Implications and Recommendations

A limitation of this study was that data were collected at one College of Agriculture and Life Science at a fairly homogeneous institution. In spite of this limitation, the analysis offers

insights for other institutions who aspire to increase student leadership outcomes. Leadership development is an important outcome of the college student experience. Results of this study are consistent with previous research (Birkenholz & Schumacher, 1994; Ewing et al., 2009; Layfield et al., 2000) on the importance of participating in extracurricular clubs and organizations. Involvement in these activities has a strong relationship with leadership development, and institutions should include the role of extracurricular activities as they develop action plans for reaching leadership development outcomes.

Faculty and staff need to create meaningful opportunities for students and encourage students to participate. The results of this study suggest this is especially important for transfer students, who typically have less time on campus to become involved and, therefore, less time to take on meaningful leadership roles. While, some resources are available to inform the development of these experiences (Dunkel & Schuh, 1998; Yarbrough, 2002), additional research is needed to identify specific characteristics or activities of extracurricular involvement that are most likely to increase leadership outcomes. This information would be very valuable as educators work with student leaders to create meaningful experiences.

The amount of time spent participating in extracurricular clubs and organizations seems to be a common thread in increased leadership skills since students who served as officers had higher leadership scores and also spent more time participating in clubs and organizations than those who did not serve as officers.

Shertzer and Schuh (2004) suggested that students who hold leadership positions in college are often given more leadership development opportunities when compared to those members who do not hold leadership positions. Therefore, the increased skills often attributed to serving as an officer may actually be associated with the additional training that officers receive. Another possible explanation for the added benefit of serving as an officer in an organization is the increased time associated with serving as an officer. On the basis of these findings, increasing the amount of leadership training and opportunities for all students in extracurricular clubs and organizations is recommended.

It is also noteworthy that a high percentage of students who completed the questionnaire were involved in extracurricular clubs and organizations. Ninety–six percent of respondents indicated they were involved in an extracurricular activity. Though this seems high compared with involvement at the university (33% of seniors spent at least 6 hours per week participating in cocurricular activities such as student organizations and intramural sports [Institutional Research, 2011]), the culture of the College of Agriculture and Life Sciences encourages participation in extracurricular clubs and organizations. Additional research should seek to determine the relationship between extracurricular participation and additional unique characteristics of the college. For example, is there a relationship between what appears to be exceptionally high extracurricular involvement and the college placement rate of more than 98%?

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