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Identifying the relationships among precollegiate characteristics, college experiences, and leadership outcomes

Elizabeth Ann Foreman
Iowa State University

Identifying the relationships among precollegiate characteristics, college experiences, and leadership outcomes

by

Elizabeth Ann Foreman

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Program of Study Committee
Michael Retallick, Major Professor
Robert Martin
Chuck Morris
Mary Wiedenhoeft
Thomas Brumm

Iowa State University

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Chapter I. General Introduction

Recent higher education reforms have led to a greater focus on student learning outcomes. These outcomes focus on academic and professional skills and are developed within and outside the classroom. One of the outcomes is leadership, which is the focus of this dissertation. In this chapter, the background and setting for this study will be explained. The research problem, objectives, and significance of the study will be provided. Finally, definition of terms and the organization of this dissertation will be described.

Background and setting

Educational reforms during the late 1970s and 1980s helped raise awareness of shortcomings in higher education (Koljatic & Kuh, 2001). For example, *Involvement in Learning* (The Study Group on the Conditions of Excellence in Higher Education, 1984) proposed a shift in focus from institutional resources and reputation to student learning and personal development. Huba (2000) suggested that educators need to reexamine their paradigms about education and shift attention from teaching to learning.

Reforms in higher education led educators to examine learning outcomes and assessment including attention to skills outside of traditional curricular content (Astin, Keup, Lindholm, 2002), which the Accreditation Board for Engineering and Technology (Shuman, Berterfield-Sacre & McGourty, 2005) referred to as professional skills. The College of Agriculture and Life Sciences (CALS) at Iowa State University was on the forefront of this reform. According to the Provost's Office, "In September 2007, the College of Agriculture and Life Sciences reviewed college-wide core student learning outcomes in order to maintain quality and relevance in academic programs. The faculty approved the use of the revised core outcomes for continuous improvement in the content and delivery of the curriculum" (Iowa

State University Provost, 2011, "Reviewing Outcomes," para. 1). In addition to professional, interpersonal and cross-cultural communications; problem-solving and critical thinking; entrepreneurship; life-long learning; ethics; environmental awareness; and international and multi-cultural awareness, leadership was listed as an outcome expected of CALS graduates.

Leadership outcomes. There has been increasing attention to college student leadership development since the early 1990s (Dugan & Komives, 2007). This attention included a paradigm shift in leadership to more relational, reciprocal models (Northouse, 2007; Rost, 1991) and the development of new leadership models for college students (Higher Education Research Institute [HERI], 1996). Leadership is described as an "influential relationship among leaders and followers who intend real changes that reflect their mutual purposes" (Rost, 1991, p. 102).

"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). Like Iowa State University, many institutions of higher education include leadership development in their mission statements (Astin & Astin, 2000; Boatman, 1999). This trend is consistent with professional standards of the Council for the Advancement of Standards in Higher Education (CAS, 2006). CAS (2006) identified leadership development as one of 16 student learning and development outcomes.

Extracurricular organizations. In recent years, higher education has begun to recognize 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). When talking about outcomes assessment at Iowa State University, the Provost Office website (Iowa State University Provost, 2011, para. 1) stated, "Instruction varies from structured classroom, studio and laboratory experiences to one-to-one contacts between individual faculty members and students, and it may include extracurricular programs of various types." Out of classroom learning experiences, such as participation in university, college, academic major, sport and recreation, competitive teams, faith-based, and community organizations are considered extracurricular organizations.

Statement of the problem

Educational reform movements increased the attention to the importance of leadership development in higher education (Astin, Kuep, & Lindholm, 2002) and provided standards for these programs (CAS, 2006). Research identified a relationship between extracurricular participation and leadership outcomes (Birkenholz & Schumacher, 1994; Ewing et al., 2009; Layfield et al., 2000), participation in leadership programs and leadership outcomes (Dugan, Bohle, Gebhardt, Hofert, Wilk, & Cooney, 2011; Schumacher & Swan, 1993;), and the impact of college classes and leadership outcomes (Buschlen & Dvorak, 2011; Odom, Boyd, & Williams, 2012). "However, as of yet, little research has integrated theoretical understandings of the college student leadership phenomena to comprehensively explore how the higher education environment shapes the developmental process. A great need exists to understand better the unique nature of college student leadership development as well as how the collegiate experience contributes to that process" (Dugan & Komives, 2007, p. 7). To facilitate learning experiences, educators and institutions of higher education 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). As these researchers have concluded, a need exists to understand more about the precollegiate and collegiate experiences that result in increased leadership development.

Objectives of the study

The primary purpose of this study was to examine the precollegiate and collegiate experiences that result in increased leadership development. The study focused on three research objectives:

1. Identify and describe experiences of undergraduate extracurricular involvement that result in increased leadership development.
2. Examine the quantitative and qualitative aspects of involvement in extracurricular clubs and organizations and those relationships with leadership development.
3. Identify the extent to which precollegiate and collegiate experiences independently and collectively contribute to college students' socially responsible leadership.

Significance of the study

The results of the overall study provide a better understanding of the "specific learning tasks and goals associated with leadership development" as identified by CAS (2006, p. 93). A better understanding of these specific experiences benefits administrators as they develop policies and fund programs to address outcomes and educators as they develop experiences. This study provides a baseline that the Student Outcomes Assessment Committee for the College of Agriculture and Life Sciences can use as it develops a strategy for measuring the leadership outcome. In addition, the results of this study offer insights for other institutions who aspire to increase student leadership outcomes.

Definition of terms

The following terms are used in this dissertation.

1. Student Outcomes – Skills or aptitudes that students are expected to attain proficiency in during their college careers. These include: general intellectual skills, academic disciplines and interpersonal and leadership skills (Center for Excellence in Teaching and Learning [CELT], 2012).
2. Professional skills – Skills outside of traditional curricular content needed for productive careers and effective citizenship.
3. Leadership – "An influential relationship among leaders and followers who intend real changes that reflect their mutual purposes" (Rost, 1991, p. 102).
4. Leadership programs – Out-of-classroom educational experiences, such as seminars, workshops, mentors, guest speakers, service, and volunteerism.
5. Social Change Model – Post-industrial model of leadership development. Leadership is a relational, transformative, process-oriented, learned, and change driven (Dugan & Komives, 2007).
6. Socially Responsible Leadership Scale (SRLS-R2) – Scale used to measure Social Change Model.
7. Extracurricular club or organization – Out of classroom learning experiences, such as participation in university, college, academic major, sport and recreation, competitive teams, faith-based, and community organizations.
8. Culture - "The deeply embedded patterns of organizational behavior and the shared values, assumptions, beliefs, or ideologies that members have about their organization or it's work" (Peterson & Spencer, 1991, p. 142).

9. Service-learning – "A form of experiential education in which students engage in activities that address human and community needs together with structured opportunities intentionally designed to promote student learning and development" (CAS, 2006, p. 302).

Dissertation organization

This dissertation is divided into seven chapters. Chapters one through three include a general introduction, literature review, and research methods, respectively, for the study. Chapters four through six are research manuscripts prepared for submission to journals. Finally, chapter 7 includes the general conclusions and recommendations of the study.

Chapter II. Literature Review

Educational reform associated with learning outcomes and leadership will be explored in this chapter. In addition, the experiential learning model will be examined and the role of higher education in leadership development discussed. Finally, the conceptual framework and research related to each component of the framework will be described as will involvement theory, the theoretical framework of the study.

Higher education and leadership development

Many institutions of higher education include leadership development in their mission statements (Astin & Astin, 2000; Boatman, 1999). The traditional approach to academic and student affairs is to compartmentalize the responsibilities of student learning (academic affairs) and student development (student affairs). Scholars (Guthrie & Thompson, 2010; Pascarella & Terenzini, 1991; Shuh, 2002; Whitt, Nesheim, Guentzel, & Kelloff, 2008) criticized higher education for this division and suggested a collaborative approach between student affairs and academic affairs to create a seamless learning environment. "A strong partnership between Student Affairs and Academic Affairs creates a living laboratory for knowledge acquisition, experiences that build on this discernment, and the opportunity for thoughtful insights gained from combining theory and practice" (Guthrie & Thompson, 2008, p. 50).

Outcomes. Recent trends in education have led to an increased attention to student learning outcomes. This student-centered approach led institutions to focus on how students will be different as a result of their education instead of what the educator will do (Huba, 2000). As the focus has shifted to student outcomes, so has the need for assessment. The

American Association for Higher Education (AAHE) has provided "Principles of Good Practice for Assessing Student Learning" (AAHE, para. 2, 2012). These included:

1. The assessment of student learning begins with educational values.
2. Assessment is the most effective when it reflects an understanding of learning as multi-dimensional, integrated, and revealed in performance over time.
3. Assessment works best when programs it seeks to improve have clear, explicitly stated purposes.
4. Assessment requires attention to outcomes, but also and equally to the experiences that lead to those outcomes.
5. Assessment works best when it is ongoing and not episodic.
6. Assessment fosters wider improvement when representatives from across the educational community are involved.
7. Assessment makes a difference when it begins with issues of use and illuminates questions that real people care about.
8. Assessment is most likely to lead to improvement when it is part of a larger set of conditions that promote change.
9. Through assessment, educators meet responsibilities to students and to the public.
10. Assessment is most effective when undertaken in an environment that is receptive.

Student development theory. Early in the twentieth century, the study of human development began to take a closer look at traditional college-aged students and the experiences associated with receiving a college education and evolved into the field of student development. Multiple studies occurred in the 1920s and 1930s concerning the needs

of college students. One theme emerged that suggested institutions of higher education should be concerned with the whole student, and not strictly on scholarship and research (Evans, Forney, Guido-DiBrito, 1998). Cognitive structural theory and psycho-social theory have been fundamental components of student development theory.

"Cognitive theory emphasizes that individuals think and choose, and their thoughts and interpretations are a powerful influence on their future actions and ideas" (Berger, 1980, p. 54). Observing children and exploring how they think, Piaget developed a four stage theory of cognitive development (Berger, 1980). Using Piaget's cognitive theory as a foundation, Perry (1968) developed a theory about the way in which students think. Perry (1968) described intellectual and ethical development as a continuous process whereby students move through nine "positions." The first of these positions is "Basic Duality" where students view their world through a dichotomous lens. The positions become more complex and the last stage is "Evolving Commitments" where students affirm personal commitments with a more complex world view. Cognitive-structural theorists suggested that environments for college students must have a balance between support and challenge for optimal cognitive development (Schlossberg, 1984).

Erick Erickson developed an eight-stage theory that examined human development by examining a person's relationship to the social environment (Berger, 1980). Chickering (1969) built on the work of Erikson's psycho-social theory and described seven vectors of development for college students that take into account emotional, interpersonal, ethical, and intellectual development. Chickering's vectors build on each other and lead to greater complexity and integration of self as the issues related to each vector are addressed. According to Chickering, the developmental issues for traditional age college students are

developing competence, managing emotions, moving through autonomy toward interdependence, developing mature relationships, establishing identity, developing purpose, and developing identity.

Utilizing these foundational works in student development, researchers have continued to study college student development. Practitioners worked to design and implement programs to meet the needs of the whole student. Two topics central to the focus on student development are involvement and leadership development.

Involvement. Involvement theory has been used in helping researchers guide investigation of student learning as well as helping administrators and practitioners design more effective learning environments. Astin (1999) used concepts prominent in cognitive structural and psychoanalytic theories to develop a conceptual framework to explain how educational programs and policies translate into student achievement and development. Astin (1999) defined involvement as an investment of physical and psychological energy that occurs along a continuum and includes both quantitative (i.e., how much time a student spends on an activity) and qualitative aspects (i.e., how focused the student is on the activity). Furthermore, Astin (1999) proposed that the theory of involvement provides a conceptual framework to explain how educational programs and policies translate into student achievement and development, which is directly proportional to the quality and quantity of student involvement.

Astin's theory of involvement differs with student development theories studied by Chickering (1969), Schlossberg (1984), and Perry (1968). While Astin (1999) suggested that student actions and behaviors are fundamental to student development, Chickering (1969) and Schlossberg (1984) believed the focus should be on internal constructs such as thoughts

and feelings. A second distinction can be made between Astin's work which focuses on the *how* of student development and that of Chickering (1969) and Schlossberg (1984) which focus on developmental outcomes, or the *what* of student development. In order to study the *how* of student involvement as well as the physical and psychological energy of involvement, Astin (1999) suggested that it is important to not only identify the extracurricular activities in which the student participates, but also the time and energy that the student devoted to each activity.

The theory of student involvement encourages educators to focus less on what they do and more on what the student does. Involvement focuses on how motivated the student is and how much time and energy the student devotes to the learning process (Astin, 1999). "A highly involved student is one who devotes considerable energy to studying, spends much time on campus, participates actively in student organizations, and interacts frequently with faculty members and other students" (Astin, 1999, p. 518).

Research supported Astin's (1999) involvement theory. For example, Pascarella and Terrenzini (1991) found that the frequency and quality of students' participation in activities was associated with high educational aspirations, enhanced self-confidence, and increased interpersonal and leadership skills. Rubin, Bommer, and Baldwin (2002) used an extracurricular index score that represented the number of clubs students were involved with, officer status, and hours spent and concluded that it was significant in predicting interpersonal skills (i.e., communication skills, initiative, decision making, and team work).

The degree of personal investment a member made to an organization and the frequency a member attended meetings correlated positively with rewards received from participating, warm relationships with other members, and adequate fulfillment of leadership

function (Winston, et. al., 1997). Foubert and Grainger (2006) compared students who attended one meeting, students who joined an organization, and positional leaders of organizations and found that simply attending a meeting had less of a relationship with psychosocial development than joining an organization or serving as an officer. Students with higher levels of involvement in student organizations reported greater levels of psychosocial development in the areas of establishing and clarifying purpose, educational involvement, career planning, life management, and cultural participation (Foubert & Grainger, 2006).

Research indicated that university-wide student organizations are more effective than college organizations in developing leadership awareness, behaviors, skills, and abilities provides additional evidence of the importance of the quality and quantity of involvement (Moore, Prescott, & Gardner, 2008). Moore, Prescott, and Gardner (2008) suggested that many university-wide student organizations required more commitment to the organization and involved more focused, long-term leadership education and were therefore more likely to produce positive outcomes. It was also noted that these organizations tend to incorporate leadership development into their yearly program of activities.

Leadership. Rost (1991) defined leadership as an "influential relationship among leaders and followers who intend real changes that reflect their mutual purposes" (p. 102). "For years, leadership development in undergraduates was seen as an indirect result of their education. In other words, leadership skills were developed in the non-curricular and extracurricular activities in which students participated, perhaps through experiential leadership, including trial and error and observing others" (Moore, Prescott, & Gardner, 2008, p. 178). A more recent trend is to view leadership development as a critical part of the

undergraduate experience (Bushlen & Dvorak, 2011; Dugan & Komives, 2010) and include intentional leadership education as a component (Bass, 1990).

According to CAS (2006), "Competencies should accrue from both cognitive and experiential development" (p. 324). Leadership experiences can be found as a part of the formal curriculum in the form of individual courses, minors or certificates. In addition, institutions of higher education offer leadership programs, ranging from one-time seminars to on-going leadership development experiences (Dugan & Komives, 2007). Finally, there is an increased attention to the role of extracurricular activities on leadership development.

Tom Gallagher (2002) proposed that leadership education "is not a singular focus;" it "sits at the nexus of two disciplines, the art and science of leadership and the art and science of education" (p 3-4). A wide variety of leadership theories and models exist and have been used to guide leadership development experiences and research. A few of these include: transformational leadership (Bass, 1990), primal leadership (Goleman, Boyatzis, & McGee, 2002), leadership identity (Komives, Owen, Longerbeam, Mainella, & Osteen, 2005), leadership challenge (Kouzes & Posner, 2007), and the social change model (HERI, 1996).

Transformational leadership is a model that considers both the leaders and the followers needs. Transformational leaders connect with the needs and motives of followers and raise the expectations of both the leader and followers (Bass, 1990). Four factors make up transformational leadership: (a) idealized influence, (b) inspirational motivation, (c) intellectual stimulation, and (d) individualized consideration.

Goleman, Boyatzis, and McKee (2002) applied research in neurology to develop a model of Primal Leadership and propose that the fundamental task of leaders is to prime good feelings in those that they lead. Primal leadership requires leaders to understand

emotional intelligence and apply these concepts for personal leadership, teamwork, and in organizations. This leadership theory involves four dimensions, including intrapersonal dimensions (i.e., self-awareness and self-management) and interpersonal dimensions (i.e., social-awareness and self-management). The authors make a distinction between management and leadership and encourage educators to provide leadership training to help students become leaders instead of managers.

Komives, Owen, Longerbeam, Mainella, and Osteen (2005) studied leadership identity development and developed a six-stage model which describes the transition from a leader-focused approach to a collaborative and relational process. The first two stages (i.e., awareness, exploration/engagement) are defined as dependent stages. Stage three (i.e., leader identified) is an independent stage. After stage three, a critical transition occurs and students begin to understand that they need to rely on others. Stages four through six (i.e., leadership differentiated, generativity, and integration/synthesis) are interdependent.

Kouzes and Posner (2007) studied leaders' practices and developed five practices of successful leaders (i.e., challenge the process, inspire a shared vision, enable others to act, model the way, and encourage heart) and developed the leadership challenge to guide leadership practices. The Leadership Practices Inventory measures these behaviors and is used as a self-assessment for leaders as well as for research purposes.

The social change model of leadership (SCM) (HERI, 1996) was created specifically for use with college students and describes leadership as "a purposeful, collaborative, values-based process that results in positive social change" (Komives, Wagner, & Associates, 2009, p. xii). SCM includes seven core values that represent a student's leadership knowledge and capacity. These values are divided into three levels, individual level (i.e., consciousness of

self, congruence, and commitment), the group level (i.e., collaboration, common purpose, and controversy with civility) and societal level (i.e., citizenship) (Figure 2.1). Collectively, these values contribute to change for the common good.

Figure 2.1. Social Change Model. *Retrieved from* http://socialchangemodel.ning.com

Agriculture education and leadership education. Professional associations related to agriculture education have identified leadership education as a component of the agricultural education discipline. **"**Agricultural Education teaches students about agriculture, food and natural resources. Through these subjects, agricultural educators teach students a wide variety of skills, including science, math, communications, leadership, management, and technology" (National Association of Agricultural Educators, 2012, para. 1). In addition, the American Association of Agricultural Education addressed the need for leadership research in the National Research Agenda (Doerfert, 2011). In addition to teacher education, agricultural communication, and extension, the National Research Agenda recognizes

leadership development as a specialization in agricultural education. Specifically leadership education and development fit within Priority 6 which stated the quality of life in a rural community is influenced by local leadership capacity and the level of civic engagement.

Teaching and Learning Theories. Understanding teaching and learning theories is important to designing educational experiences to increase leadership outcomes. Prominent teaching and learning theories fall into the categories of behaviorism, social learning theory, cognitive theory, and experiential learning theory. Each of these will be briefly described in this section.

Behaviorism. Watson, Skinner, and Pavlov worked to transform the social science of learning and human development into an objective science (Schiamberg & Smith, 1982). To this end, they posited that for every behavior (response [R]) there was a stimulus[S] that caused the behavior. In this tradition, learning occurs through conditioning and is reinforced by rewards and punishments. Behaviorism portrays humans as reactive. People are shaped and molded as if they are a lump of clay waiting to be shaped. In the purist behaviorist model, no attention is paid to individual characteristics, personality, ability, needs, desires, or development (Schiamberg & Smith, 1982).

Alfie Kohn (1993) is a modern philosopher who disagreed with the use of extrinsic rewards as a method to motivate students. Kohn believes that when external rewards are offered for a behavior it reduces the individual's internal motivation. The more rewards that are offered, the more dependent on rewards the person becomes. Eventually, the intrinsic motivation is reduced and the person is less engaged in the activity unless they are being encouraged to perform the activity by an external reward.

According to Kohn, rewards don't alter the emotions that underlie our behaviors. Extrinsic motivators are a poor substitute for genuine interest in what one is doing. The internal sense of self and moral development should guide our behavior not what others will think or how they will reinforce our behavior. The use of extrinsic rewards emphasizes the learner as a passive recipient of knowledge, whereas a philosophy where the learner was motivated from an internal locus of control would emphasize the learner in an active role (Kohn, 1993).

Social learning theory. Albert Bandura posited that behavior is a result of the consequences from one's own actions as well as the consequences of the actions of others (Schiamberg & Smith, 1982). This concept, called social learning theory, describes reciprocal determinism as the reciprocal interaction between behavior and its controlling condition (Berger, 1980). For example, behavior partly constructs the environment and the resulting environment in turn affects behavior. The work of social learning theorists has contributed to the area of college student leadership development with theory and research about role models. Social learning theorists believe that much of what we learn involves observing the behavior of those important to us. For college students, mentors (i.e., people important to them) may include professors, advisors, student leaders, industry leaders, etc.

Cognitive Theory. Cognitive theory posits that the mind is key to understanding how a person develops and that the mind is an active processor of information (Schiamberg & Smith, 1982). Jean Piaget was a prominent cognitive theorist and believed that cognitive development involved adapting to the environment and interacting with the environment is what organizes the brain. Piaget referred to this organized pattern of behavior as schemata. As an individual interacts with his/her environment he/she adapts to the environment, a

qualitative change occurs in the mind causing him/her to interact with the environment in a different way (Berger, 1980).

Experiential learning. John Dewey was an early critic of behaviorism (Schiamberg & Smith, 1982). Dewey felt that the behaviorist model of S→R was unrealistic and oversimplified. Dewey argued that the parts of S→R (i.e., stimulus, brain activity or neural connections, and response) represent a continuous process and that stimulus (S) and response (R) do not alone explain behavior or learning. Dewey contended that an educated person is one that knows how to proceed in finding answers appropriate to his/her situation (Dewey, 1938).

The experiential learning model has a foundation in higher education and is utilized in both formal and nonformal educational settings. Experiential learning is a constructivist theory, meaning "truth is contingent and conditional and that there are multiple perspectives and multiple realities" (Weiss, 1998, p. 328) and is based on Jean Piaget's cognitive-structural theory.

Kolb (1984) continued the work on experiential learning and defined learning as "the process whereby knowledge is created through the transformation experience" (p.41). Kolb's Experiential Learning Cycle (Figure 2.2) suggested that learning occurs in four stages – concrete experience, reflective observation, abstract conceptualization, and active experimentation. Kolb proposed that the transformation occurs in stage 2 (reflective observation) and stage 4 (active experimentation).

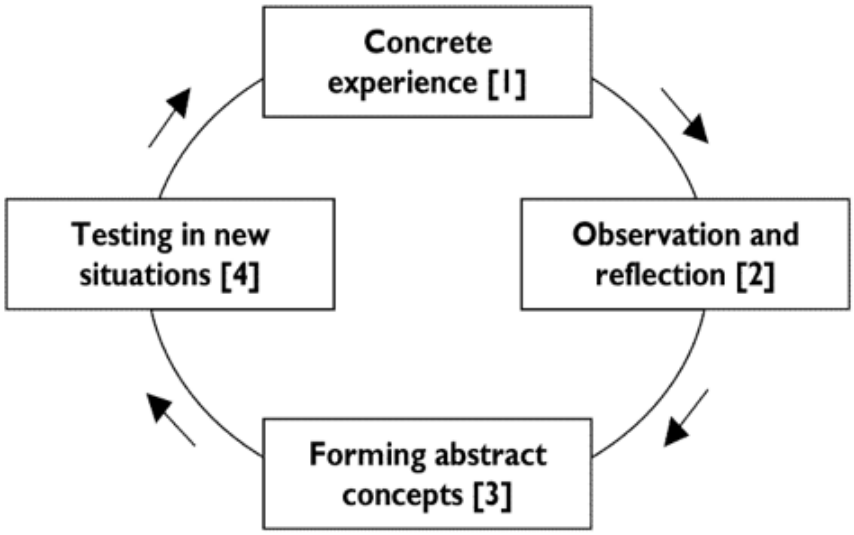

Figure 2.2. Kolb's experiential learning cycles (*Retrieved from* http://www.artofteachingscience.org/2009/01/18/experiential-science-education-the-real-core-of-teaching/).

Conceptual framework – Collegiate leadership development model

Terenzini and Reason (2006) developed a model which examined the influences on student learning and persistence in the first year. This model, which was called *Comprehensive model of influences on student learning and persistence*, expanded the inputs (I), environment (E), and outcomes (O) concepts found in the college impact model (Astin, 1991) and incorporated the organizational context (i.e., structure, policies and procedures and faculty culture).

The *Collegiate leadership development model* developed for this study was adapted from Terenzini and Reason's (2006) model and has three components (Figure 2.3). The first two components are precollegiate (I) and college experiences (E), which previous literature suggested contribute to leadership development in undergraduate college students. The third

component, leadership development, is the outcome of the model (O) and was conceptualized using the social change model (SCM; Higher Education Research Institute, 1996). A review of literature for each of the components follows.

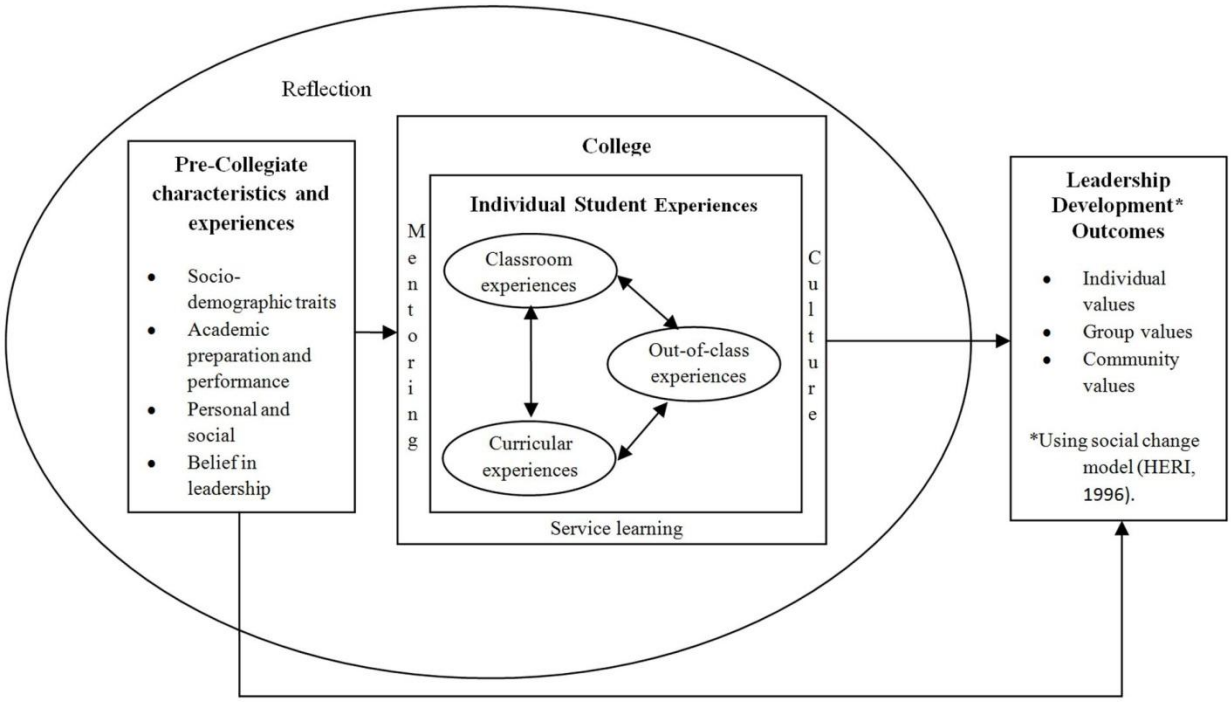

Figure 2.3. Collegiate leadership development model. Adapted from "First Things First: Developing Academic Competence in the First Year of College", *Research in Higher Education Volume 47 (2),* Copyright [2005] by P.T. Terenzini and R.D. Reason. Adapted with permission (Appendix A).

Precollegiate characteristics and experiences. The first component of the model includes precollegiate characteristics. Dugan and Komives (2007) stated that "What students came to college with largely explained how they developed in college. Eighteen or more years of experience provided a strong foundational grounding on which college experiences built" (p. 13).

Burton (1981) hypothesized that demographic and personality characteristics would predict participation in extracurricular clubs. However, his findings suggest that neither influenced extracurricular participation. The research model for this study considered the role of socio-demographic traits, academic preparation and performance, and personal and social experiences, to leadership development.

Socio-demographic traits. The first precollegiate characteristic is socio-demographic traits, including gender and race. Research was inconsistent concerning the role of gender and race on leadership development. For example, Kezar & Moriarty (2000) found that leadership development differs based on gender and ethnic identity. Dugan (2006) and Dugan and Komives (2007) concluded that college women scored higher than males across all eight constructs of the Social Change Model. However, other findings (Burton, 1981 and Pugh, 2000) suggested that neither gender nor ethnicity influenced extracurricular participation. While Dugan and Komives (2007) found demographics a significant predictor of college outcomes, only 1% - 2% of college outcomes were explained by demographics.

Research indicated some influence of gender role norms to leadership. Females tended to agree more strongly with humanistic leadership abilities (Schumacher & Swan, 1993) than males and males perceived themselves as more dictatorial (Schumacher & Swan, 1993) and hierarchical (Fisher, Overland, & Adams, 2010) in their leadership style. When gender differences have been identified using SRLS, change was the only scale that differed. Dugan, Komives, & Segar (2008) suggested this is because women are more democratic, participative, and relational. Andrews, Stedman, and Gifford (2011) examined motivation among college leaders and found men more motivated by activities with rewards and tangible incentives. Whereas, females were more motivated by intrinsic factors, such as whether the

work was meaningful. Women scored higher on all measures of SRLS except change. However, Barbuto & Gifford (2010) found no gender differences in servant leadership.

"The trend of increasing female leadership within colleges of agricultural and life sciences has drawn recent attention among research" (Andrews, Stedman, & Gifford, 2011, p. 0). Ward, DiPaolo, & Popson (2009) explored the changing roles of women leaders on campus and suggested a phenomenon of the "Alpha female." They described this as a "dominant leader who has extreme confidence, is extroverted, and feels driven to succeed" (Ward, et al., 2009, p. 12). These researchers have recommended additional research on the increasing number of females serving in leadership roles and further describe the experience and needs of the alpha female.

High profile leadership positions on campuses are seldom held by minority students (Baughman & Bruce, 2011). Minority students were more likely to participate in organizations specific to their religious or ethnic group (Baughman & Bruce, 2011). Researchers (Kimbrough, 1998; Sutton & Terrell, 1997) studied the role of black Greek organizations and found membership in these organizations increased leadership skills of members and leaders. As a result, involvement theory (Astin 1993) has been used in helping researchers guide investigation of student learning as well as helping administrators and practitioners design more effective learning environments.

Studies have found race to be a factor in leadership development. For example, Dugan & Komives (2007) reported that African American students scored significantly higher and Asian Americans scored significantly lower on the SRLS. Involvement in positional leadership roles predicted leadership ability for white men and African American women. However, non-positional leadership was significant for white women and African

American men. Volunteering was the best predictor of leadership for African American men. However, Cress, Astin, Zimmerman-Oster, & Burkhardt (2001) found that race did not have an effect on the positive gains of participating in leadership programs.

Research findings were inconsistent in regards to whether academic preparation and performance was associated with leadership development. Rubbin, Bommer, and Baldwin (2002) found grade point average (GPA) to be a significant variable in a regression model for increased interpersonal skills. Wang and Shiveley (2009) reported students who were engaged in extracurricular activities had higher retention and graduation rates and better GPA. However, Burton (1981) concluded that extracurricular participation was not significantly influenced by GPA.

Precollegiate factors such as leadership training experiences, involvement in high school student groups, volunteer service, sports, and positional roles have been found to predict collegiate leadership outcomes (Dugan and Komives, 2007). The Multi-Institutional Study of Leadership found that these factors explained from 4% - 13% of college leadership outcomes (Dugan & Komives, 2007).

Research linked participation in precollegiate extracurricular activities to leadership development (Dugan, Garland, Jacoby, & Gasiorski, 2008; Kezar & Moriarty, 2007; Smart et al., 2002). For example, organizations, such as FFA, 4-H, Scouts, and athletic teams have been linked to increased leadership behavior and attitudes (Patterson, 2011). Serving as an officer in these organizations had an additional relationship with leadership development (Patterson, 2011). Participation in 4-H and FFA has also been associated with higher college academic performance and persistence (Ball, Garton, & Dyer, 2001).

Extejt & Smith (2009) studied the impact of athletic participation on leadership development. Students who participated in sports scored higher on teamwork. However, those who did not participate in sports scored higher written communication scores. Increased levels of participation and the nature of the sport were not associated with skill development.

Precollegiate involvement was related to collegiate activities. For example, former FFA and 4-H members participated in more college organizations and held more offices than non-FFA and non-4-H members (Park & Dyer, 2005). In addition, students who were involved in community service prior to attending college were more likely to continue their involvement in college (Berger & Milem, 2002).

Social-learning theorist, Bandura (1977), defined self-efficacy as an individual's judgment of their ability to perform specific tasks or processes. This theory would suggest that the outcome a person expects is dependent on his/her belief of how well they can perform the task. Research indicated that leadership experiences increased leadership self-efficacy. Dugan and Komives (2007). Students who served in a positional leadership role had higher leadership efficacy. Dugan & Komives (2010) identified the importance of leadership self-efficacy as an intermediate outcome to socially responsible leadership. In addition, students who completed a leadership education class had significantly higher self-efficacy than those that had not taken a leadership course (Endress, 2000).

College experiences. The college experience construct included three types of individual student experiences that have been associated with leadership development: 1) classroom experiences, including subject matter, teaching and learning strategies, and peer interactions; 2) curricular experiences, including academic major, academic advising,

involvement in a departmental learning community, internships, and study abroad experiences; and 3) out-of-class-experiences, including extracurricular involvement in a student club or organization and leadership development training.

Research findings have also demonstrated the value of leadership education for college students and linked leadership with both classroom and extracurricular activities. For example, Kuh and Umbach (2004) used data from the National Survey of Student Engagement (NSSE) and concluded that institutions should organize both in-class and out-of-class experiences to expose them to a variety of opportunities. Researchers have found empirical evidence that experiential learning is instrumental in the development of leadership skills. For example, Layfield, Radhakrishna, and Andresen (2000) suggested that without meaningful opportunities to practice leading a group, students will not gain skills. Experiences should include both classroom and out of classroom experiences to help students apply knowledge in their everyday life. Boatman (1999) conducted a leadership audit and found a variety of experiences, including classroom and extracurricular activities, are a part of the leadership curriculum.

"The leadership development of undergraduates should include intentional leadership education such as formal leadership courses, but the impact of student organizations and activities should not be ignored" (Bass, 1990, p. 178). Layfield, et al., (2000) concluded that involvement in campus organizations and participation in leadership programs contributed positively to perceived leadership abilities. When analyzing findings from the multi-institutional study for leadership, Dugan and Komives (2007) found college experiences to account for 7% - 14% of the overall variance in leadership outcomes and suggested that

purposeful interventions can make a difference in the developmental process of college students.

Classroom experiences. Classroom experiences are a central part of the college experience. Philosophers have studied the role of both educators and students in the learning process. According to Cooper, Prescott, Cook, Smith, & Mueck (1990), students have become "passive spectators" in the college classroom due to the over-reliance on the lecture method in higher education. The lecture hall setting creates challenges for educators teaching concepts such as ethics and leadership styles because students lack the opportunity to practice the theory in real world applications (Boyd & Murphy, 2002). A more recent trend is a student-centered approach that encourages students to develop the skills required to be a life-long learner.

Boyd (2009) suggested a relationship between transformational teaching and transformational leadership and suggested transformational leadership theory as a model for transformational teaching in leadership classrooms. Transformational learning is a structural cognitive theory that proposes that learning is about change in the way in which a learner sees themselves and the world in which he/she lives (Mezirow, 1978). Mezirow proposed four ways in which transformational learning occurs: elaborating on existing frames of reference, learning new frames of reference, transforming points of view, or by transforming habits of mind.

Group work is one strategy that educators employ in leadership classes and has been found to increase leadership skills, leadership understanding, multicultural and community awareness, and personal and societal values (Cress, Astin, Zimmerman-Oster, & Burkhardt (2001). Moore (2010) studied student's perceptions of cooperative exams in a leadership

class and concluded that the benefits of cooperative exams outweighed the disadvantages. Stedman (2009) recommended that educators create a classroom environment that encourages participation of students from different backgrounds which allows open communication and dialogue about leadership concepts to increase critical thinking. However, Coers, Williams, Duncan (2010) cautioned the use of group work in classrooms by educators unfamiliar with the strategies utilized in group work and recommended that educators who choose to utilize group work in the classroom be trained on the group development process to increase the benefits of group work.

In addition to group work, service learning is a group project sometimes employed in leadership classes. Research supports this practice and has found service learning positively associated with students perceptions of leadership skills (Montelongo, 2002) and increasing student learning about theory and practice and how deeply they learned the information (Sessa, Matos, & Hopkins, 2009). However, Astin (2000) compared students who performed service learning as a part of coursework and students who performed community service through settings other than courses and found no differences in the leadership outcomes.

Offering leadership classes is a common strategy for reaching leadership outcomes. Williams and McClure (2010) compared three pedagogies for teaching leadership classes (i.e., public pedagogy, lecture, and experiential learning). Students retained the most knowledge from public (i.e., using mainstream mass-media, such as newspapers, books, internet, music, and movies) and experiential learning pedagogies. Boyd and Murphy (2002) observed similar benefits when asynchronous computer simulations were added to a lecture class and suggested this as a way to increase higher level thinking skills.

Out-of-class experiences. The role of out-of-classroom experiences is oftentimes perceived as important in the social and personal growth of students. However, many university faculty members argue that out-of-classroom experiences should not be viewed as important as coursework, team projects, and assignments in facilitating interpersonal skill development (Layfield, Radhakrishna & Andresen, 2000; Boatman, 1999). The current study examined the role of four forms of out-of-class experiences that research suggested contribute to leadership development: participation in extracurricular activities, living environment, on-campus employment, and leadership programs

Extracurricular activities. Kouzes and Posner (2007) suggested that exposure to a variety of out-of-classroom experiences provided concrete experiences as students apply leadership theories and skills. Additional researchers examined this idea and concluded that participation in extracurricular clubs and organizations contributed to positive leadership development (Ewing, Bruce, & Ricketts, 2009; Layfield, Radhakrishna, & Andresen, 2000; Birkenholz & Schumacher, 1994; and Dugan & Komives, 2007). However, being involved in too many different types of organizations was negatively related to leadership outcomes (Dugan & Komives, 2007).

However, studies have shown that participation in extracurricular activities contributed positively to interpersonal skills (Rubin, Bommer & Baldwin, 2002; Pascarella & Terenzini, 1991; Moore, Prescott, & Gardener, 2008), academic achievement and persistence (Wang & Shively, 2009), peer-to-peer interactions (Astin, 1999; Pascarella & Terenzini, 1991), and faculty interactions (Abrahamowicz, 1988; Retallick & Pate, 2009).

Interpersonal skills. Researchers have studied a wide variety of dependent variables and found them positively related to participation in extracurricular clubs and

organizations. Rubin, Bommer, and Baldwin (2002) studied the importance of involvement in extracurricular activities and its relationship to interpersonal skills (e.g., oral communication, decision making, team work, conflict resolution, and initiative) and found that undergraduates who were involved in extracurricular activities had higher measures of interpersonal skills than those that didn't participate. Similarly, students who participated in extracurricular clubs and organizations had higher scores in developing purpose (Cooper et al., 1994), establishing and clarifying purpose (Martin, 2000; Stanford, 1992), conflict resolution skills (Logue, Hutchins, & Hector, 2005), and understanding their abilities and limitation and exploring their interests and values (Winston, 1997). College juniors who were members of student organizations scored higher than non-members on educational involvement, career planning, lifestyle planning, cultural participation, and academic autonomy (Cooper et al., 1994). Students who participated in leadership training had a higher commitment to civic responsibility (Logue, Hutchins, & Hector, 2005) and were more informed citizens who actively participated in addressing issues (Montelongo, 2002). Montlongo (2002) concluded that personal or affective development of attitudes, values, aspirations, and personality disposition were positive outcomes associated with extracurricular participation.

Academic achievement and persistence. While some educators might suggest that involvement in extracurricular activities would negatively affect academic performance due to the competition for time, Astin (1999) posited that participation in extracurricular clubs and organizations increases a student's level of involvement and therefore would have a positive effect on their academic performance and persistence. Several pieces of literature supported Astin's theory. Wang and Shively (2009) examined the

relationship between extracurricular participation and student academic performance and found that undergraduates who participated in extracurricular activities, including serving as a board member of student government, becoming an orientation leader, working in residence halls, and serving in a leadership position in a campus student club, had higher GPA's, increased persistence, and higher graduation rates compared to students who did not participate. Similar results were found when researchers studied cognitive development or intellectual processes. Montelongo (2002) reported increases in critical thinking, knowledge acquisition, synthesis and decision-making associated with participation in college organizations.

Peer-to-peer interactions. Research has confirmed that students who are active in campus clubs and organizations have the opportunity to interact with other students more than those that don't participate. In fact, club participants have been reported to perceive more positive relationships than other students (Abrahamowicz, 1988) and perceived that this interaction contributed to positive college experiences (Astin, 1999; Pascarella & Terenzini, 1991). Astin (1996) also suggested that a student's peer group is the strongest source of influence on his or her cognitive and affective development (Astin, 1996).

Positive interactions with faculty. Retallick and Pate (2009) reported that students who interacted with faculty or staff outside of class on at least a weekly basis indicated that the interaction was a result of student clubs or organizations related to their major field of study. Abrahamowicz (1988) found club participants more likely to believe that their educational experience was high quality and perceived more positive relationships with faculty, and administration.

Formal leadership role. Another important aspect of extracurricular organizations is the impact that serving in a formal leadership role has on the student. Holding an office in an extracurricular organization was related to richness and magnitude of learning experiences and personal development during the college years (Astin, 1985). Researchers have examined the impact of serving as a club officer and found it related to increased leadership development (Ewing, Bruce, & Ricketts, 2009) and increased decision-making (Rubin, Bommer, & Baldwin, 2002). Kuh (1985) discovered that serving as an officer in an organization correlated positively with developmental gains in interpersonal competence, practical competence, cognitive complexity, and humanitarianism. Serving as a leader in an organization was associated with higher levels of developing purpose, educational involvement, life management, and cultural participation (Cooper et al., 1994). Dugan and Komives (2007) studied undergraduate students and reported that students who served as positional leaders scored higher on each of the Socially Responsible Leadership Scales with the strongest effect size on common purpose and citizenship.

One possible explanation for the added benefit of serving as an officer in an organization is the increased time associated with serving as an officer. Astin (1993) found that holding an office, public speaking ability, leadership abilities, and interpersonal skills were all correlated to hours per week spent participating in student clubs and organizations. Shertzer and Schuh (2004) suggested that students holding leadership positions in college were often given additional leadership development opportunities when compared to those members who did not hold leadership positions. Therefore, the increased skills oftentimes attributed to serving as an officer may actually be associated with the additional training that

officers received. Dugan & Komives (2007) found serving in a positional leadership role was a strong predictor of leadership self-efficacy.

While much of the research suggested that serving as an officer in 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 in their extracurricular clubs or 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, Bommer, & Baldwin, 2002) and in the perception that belonging to the organization had a positive impact on leadership development (Ewing, Bruce, & Ricketts, 2009).

Living environment. The location of residence while in college has been found to be a significant predictor of leadership skill development. Birkenholz and Schumacher (1994) found that living in a structured housing arrangement such as a residence hall, fraternity or sorority was positively related to perceived leadership skills. Students who live in campus residences also show greater gains in interpersonal self-esteem and several forms of involvement, including interaction with faculty, involvement in student government, and participation in social fraternities or sororities (Astin, 1999). Similar benefits were reported with students who were a part of the Greek System (Rubin, Bommer, & Baldwin, 2002). Pike (2000) studied the social and cognitive benefits for Greek students and found a direct relationship to students' social involvement and integration of college experiences and an indirect relationship to gains in general abilities associated with cognitive development.

On-campus employment. Involvement theory suggests that on-campus work experiences contribute positively to involvement because the student is spending more time

on campus, therefore increasing connections with faculty, staff, and other students (Astin, 1999). Research by Dugan and Komives (2007) supported this theory, finding employer mentoring among the strongest predictors of leadership self-efficacy. Stedman, Rutherford, & Roberts (2006) suggested that instructors play a critical role in the learning experience of an internship and encourage facilitating reflection of student experiences to create stronger outcomes.

Leadership programs. Leadership programs involved a variety of pedagogies, including experiential learning opportunities (Haber & Komives, 2009 and Cress et al., 2001) and opportunities for service and active learning through collaboration (Cress et al., 2001). Most frequent leadership program activities were seminars, workshops, mentors, guest speakers, service and volunteerism (Zimmerman & Burkhardt, 1999).

Schumacher and Swan (1993) examined students' perceptions for the need for leadership programs and found that 87% of students felt that leadership training was needed at the college level and 81% indicated that they would be willing to participate in a formal leadership training program. After studying the impact of a leadership seminar on freshman students, Posner (2009) recommended that leadership education be offered early in the college career because leadership programs significantly affected students' subsequent leadership behaviors.

However, the outcomes of leadership development programs have been inconsistent. Vegas, Brun, and Hausafus (1998) developed and evaluated a formal leadership development program in the College of Family and Consumer Sciences at Iowa State University. This program that included 15 hours of leadership training was not found to increase leadership skills. However, this program did motivate female students to more actively seek leadership

positions. Similar findings were reported by Haber and Komives (2009) who studied the impact of leadership training and education programs and found them not significant in developing individual leadership characteristics.

Positive outcomes were found in a variety of studies, including the Multi-institutional study for leadership (Dugan & Komives, 2007). Dugan and Komives (2007) analyzed the relationship between short-term, moderate-term, and long-term formal leadership programs and found short, moderate, and long-term programs had the same influence compared to students who had not attended any leadership training. Moderate and long-term programs enhanced the citizenship outcome and long-term experiences increased the change outcomes. Von Stein (2007) described a program developed at the University of Florida to compliment the opportunities already available to students in the College of Agriculture and Life Science and help them address challenges they face as college students. The evaluation of the seminar held once each semester showed that students believed the seminar was relevant and valuable, improved their personal effectiveness, and aided in their professional and career development.

Kezar & Moriarty (2000), Posner (2009), and Layfield, Radhakrishna, and Andresen (2000) found participation in a leadership program was a positive predictor of leadership ability. Cress, et al. (2001) concluded that participants in leadership development programs were more likely to report growth in their commitment to civic responsibility, conflict resolution skills, ability to plan and implement programs and activities and willingness to take risks, more likely to hold an elected office, more likely to be involved in co-curricular activities, leadership skills (decision-making abilities), values (sense of personal ethics) and cognitive understanding (leadership theories). Posner and Rosenberg (1998) found no

leadership difference between students who were involved in a one-time leadership experience and those involved for an entire year.

Curricular experiences. Curricular experiences in the model referred to those experiences specific to an individual academic major or curriculum, including curriculum, academic advising, academic-based learning communities, internship experiences, and study abroad.

Leadership is both a stand-alone curriculum as well as integrated in other curricula. As a curriculum, the first undergraduate major in leadership was developed in the 1990s at the Jepson School of Leadership Studies at the University of Richmond. Since that time additional leadership majors, minors, and certificate programs have been developed.

"Learning communities have become an integral part of the educational reform movement of the past two decades and have been heralded as a promising strategy for restructuring education" (Buch & Spalding, 2011). At Iowa State University, over 70 learning communities are tied to a major. Learning communities have been shown to ease the transition to college, increase peer and faculty interactions, support critical thinking skills, and increase persistence (Inkelas & Weisman, 2003). Rowan-Kenyon, Soldner, & Inkelas (2007) reported that students who participated in learning communities had a higher sense of civic engagement than those students who did not participate in learning communities.

Foundational experiences. The conceptual framework for this study included three foundational constructs that influence all three areas of the college experience. The first is culture which provides a framework for the institution. The second and third foundational

experiences are service learning and mentoring. These experiences occur in classroom settings, as a part of curricular experiences and extracurricular experiences.

Culture. Peterson and Spencer (1991) defined culture as "the deeply embedded patterns of organizational behavior and the shared values, assumptions, beliefs, or ideologies that members have about their organization or its work" (p. 142). The literature related to the impact of culture on educational outcomes is sparse. Drawing on concepts found in anthropology and sociology, researchers have examined the role of culture in higher education. College culture is dependent on the disciplines and experiences of the faculty (Kezar & Eckel , 2002).

Tierney (1988) developed a six category framework to analyze culture: environment, mission, socialization, information, strategy, and leadership. Assuming that the values, beliefs, and assumptions of an institution are reflected in its processes and artifacts, Kezar & Eckel (2002) conducted case studies to assess culture and its relationship to organizational change in higher education and found that change strategies are more successful if they are consistent with the culture. Scholars have examined the role of institutional-level policies, climate, and campus value system and concluded that these factors mediate student engagement and learning (Kuh, Kinzie, Schuh, & Whitt (2005). An additional artifact that can be examined to assess cultural values is to examine institutional expenditures. Smart, Ethington, Riggs, & Thompson (2002) stated that institutional spending patterns influence student leadership development.

Service learning. "Service-learning is a form of experiential education in which students engage in activities that address human and community needs together with structured opportunities intentionally designed to promote student learning and development"

(CAS, 2006, p. 302). Service learning research can be found in studies that examined classroom outcomes, curricular experiences, and extracurricular experiences. "The interweaving of service into leadership and other involvement experiences has the potential to increase leadership learning dramatically. An expansion of quality and quantity of service programs grounded in critical reflection may significantly contribute to developmental gains in socially responsible leadership" (Dugan, 2006, p. 37). Sessa, V.I., Matos, C. and Hopkins, C.A. (2009) suggested that service learning allows students to learn about leadership, explore the complexities of leadership and try the theories out or observe them in real life settings.

The Multi-Institutional Study for Leadership includes community service as a construct and reports over half of the students participated in community service (Dugan & Komives, 2007). Patterson (2011) found that 17.5% of college students who participated in service learning did so as a part of a service organization and 15% as members of fraternities and sororities. Involvement in service was related to significantly higher scores on the Socially Responsible Leadership Scale (SRLS) (i.e., scale used to measure the Social Change Model). Specifically, students involved in community service scored significantly higher than uninvolved peers on consciousness of self (Dugan & Komives, 2007). Regression analysis showed the strongest influence on citizenship and collaboration (Dugan & Komives, 2007).

Research has focused on the quantity of involvement in community service instead of the quality. For example, the more hours per week students spent volunteering the more likely they were to show growth in leadership skills and knowledge, civil responsibility, understanding of personal and social values, and awareness of multicultural and community issues (Cress, et al., 2001). Berger & Milem (2002) suggested that more research needs to be

done on the quality of the experience, including motivation for involvement, characteristics of involvement, and learning opportunities. Data from additional research could then be used to facilitate experiences that match intended student outcomes with the appropriate kind of community service.

Mentoring. Mentoring is defined as a process where a developmental relationship evolves between a more advanced or experienced person (i.e., a mentor) who provides career and/or personal support to another individual (i.e., a protege) (Wolfe, 2006). Retallick & Pate (2009) found that undergraduates perceive faculty and staff in the college as mentors. Undergraduates who report having a mentor indicate more positive career development (Levinson, 1978; Campbell & Campbell, 1997; Jowett & Stead, 1994), earned higher grades and were more likely to persist (Campbell & Campbell, 1997). Dugan and Komives (2007) stated that 70% of students reported being mentored by peers or faculty and that faculty mentoring was a strong predictor for leadership. Citizenship and collaboration were the only SCM values not predicted by faculty mentoring (Dugan & Komives, 2010).

Yarbrough (2002) described an engagement model for advisors of student organizations that clarifies individual roles and student-advisor relationships. The model encouraged advisors and students to work together to set goals and work together to reach group goals. The model explained steps to create an ongoing supportive environment.

DiPaola (2009) questioned the role of the leadership educators and suggested faculty who work directly with students are often faced with situations where a student has underlying issues that prevent them from leading. DiPaola suggested that practitioners that work with students on leadership development should "participate in the same level of critical reflection, mutual support, and courageous sharing that we promote among our

student leaders" (p.16) by examining their role and training to help students deal with personal issues.

Reflection. Because of the experiential nature of leadership development and the role reflection plays in the experiential learning process, reflection was a component of the model that transcends precollegiate and collegiate experiences. Without reflection, precollegiate and collegiate experiences would not predict the same leadership outcomes. This notion is supported in both education and leadership literature (Bass, 1990; Middlebrooks, 2008; Moore, Boyd, & Dooley, 2010; Roberts, 2008; Stedman, Rutherford, & Roberts, 2006). Bass (1990) proposed that the effectiveness of leadership development depends on "demonstrating or helping the student discover how to change his or her own perceptions, cognitions, attitudes, or behaviors" (p. 818). Reflection is important in leadership development because it provides an opportunity for students to engage in new behaviors, reflect on their experiences, question assumptions, and adopt new attitudes and behaviors (Roberts, 2008). In addition, reflection is needed in experiential learning to complete the experiential learning cycle (Kolb, 1984).

Educators have utilized different strategies to facilitate student reflection. Middlebrooks (2008) suggested the use of Kiva, "a structured group experience that encouraged critical reflection and self-analysis through multiple, sequenced queries regarding a single issue," as a strategy to help students reflect on experiences and apply them in the future (p. 131). Sessa, et al. (2009) utilized reflection journals as an evaluation tool for a service learning class and suggested that additional reflections will deepen students' learning.

Professionals that work with student organizations should consider the impact that reflection and application plays on leadership development (Ewing, Bruce, Ricket, 2009).

Students need to be able to reflect on their college organization experiences and become better leaders because of those experiences. Reflection should allow students to apply experiences to other areas of their life, such as career and personal areas.

Outcomes. The final component of the research model was the leadership development outcomes. Outcomes can be defined as the skills or aptitudes that students are expected to attain proficiency in during their college careers. These included: general intellectual skills, academic disciplines and interpersonal and leadership skills needed for productive careers and effective citizenship (Iowa State University Provost, 2011).

A wide variety of leadership theories and models have been used to guide leadership development experiences and research. A few of these included: transformational leadership (Bass, 1990), primal leadership (Goleman, Boyatzis, & McGee, 2002), leadership identity (Komives, Owen, Longerbeam, Mainella, & Osteen, 2005), leadership challenge (Kouzes & Posner, 2007), and social change model (SCM) (HERI, 1996).

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 were conducted that examined the relationship between the SCM and college student experiences (Dugan & Komives, 2010), community service (Bonnet, 2008; Gasiorski, 2009), military education programs (Wilson, 2009), and Greek membership (Dugan, 2006).

Leadership development, conceptualized using the SCM (HERI, 1996), was used for the current study. The SCM describes leadership as a purposeful, collaborative, values-

driven process. Its central principles—social responsibility and change for the common good—were 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).

SCM includes seven core values that represent a student's leadership knowledge and capacity. These values are divided into three levels, individual level (i.e., consciousness of self, congruence, and commitment), the group level (i.e., collaboration, common purpose, and controversy with civility) and societal level (i.e., citizenship) (Figure 2.4). Collectively, these values contribute to an eighth value (i.e., change for the common good).

Conclusions

Educational reform associated with learning outcomes and leadership was explored in this chapter. The theories and research in college student involvement and leadership development which provide a theoretical and empirical foundation to examine leadership development as a part of the college experience were examined. In addition, the experiential learning model was examined and the role of higher education in leadership development discussed. Finally, the conceptual framework and research related to each component of the framework was described.

The Seven C's: The Critical Values of the Social Change Model

Individual Values	
Consciousness of Self	Being self-aware of the beliefs, values, attitudes, and emotions that motivate you to take action. Being mindful, or aware of your current emotional state, behavior, and perceptual lenses.
Congruence	Acting in ways that are consistent with your values and beliefs. Thinking, feeling, and behaving with consistency, genuineness, authenticity, and honesty towards others.
Commitment	Having significant investment in an idea or person, both in terms of intensity and duration. Having the energy to serve the group and its goals. Commitment originates from within, but others can create an environment that supports an individual's passion.
Group Values	
Collaboration	Working with others in a common effort, sharing responsibility, authority, and accountability. Multiplying group effectiveness by capitalizing on various perspectives and talents, and on the power of diversity to generate creative solutions and actions.
Common Purpose	Having shared aims and values. Involving others in building a group's vision and purpose.
Controversy with Civility	Recognizing two fundamental realities of any creative effort: 1.) that viewpoints are inevitable, and 2.) that such differences must be aired openly but with civility.
Community Values	
Citizenship	Believing in a process whereby an individual and/or a group become responsibly connected to the community and to society through some activity. Recognizing that members of communities are not independent, but interdependent. Recognizing individuals and groups have responsibility for the welfare of others.
Since it is a key assumption of the SCM that the ultimate goal of leadership is positive social change, "change" is considered to be the "hub" of the model.	
Change	Believing in the importance of making a better world and a better society for oneself and others. Believing that individuals, groups, and communities have the ability to work together to make that change.

(Adapted from Higher Education Research Institute, 1996, p. 21; Tyree, 1998, p. 176, and Astin, 1996, p 6-7)

Figure 2.4. From Wagner, W. (2006). The social change model of leadership: A brief overview. *Conepts & Connections, 15* (1), 9. Used with permission from the National Clearinghouse for Leadership Programs.

Chapter III. Methods

The purpose of this quantitative study was to gather information about the role of extracurricular activities in enhancing leadership development. A web-based questionnaire was administered to identify and describe specific characteristics and experiences that were associated with higher levels of leadership outcomes. In this chapter, the subjects will be described, the instrument will be explained, data collection will be described, and statistical procedures will be identified.

Subjects

The intended target population of this study was traditional-age, undergraduate college students in the College of Agriculture and Life Sciences (CALS) at Iowa State University (Table 3.1).

Table 3.1.

College characteristics

Characteristics*	
Iowa State University undergraduate enrollment	23,104
CALS undergraduate enrollment	3,298
Gender	Females 1,535; males 1,763
Race	Caucasian 3,087; multi-cultural 211

Note. *Data based on 2010-2011 enrollment statistics

In order to learn more about the extracurricular experiences of the students in the population, a purposive sampling technique was used. Purposive sampling is defined as "sampling elements judged to be typical, or representative, are chosen from the population (Ary, Jacobs, & Razavieh, 2002, p. 169). All full-time students in the College of Agriculture

and Life Sciences at Iowa State University who had 90 or more credits were sampled to increase the opportunities students have had to become involved. Students over 24 years old were excluded to reduce outliers in the data. Contact information for these students was received from the Iowa State University Registrar's Office. Using an official university list reduced the probability of selection and frame error due to the accuracy of the list used to contact subjects. Selection error occurs when the chances of being included in the sample are not equal because duplicates appear on the list and frame error occurs when units are omitted from the list (Miller, 2002).

Sampling error occurs when the sample is not representative of the population. Ary, Jacobs, and Razavieh (2002) recommended increasing the sample size to decrease sampling error. In this study, all 969 undergraduate seniors were surveyed to reduce sampling error, resulting in 535 males and 434 females. The ethnic make-up of the sample was 864 white, 33 other or unknown, 19 Latino, 17 Asian or Pacific Islander, 16 international, 13 Black or African American, 4 two or more races, and 3 Native American.

Instrumentation

A researcher-designed survey instrument (Appendix B) was developed to meet the research objectives. The survey included a combination of existing instruments and researcher designed questions. Following the study's conceptual framework, the instrument was organized into three sections: precollegiate experiences, collegiate experiences, and leadership development. Each section included a brief introduction to that specific section.

Qualtrics, a web-based survey instrument, was used because of the program's capabilities to improve the flow of the instrument. *Qualtrics* uses "skip/display logic" to

customize which questions a subject received. Therefore, based on initial responses, a subject was asked additional questions that related to their experiences.

Precollegiate experiences. Researcher-designed questions were developed to collect data related to the following precollegiate or high school experiences/variables: involvement in extracurricular activities, ranking of extracurricular involvement, level of extracurricular involvement, leadership training, and perceived leadership skills when they entered college. First, subjects were asked to indicate whether or not they participated in extracurricular activities or leadership training activities while in high school. Based on the responses to these questions, subjects were asked additional questions to find out additional information about these experiences.

Subjects who reported that they participated in extracurricular activities while in high school were asked to select from a list of extracurricular activities, including school and community organizations which they participated in. This list of clubs and organizations was developed with input from current high school students, high school teachers, and ISU extension staff. For those organizations not listed, participants had the opportunity to identify other organizations that they participated in.

After identifying which organizations they participated in, subjects were asked to rank these organizations based on how important they were to their leadership development. And finally, participants were asked to indicate the number of years they were involved in each organization and their level of participation, ranging from member to state/national leadership.

Subjects who indicated that they had participated in leadership training prior to attending college were asked to list up to three training activities that were most important to

their leadership development and indicate what type of training that best described their experiences.

All subjects, regardless of their participation in extracurricular activities or leadership training experiences, were asked to rate their leadership skills when they entered college using a likert-type scale.

College experiences. Researcher-designed questions were used to collect data about collegiate experiences. While the purpose of this study was to learn more about the role of extracurricular activities on leadership development, questions about additional collegiate experiences that have been previously linked to leadership experiences were included to control for the effects of these variables. These included questions about participation in learning communities and off-campus internships. Subjects were asked to indicate whether or not they participated in extracurricular organizations, including college organizations, university-based organizations, government of the student body, faith-based organizations, or community-based organizations. In addition, they were asked to indicate whether they were a member of a competitive team or the Greek system and whether they had participated in any leadership training other than class work while in college.

Based on their answers to the question about participation, subjects were asked additional questions to learn more about their experiences. Subjects who indicated that they had at least one internship, were asked to identify the internship, indicate the length of time of the internship, and whether or not they received academic credit. Subjects who were involved in extracurricular activities, judging or competitive teams, or the Greek system were given a list of activities/organizations and asked to select which ones they participated in. This list included college-level clubs that have a seat on the student council, judging or other

competitive teams, Government of the Student Body, university-related clubs/organizations, social or recreational clubs/organizations, faith or religious-based organizations, community-based organizations, and the Greek system. "Other" categories were also included to allow participants to fill in additional organizations not included on the list. The list of clubs and organizations was developed by the researcher with input from current students, academic advisors, and college and university websites.

After subjects identified which extracurricular activities they had participated in, they were asked to rank them based on how important they perceived them to be to their leadership development. Next, subjects were asked to indicate how many years they were involved in each club or organization and their highest level of participation in each organization. In addition, subjects that indicated that they were involved in leadership training activities outside of class work were asked to identify up to three training activities that they felt were most important to their leadership development and indicate what type of training it was.

Leadership development. Leadership development was assessed using the Socially Responsible Leadership Scale (SRLS-R2). The scale included 68 likert-type items, which includes eight separate scales that measure three specific constructs (i.e., Individual Values, Group Values, and Community Values) of the Social Change Model (SCM). 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 each SRLS-R2 scale was also computed for this study using Cronbach's alpha (Table 3.2).

Table 3.2.

Reliability levels for SRLS-R2

Scale	Multi-Institutional Study of Leadership	Current Study
Individual Values		.88
Consciousness of Self	.79	.80
Congruence	.80	.88
Commitment	.83	.87
Group Values		.86
Collaboration	.82	.84
Common Purpose	.82	.88
Controversy with Civility	.77	.78
Community Values		
Citizenship	.77	.90
Change	.81	.86
Omnibus		.87

Permission to use the instrument for the purposes of this study was obtained (Appendix C). In return, the researcher agreed to acknowledge the "National Clearinghouse for Leadership Programs" and the "Center for Student Success" in publications.

Validity. Face validity, content validity, and internal validity were established by a group of students similar to those in the sample. Two expert panels of students in the College of Agriculture and Life Sciences, comprised of both males and females from a variety of majors in the college, viewed the survey. To ensure that students on the expert panels were not a part of the sample population, all students on the panel had completed between 60 and 85 credits. The researcher prepared a variety of open-ended questions before the panel discussions to obtain feedback about the clarity of questions and directions, what different responses to each question would indicate about their experiences. Students on the expert

panel were briefed about the goals and objectives of the study and the data collection procedures planned to help them answer the following questions.

Questions about the e-mail/cover letter

1. What suggestions do you have for this e-mail?
2. What incentive would encourage you or your friends to complete the survey?
3. What recommendations do you have for me regarding a specific part of the semester, day of the week, or time of day that would encourage student response?

Questions about the survey

1. What does this question mean to you?
2. Is there anything unclear about this question? If so, what?
3. What suggestions do you have about this section of questions?
4. What is your overall impression of the survey? What suggestions do you have?

In addition to the student panels, a group of professionals were asked for their input regarding face validity. This expert panel included members of the researcher's graduate committee, a faculty member in Educational Leadership and Policy Studies, a graduate student at Virginia Polytechnic Institute and State University, and an Iowa State University Extension Staff member. This group of experts was provided the research purpose and objectives, subject information, and data collection strategies to help them answer the following questions:

1. Does the survey ask the appropriate questions to measure precollegiate extracurricular involvement?
2. Does the survey ask the appropriate questions to measure collegiate experiences associated with leadership development, including extracurricular involvement?

3. Will the demographics received from student records provide the necessary information? Are there additional demographics that should be received from student records or added to the student survey?

After careful consideration of the suggestions of both student panels and the professional panel, several changes were made to the instrument, including both content and question format. The order of the questionnaire was also changed. Subjects were asked about college experiences first, followed by the SRLS-2 instrument. Finally, they were asked about precollegiate experiences.

Data collection

The researcher received Institutional Review Board (IRB) approval from Iowa State University to conduct the study (Appendix B). In order to receive this approval, the researcher provided the IRB information and documentation to ensure that the rights and safety of participants were protected, including a clear explanation of the purpose of the research, participant selection, research plan, consent process, data analysis, and confidentiality.

Student records received from the Iowa State University Registrar's Office were used to collect demographic and academic information of the subjects. The dataset included, gender, age, race, high school class rank, ISU grade point average, entry type (direct from high school or transfer) and semester hours of leadership classes completed. The researcher chose to obtain this information from the official student records to increase the accuracy of self-reported data and reduce the length of the survey. To control for leadership skills obtained through class work, the researcher received data from the student's official records about how many semester hours of leadership classes each student had completed.

Leadership class was identified using the list of leadership courses used within the undergraduate certificate program in *Community Leadership and Public Service*.

The subjects were contacted via Iowa State University e-mail and the purpose of the study was explained as well as statements about voluntary participation. Students were also informed that subjects who participate in the study would be entered into a random drawing for twelve - $10.00 gift certificates for on-campus food sales. Subjects were instructed to follow a link to *Qualtrics* where general consent was explained. Subjects were asked to select the "Next" button to consent to participate in the survey. Subjects were contacted up to five times to reduce non-response. Those who responded were removed from the e-mail list and were not contacted again.

Dillman (2000) recommended five contacts with subjects to increase survey response. Dillman's strategies were modified based on the suggestions of the students involved in the expert panels. These students suggested that undergraduates would view a pre-notice as junk mail and would be less likely to respond favorably to the follow-up e-mails. This recommendation resulted in including the survey link in the first e-mail contact. The expert student panel did agree with Dillman that the cover letter should be as brief as possible. Five e-mail contacts (Appendix B) were made to subjects over a 14 day period of time (Table 3.3).

Table 3.3

E-mail distribution schedule

Day of data collection	
April 11, 2011	Introduction e-mail - purpose of the study, consent information, and survey link.
April 14, 2011	Follow-up e-mail to non-respondents-reminder about the purpose of the study, consent information, and the survey link.
April 17, 2011	Follow-up e-mail to non-respondents-reminder about the purpose of the study, consent information, and a survey link.
April 21, 2011	Follow-up e-mail to non-respondents-reminder about the purpose of the study, consent information, and a survey link
April 24, 2011	Final e-mail with non-respondents – reminder about the purpose of the study, final e-mail, consent information, and a survey link.

Non-response error

One of the concerns raised by the expert panels was the length of the survey and the time commitment to complete the survey. To determine the amount of time it would take for subjects to complete the on-line instrument, the researcher conducted a small pilot of the instrument. Thirty-two members of the College of Agriculture and Life Science Ambassadors comprised the convenient sample used for the pilot. To ensure that students involved in the pilot would not be a part of the research sample, students were selected who had completed between 60 and 85 credits. These students were also invited to share any feedback about the survey instrument with the researcher. Twenty-three students participated in the pilot. The

time to complete the survey ranged from 9 to 23 minutes with the average being 11.3 minutes. The researcher determined that this was an acceptable time for survey completion and continued. Several participants responded with feedback about their interest in the study. However, no additional feedback was received to modify the instrument. The results of this pilot were deleted before data collection before the study began.

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 sample 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.

Data analysis

Survey responses were automatically recorded by *Qualtrics* as subjects completed the survey. Once data collection was complete, raw data was checked for missing data and obvious errors. Incomplete data and response set error were documented and eliminated from the dataset. E-mail addresses were used to match the student record's information with survey results. To ensure confidentiality, all individual identifying data were removed once student records were combined with responses and before data analysis began.

Objective one, "Identify and describe experiences of undergraduate extracurricular involvement that result in increased leadership development" and objective two, "Examine the quantitative and qualitative aspects of involvement in extracurricular clubs and organizations and those relationships with leadership development" were addressed using

similar analysis methods. Descriptive statistics (i.e., frequencies, means, and standard deviations) were used to describe the subjects and the students' experiences. Inferential statistics (i.e., t-test and ANOVA) were calculated to determine if there were mean differences in the dependent variable based on the independent variables.

A hierarchical regression was used to address objective three, "Predict undergraduate student leadership development, defined as the SCM, through extracurricular club involvement, while controlling for precollegiate characteristics and experiences and other college experiences." Two independent blocks were used to compare the effects of independent variables. Block one included characteristics identified as precollegiate characteristics in the collegiate leadership development model. Block two included curricular, extracurricular, and classroom experiences from the collegiate experiences portion of the model. The dependent variable, leadership development, was the outcome construct.

Limitations

When comparing the 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. In addition, data were collected at one College of Agriculture and Life Science at a fairly homogeneous institution. In spite of these limitations, the analysis offers insights for other institutions who aspire to increase student leadership outcomes.

Chapter IV. Undergraduate involvement in extracurricular activities and leadership development in College of Agriculture and Life Sciences students

A paper accepted for publication in the *Journal of Agricultural Education*

Elizabeth A. Foreman and Michael S. Retallick

Abstract

The purpose of this study was to identify and describe experiences of undergraduate extracurricular involvement that result in increased leadership development. Senior students in the College of Agriculture and Life Sciences at Iowa State University completed an online questionnaire about their extracurricular experiences. Leadership development was conceptualized using the social change model. The Socially Responsible Leadership Scale (SRLS-R2) group scale was used to access leadership group values, and the Omnibus SRLS-R2 was used to measure the overall leadership construct. Ninety-six percent of respondents (n = 199) indicated they were involved in an extracurricular activity, including 21% in the Greek system, 95% in clubs and organizations, and 29% in competitive teams. Students who reported serving as an officer of a club or organization and students who reported spending more hours per week in extracurricular clubs and organizations scored significantly higher on both the SRLS-R2 group and an Omnibus SRLS score.

Keywords: undergraduate leadership development; undergraduate extracurricular involvement; Social Change Model; Socially Responsible Leadership Scale

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Introduction

Recent higher education reforms have led to 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 components (Figure 1).

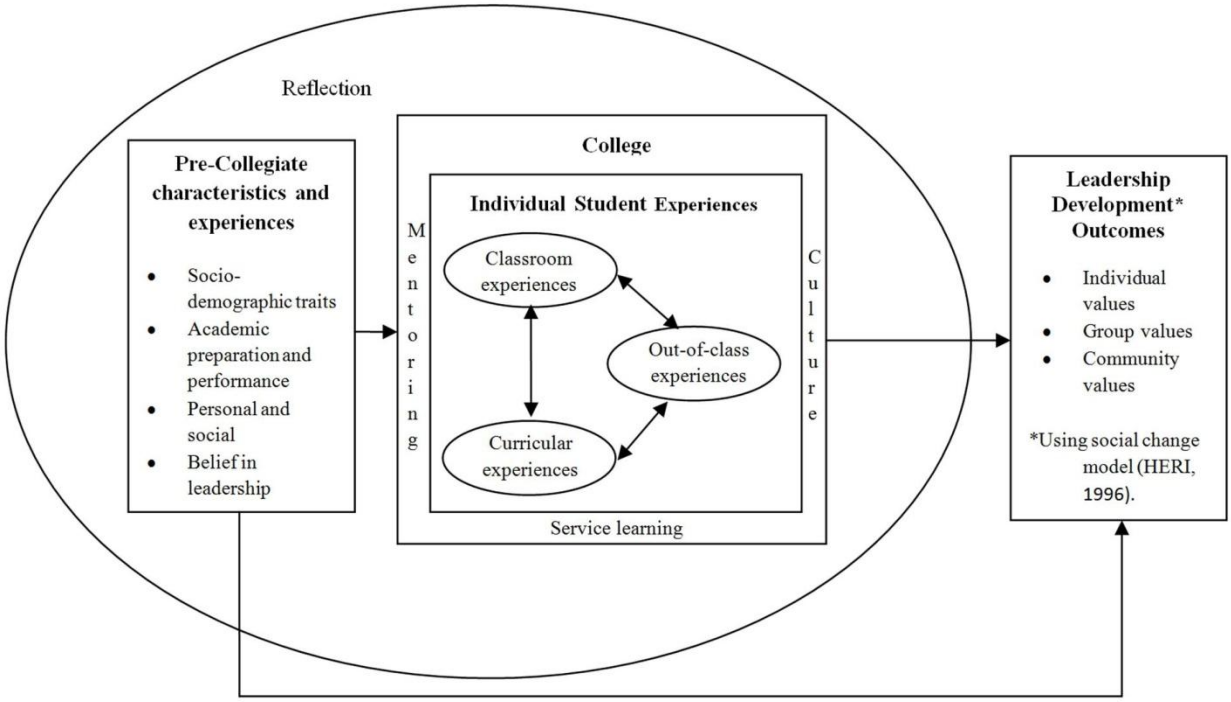

Figure 1. Collegiate leadership development model. Adapted from "Parsing the first year of college: A conceptual framework for studying college impacts" by P.T. Terenzini and R.D. Reason, 2005, paper presented at the meeting of the Association for the Study of Higher Education. Philadelphia, PA. Adapted with permission.

The first two are precollegiate and college experiences, which previous literature suggests contribute to leadership development in undergraduate college students. The third

component, leadership development, is the outcome of the model and was conceptualized using the social change model (SCM; Higher Education Research Institute, 1996).

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 academic 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 (i.e., how much time a student spends on an activity) and qualitative (i.e., 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. The framework can help researchers investigate student learning and administrators and practitioners design more effective learning environments.

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, p. 102). 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 researchers designed a questionnaire 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 agriculture and life sciences 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 consisted 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 Social Change Model (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, extracurricular 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 amount 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 subjects (75.9%) entered the university directly from high school, and 48 subjects (24.1%) entered as transfer students. SRLS-R2 scores for this study were compared with the results of the Multi-Institutional Study of Leadership and can be found in Appendix D.

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% on 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) = -3.198, 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 ($p \leq .575$). Students who entered as freshman (M = 5.96, SD = 4.8) spent more hours per week in extracurricular clubs and organizations than those who entered as transfer students

(M = 3.34, SD = .66), $t(197) = 3.3$, $p = .001$. 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***
Group scale	Between	1174.280	3	391.427	3.845	.011*
	Within	17813.855	175	101.793		
	Total	18988.134	178			
Omnibus scale	Between	4395.216	3	1466.072	3.284	.022*
	Within	75830.973	170	446.065		
	Total	80226.190	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 only 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*
Group	0–1	2–3	-1.96	2.23	.816
Scale		4–6	-4.33	2.17	.186
Tukey HSD		7 or more	-6.91	2.17	.009*
	2-3	0-1	1.96	2.23	.816
		4-6	-2.40	2.11	.666
		7 or more	-4.95	2.12	.094
	4-6	0-1	4.36	2.17	.186
		2-3	2.40	2.11	.666
		7 or more	-2.55	2.05	.600
	7 or more	0-1	6.91	2.18	.009*
		2-3	4.95	2.12	.094
		4-6	2.55	2.05	.600
Omnibus	0–1	2–3	-6.20	4.73	.557
Scale		4-6	-10.30	4.61	.118
Tukey HSD		7 or more	-13.79	4.61	.017*
	2-3	0-1	6.20	4.72	.557
		4-6	-4.10	4.48	.797

	7 or more	-7.59	4.48	.331
4-6	0-1	10.30	4.61	.118
	2-3	4.10	4.48	.797
	7 or more	-3.49	3.36	.854
7 or more	0-1	13.79	4.61	.017*
	2-3	7.59	4.48	.331
	4-6	3.49	1.36	.854

Note. *p $\leq$ .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
Group scale	-2.634	167.582	.009*	-4.02751	1.51964
Omnibus scale	-2.947	157.086	.004*	-9.49603	3.2228

Note. *$p \leq .05$.

Conclusions

Students who responded to this survey were very 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, they had not all been enrolled at the university the same amount of time. Although number of semesters students had been enrolled at the university was not a variable in this study, 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 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 Sciences 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 co-curricular 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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ELIZABETH A. FOREMAN is a graduate student in the Department of Agricultural Education and Studies at Iowa State University, bforeman@iastate.edu

MICHAEL S. RETALLICK is an Assistant Professor in the Department of Agricultural Education and Studies at Iowa State University, 206 Curtiss Hall, Ames, IA 50011, msr@iastate.edu

Chapter V. Using Involvement Theory to examine the relationship between undergraduate participation in extracurricular activities and leadership development

A paper prepared for the submission to the *Journal of Leadership Education*

Elizabeth A. Foreman and Michael S. Retallick

Abstract

Traditional-age undergraduate college students who were classified as seniors in the College of Agriculture and Life Sciences at [Midwestern State University] (N=969) were sampled to examine the undergraduate students' relationship between extracurricular involvement and leadership outcomes. Data related to the quantitative (i.e., how much time a student spends on an activity) and qualitative aspects (i.e., how focused the student is on the activity) of involvement in extracurricular clubs and organizations was collected. Leadership, as an outcome, was measured using the individual values scale of the Socially Responsible Leadership Scale (SRLS-R2). The findings indicated that the number of clubs in which a student participated and served as an officer was associated with higher leadership scores. However, the amount of time in which a student participated was not related to increased leadership outcomes. A threshold of involvement was identified that suggests when the quantitative measures of involvement (i.e., number of clubs and leadership positions) exceed a desirable limit, the quality of the involvement is less and therefore the positive outcomes are reduced. The findings suggested that the optimum number of clubs or organizations to be actively involved in is three to four.

Keywords: undergraduate leadership development; undergraduate extracurricular involvement; involvement theory; Social Change Model; Socially Responsible Leadership Scale

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Introduction

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). Previous literature suggested that extracurricular participation contributed to leadership outcomes (Birkenholz & Schumacher, 1994; Ewing, Bruce, & Ricketts, 2009; Layfield, Radhakrishna, & Andresen, 2000).

Researchers, as well as practitioners, use the Involvement Theory (Astin, 1993) as a theoretical framework for student involvement. Involvement occurs in classroom activities (i.e., time and energy spent studying), out of classroom activities (i.e. participating in student organizations) and curricular activities (i.e., interacting frequently with faculty members and other students). Astin (1993) defined involvement as an investment of physical and psychological energy that occurs along a continuum and has both quantitative (e.g. how much time a student spends on an activity) and qualitative aspects (e.g. how focused the student is on the activity). However, a gap in the literature exists between the operationalization of the involvement theory and research design.

Conceptual Framework

An adaptation of Terenzini and Reason's (2005) model explaining college students' first-year experiences served as the framework for this study. The framework developed for this study has three components (Figure 1).

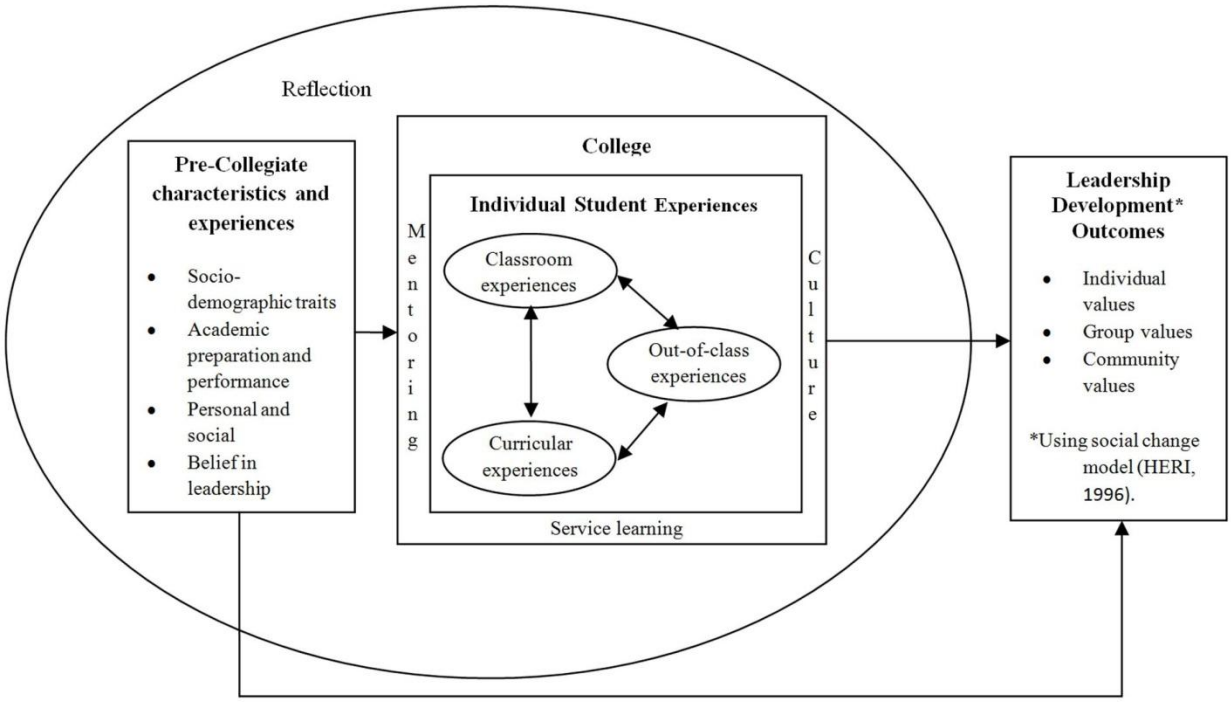

Figure 1. Collegiate leadership development model. Adapted from "Parsing the first year of college: A conceptual framework for studying college impacts" by P.T. Terenzini and R.D. Reason, 2005, paper presented at the meeting of the Association for the Study of Higher Education. Philadelphia, PA.. Adapted with permission.

The first two are precollegiate and college experiences, which previous literature suggests contribute to leadership development in undergraduate college students (i.e., Armino et al., 2000; Birkenholz & Schumacher, 1994; Ewing et al., 2009; Josselson, 1987; Kezar, 2002; Kezar & Moriarty, 2000; Kimbrough, 1998; Layfield et al., 2000; Moore, Prescott, &

Gardener, 2008; Pascarella & Terenzini, 1991; Phinney, 1990; Rubin, Bommer, & Baldwin, 2002 Rubin et al., 2002). The third component, leadership development, is the outcome of the model and was conceptualized using the social change model (SCM; Higher Education Research Institute, 1996).

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). 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.

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). For example, 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 (1984) 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 (e.g. how much time a student spends on an activity) and qualitative (e.g. how focused the student is on the activity) aspects. Astin's theoretical framework helps explain how educational programs and policies translate into student achievement and development, which are directly proportional to the quality and quantity of student involvement. Astin describes an involved student as one who "devotes considerable energy to studying, spends much time on

campus, participates actively in student organizations, and interacts frequently with faculty members and other students" (Astin 1984, p. 518).

Research supports Astin's involvement theory. Pascarella and Terrenzini (1991) found that the frequency and quality of students' participation in activities was associated with high educational aspirations, enhanced self-confidence, and increased interpersonal and leadership skills. For example, Rubin, Bommer & Baldwin (2002) used an extracurricular index score that represents the number of clubs in which students were involved, officer status, and hours spent and found that it was significant in predicting interpersonal skills (i.e., communication skills, initiative, decision making, and team work). In addition, students with higher levels of involvement in student organizations reported greater levels of psychosocial development in the areas of establishing and clarifying purpose, educational involvement, career planning, life management, and cultural participation.

The degree of personal investment a member made to an organization and the frequency members attended meetings correlated positively with rewards received from participating, warm relationships with other members, and adequate fulfillment of leadership function (Winston, et. al., 1997). Foubert and Grainger (2006) compared students who attended one meeting, students who joined an organization, and positional leaders of organizations and found that simply attending a meeting had less of a relationship with psychosocial development than joining an organization or serving as an officer.

Holding an office in an extracurricular organization can enhance the richness and magnitude of learning experiences and personal development during the college years (Astin, 1984). Research has linked serving as a club officer 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 has also been associated with higher levels of developing purpose, educational involvement, life management, and cultural participation (Cooper et al., 1994).

Research suggesting that university-wide student organizations are more effective than college organizations in developing leadership awareness, behaviors, skills, and abilities also supports the importance of the quality and quantity of involvement. Moore, Prescott, and Gardner (2008) suggest that many university-wide student organizations require more commitment to the organization and involve more focused, long-term leadership education and are therefore more likely to produce positive outcomes. It was also noted that these organizations tend to incorporate leadership development into their yearly program of activities.

Leadership Development Outcomes

Leadership development is the outcome construct of this model. The Social Change Model (SCM) is a widely cited model of student leadership in higher education (Haber & Komives, 2009). SCM was developed by the Higher Education Research Institute of University of California, Los Angeles in 1993 and was used to conceptualize leadership outcomes.

The SCM describes leadership as a purposeful, collaborative, values-driven process (Dugan & Komives, 2007). 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. SCM 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 conceptual framework for this study includes all three elements of the SCM: individual values, group values, and community values.

The leadership development construct of Social Change was measured by the Socially Responsible Leadership Scale (SRLS-R2). SRLS-R2 was used in the Multi-Institutional Study of Leadership (MSL) which was first conducted in 2006 and conducted annually since 2009, and 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

Astin (1984) identified three research topics that should be addressed to learn more about involvement. First, research is needed to not only identify the extracurricular activities in which a student participates, but also the time and energy a student devotes to each activity. Second, research is needed to examine the relationship between quality and quantity of involvement. Finally, research is needed to determine if there is a desirable limit of involvement in which additional involvement doesn't produce desirable results and may be detrimental. Although Astin (1984) suggested an examination of the quantitative and qualitative aspects of involvement, little research has been published, especially in Colleges of Agriculture and Life Sciences.

Research Purpose and Questions

The purpose of this study was to examine the quantitative and qualitative aspects of involvement in extracurricular clubs and organizations and those relationships with leadership development.

Six research questions guided this study:

1. Does membership in an extracurricular club or organization influence individual values of leadership development?
2. Does the number of extracurricular clubs and organizations in which a student participates influence individual values of leadership development?
3. Does the amount of time a student participates in extracurricular clubs and organization influence individual values of leadership development?
4. Does serving as an officer in an extracurricular club or organization influence individual values of leadership development?
5. Does the involvement index influence individual values of leadership?
6. Does gender influence individual values of leadership development?

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 [Midwestern State University] (N = 969) were surveyed. Students over 24 years of age were excluded to reduce outliers in the data.

Instrumentation

The researchers designed an on-line questionnaire to meet the research questions. The instrument 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 university records. This information included, gender, race, high school class rank, college 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 survey and increase the accuracy of demographic 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 agriculture and life sciences 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.

Leadership development outcomes. Leadership development outcomes were assessed using the Socially Responsible Leadership Scale (SRLS-R2) and permission was obtained to use the SRLS-R2 for this study (National Clearinghouse for Leadership Programs, 2009). The scale consists of 68 Likert-type items which comprise eight separate scales that measure specific leadership components (individual values, group values, and community values) of the SCM. Each of the eight scales has six to nine questions. The individual values scale and the three scales that make up the individual scale (Figure 2) were used for this study.

Figure 2.

Individual values subscales of the Social Change Model

Consciousness of Self	Being self-aware of the beliefs, values, attitudes, and emotions that motivate you to take action. Being mindful, or aware of your current emotional state, behavior, and perceptual lenses.
Congruence	Acting in ways that are consistent with your values and beliefs. Thinking, feeling, and behaving with consistency, genuineness, authenticity, and honesty towards others.
Commitment	Having significant investment in an idea or person, both in terms of intensity and duration. Having the energy to serve the group and its goals. Commitment originates from within, but others can create an environment that supports an individual's passion.

From Wagner, W. (2006). The social change model of leadership: A brief overview. *Concepts & Connections, 15* (1), 9.

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 individual values scale, consciousness of self, congruence, and commitment was computed for this study using Cronbach's alpha and was .88, .80, .88, and .87, respectively.

Validity. A group of professionals comprised of faculty and graduate students with expertise in undergraduate outcomes, extracurricular experiences, and leadership development reviewed the instrument for validity. Based on the purposes and research questions 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 equates to junior status. Based on their feedback, changes were made in content, question format and data collection procedures 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 the initial responses, a subject was 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 via e-mail up to five times (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%), 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 the 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 responses 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 data analysis. SPSS (Version 17) was used to analyze the data.

Research question 1. Club membership was a dichotomous variable. A t-test was computed using club membership as the dependent variable and the individual values of leadership development as the dependent variable to determine if students who were members of extracurricular clubs or organizations scored higher than students who were not members of clubs or organizations.

Research question 2. The number of clubs and organizations a student participated in was calculated based on the clubs and organizations in which a student indicated they participated. This variable was recoded into four categories (0 clubs, 1-2 clubs, 3-4 clubs,

and 5-11 clubs) An ANOVA was computed using the recoded number of clubs and organizations as the independent variable and the individual values of leadership development as the dependent variable to determine the relationship between the number of clubs a student participated in and individual leadership development.

Research question 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 (0-1 hours per week, 2-3 hours per week, 4-6 hours per week, and 7 or more hours per week). An ANOVA was computed using the recoded average hours per week as the independent variable and the individual values of leadership scale as the independent variable to determine the relationship between the amount of time spent in extracurricular clubs and organizations and individual leadership development.

Research question 4. A t-test, using the dichotomous variable of serving as an officer as the independent variable and the individual values of leadership development as the dependent variable was calculated to determine the relationship between serving as an officer and individual leadership development.

Research question 5. The extracurricular involvement index was calculated by adding the number of years a student indicated they were involved in a specific extracurricular activity and their highest level of involvement in that activity (ranging from member = 1 to state or national leadership = 5). To measure the relationship between this construct and individual leadership (measured by SRLS-R2 individual scale), the involvement score was categorized into four approximately equal groups and used as the independent variable. An ANOVA was calculated using involvement index as the independent variable and the individual leadership scale as the dependent variable.

Research question 6. Gender information was collected from university records. Inferential statistics were calculated to determine the role of gender on each of the research questions one through four. Gender results will be reported with the results of research questions one through four.

Results

Ninety-one (45.7%) males and 108 (54.3%) females responded to this study. All were full-time students and classified as seniors. Ninety-six percent of the respondents indicated they were involved in an extracurricular activity, including 21% in the Greek system, 95% in extracurricular clubs and organizations, and 29% on competitive teams. SRLS-R2 scores for this study were compared with the results of the Multi-Institutional Study of Leadership and can be found in Appendix D. Using a t-test, no differences were found on any of the leadership scales based on gender.

Research question 1 – Club membership

The results of t-tests revealed no statistical differences on the consciousness of self scale based on whether or not a student was a member of a club. However, students who belonged to clubs scored higher on the congruence scale, the commitment scale, and the individual values scale than those who did not (Table 1).

Table 1

t-Test for Club Membership and Leadership Development (SRLS-R2)

Dependent variable	***t***	***df***	**Sig.**	**Mean difference**	***SE* difference**
Consciousness of Self	-1.69	77.36	.095	-1.13	.67
Congruence	-2.44	70.47	.017*	-1.51	.62
Commitment	-2.14	73.33	.036*	-1.11	.52
Individual Values	-2.04	67.59	.045*	-3.44	1.69

Note. * $p \leq .05$.

Research question 2 - Number of Clubs

The number of extracurricular clubs and organizations that students reported being involved in ranged from 0 – 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) = -3.198, *p* = .002). An ANOVA using the number of extracurricular clubs and organizations as the independent variable and leadership development (SRLS-R2 – individual values scales) as the dependent variable was computed to examine the relationship between the number of extracurricular clubs and organizations a student participates in and individual values of leadership development. The results indicate a significant relationship between the number of clubs a student participates in and leadership development (Table 2).

Table 2

Analysis of Variance for Number of Organizations and Leadership Development (SRLS-R2)

Dependent variable	**Groups**	***SS***	***df***	***MS***	***F***	***p***
Consciousness of Self	Between	150.34	3	50.113	3.67	.013*
	Within	2420.42	177	13.675		
	Total	2570.76	180			
Congruence	Between	173.63	3	57.88	5.50	.001*
	Within	1875.73	178	10.54		
	Total	2049.36	181			
Commitment	Between	160.70	3	53.57	7.26	.000*
	Within	1322.61	179	7.39		
	Total	1483.31	182			
Individual Values	Between	1294.82	3	431.61	5.83	.001*
	Within	12807.02	173	74.03		
	Total	14101.84	176			

Note. *$p \leq .05$

Because the ANOVA provided significant results, post-hoc testing was conducted to compare and contrast mean differences between groups. A Tukey post-hoc test revealed which levels of club participation were associated with increased levels of individual leadership (Table 3). In addition, when comparing means, it is interesting to note that as the number of clubs and organizations a student participated in, the higher the level of individual leadership development, except for the highest level of involvement where the mean was less than the third level on all four leadership scales.

Table 3

Tukey HSD Post Hoc Results for Number of Clubs and Organizations and Leadership Development (SRLS-2)

Test	**(I) Number of Clubs**	**(J) Number of Clubs**	**Mean differences (I – J)**	***SE***	***p***
Consciousness of self	0 clubs	1-2 clubs	-1.82	2.53	.890
Scale		3-4 clubs	-7.58	2.48	.014*
Tukey HSD		5 -11 clubs	-5.64	2.53	.120
	1-2 clubs	0 clubs	1.82	2.53	.890
		3-4 clubs	-5.76	1.64	.003*
		5 -11 clubs	-3.81	1.71	.120
	3-4 clubs	0 clubs	7.58	2.48	.014*
		1-2 clubs	5.76	1.64	.003*
		5 -11 clubs	1.95	1.63	.633
	5 -11 clubs	0 clubs	5.63	2.53	.120
		1-2 clubs	3.81	1.71	.120
		3-4 clubs	-1.95	1.63	.633
Congruence	0 clubs	1-2 clubs	-.98	.91	.702
Scale		3-4 clubs	-2.81	.89	.010*
Tukey HSD		5 -11 clubs	-2.49	.90	.033*
	1-2 clubs	0 clubs	.98	.91	.703
		3-4 clubs	-1.83	.62	.017*
		5 -11 clubs	-1.51	.63	.087

Table 3

Tukey HSD Post Hoc Results for Number of Clubs and Organizations and Leadership Development (SRLS-2) (Continued)

	3-4 clubs	0 clubs	2.81	.89	.010*
		1-2 clubs	1.83	.62	.017*
		5 -11 clubs	.33	.61	.951
	5 -11 clubs	0 clubs	2.49	.90	.033*
		1-2 clubs	1.51	.64	.087
		3-4 clubs	-.33	.61	.951
Commitment	0 clubs	1-2 clubs	-.22	.78	.992
Scale		3-4 clubs	-2..22	.76	.021*
Tukey HSD		5 -11 clubs	-1.97	.77	.056
	1-2 clubs	0 clubs	.22	.78	.992
		3-4 clubs	-1.20	.51	.001*
		5 -11 clubs	-1.75	.53	.007*
	3-4 clubs	0 clubs	2.22	.76	.021*
		1-2 clubs	1.20	.51	.001*
		5 -11 clubs	.25	.50	.959
	5 -11 clubs	0 clubs	1.97	.77	.056
		1-2 clubs	1.75	.53	.007*
		3-4 clubs	-.25	.78	.959

Table 3

Tukey HSD Post Hoc Results for Number of Clubs and Organizations and Leadership Development (SRLS-2) (Continued)

Individual Values	0 clubs	1-2 clubs	-1.82	2.53	.890
Scale		3-4 clubs	-7.58	2.48	.014*
Tukey HSD		5 -11 clubs	-5.63	2.53	.120
	1-2 clubs	0 clubs	1.82	2.53	.890
		3-4 clubs	-5.76	1.64	.003*
		5 -11 clubs	-3.81	1.71	.120
	3-4 clubs	0 clubs	5.58	2.48	.014*
		1-2 clubs	5.76	1.64	.003*
		5 -11 clubs	1.95	1.63	.633
	5 -11 clubs	0 clubs	5.63	2.53	.120
		1-2 clubs	3.81	1.71	.120
		3-4 clubs	-1.95	1.63	.633

Note. *$p \leq .05$.

Research question 3 - 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 ($p \leq .575$). An ANOVA using the average hours per week as the independent variable and leadership development (SRLS-R2 - individual values scales) as the dependent variable was computed to examine the relationship between average hours per week spent with extracurricular clubs and organizations and leadership development. This test revealed no

statistically significant differences in individual values leadership based on hours per week spent participating in extracurricular clubs and organizations.

Research question 4 - 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 ($\chi^2(1, N = 199) = 1.076, p = .30$). 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 consciousness of self, commitment, and the individual values scales. However, serving as an officer did not affect the student's score on the congruence scale (Table 4).

Table 4

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

Dependent variable	***t***	***df***	**Sig.**	**Mean difference**	***SE* difference**
Consciousness of Self	-2.31	173.22	.022*	-1.29	.56
Congruence	-1.72	167.48	.087	-.86	.50
Commitment	-3.07	168.24	.003*	-1.28	.42
Individual Values	-2.67	161.04	.008*	-3.58	1.33

Note. *$p \leq .05$.

Research question 5 - Involvement Index

The Involvement index was used as the independent variable and leadership development (SRLS-R2-Individual Scales) was used as the dependent variable in ANOVAs to determine the relationship between involvement in extracurricular clubs and organizations and leadership development (SRLS-R2, individual scales). The results indicate students with a higher involvement score had higher scores on each of the SRLS-2 individual values scales (Table 5).

Table 5.

Analysis of Variance for Involvement Index and Leadership Development (SRLS-R2)

Dependent variable	**Groups**	***SS***	***df***	***MS***	***F***	***p***
Consciousness of Self	Between	169.48	3	56.49		
	Within	2343.27	174	13.47	4.20	.007*
	Total	2512.75	177			
Congruence	Between	105.80	3	35.27	3.22	.024*
	Within	1914.78	175	10.94		
	Total	2020.58	178			
Commitment	Between	160.61	3	53.54	7.24	.000*
	Within	1302.03	176	7.40		
	Total	1462.64	179			
Individual Values	Between	1167.56	3	389.19	5.24	.002*
	Within	12637.12	170	74.34		
	Total	13804.672	173			

Note. $p \leq .05$.

Because the ANOVA provided significant results, post-hoc testing was conducted to compare and contrast mean differences between groups. A Tukey post-hoc test revealed which levels of involvement in extracurricular clubs and organizations were associated with increased levels of individual leadership (Table 6 - 9).

Post-hoc tests for the consciousness of self scale revealed significant differences between the third level of involvement and both the first and second levels of involvement. The differences in the means indicated a positive relationship between each of the levels of involvement except for between the third and fourth levels of involvement where leadership decreased as involvement continued to increase.

Table 6

Summary Tukey HSD Post Hoc Results for Involvement Scale and Consciousness of Self Scale

	Level 2	**Level 3**	**Level 4**
Level 1	.865	.046*	.371
	(-.82)	(-2.73)	(-1.71)
Level 2		.036*	.616
		(-1.90)	(-.89)
Level 3			.465
			(1.01)

Note. Scale included the number of years involved and level of involvement. *$p \leq .05$

The results of the Tukey post-hoc test for the involvement scale are shown in table seven. Significant differences were found between the lowest level of involvement and the third level of involvement, the second level of involvement and the third level of involvement, and

the lowest level of involvement and the highest level of involvement. In addition, the differences in the means indicate a positive relationship between the levels of involvement except for between the third and fourth levels of involvement where leadership decreased as involvement continued to increase.

Table 7

Summary Tukey HSD Post-Hoc Results for Involvement Scale and Congruence Scale

	Level 2	**Level 3**	**Level 4**
Level 1	.703	.010*	.033*
	(-.98)	(-2.81)	(-2.49)
Level 2		.017*	.087
		(-1.83)	(-1.51)
Level 3			.61
			(.951)

Note. Scale included the number of years involved and level of involvement. *$p \leq .05$

The post-hoc results for the commitment scale (Table 8) indicated significant differences between the lowest level of involvement and the third level of involvement. In addition differences were found between the second level of involvement and both the third and highest level of involvement. The differences in the means indicate a positive relationship between the levels of involvement between each of the levels of involvement except for between the third and fourth levels of involvement where leadership decreased as involvement continued to increase.

Table nine summarizes the Tukey post hoc results for the individual values leadership scale. The results show significant differences between both the lowest and second levels of

involvement and the third level of involvement. In addition, the differences in the means indicate a positive relationship between the levels of involvement between each of the levels of involvement except for between the third and fourth levels of involvement where leadership decreased as involvement continued to increase.

Table 8

Summary Tukey HSD Post Hoc Results for Involvement Scale and Commitment Scale

	Level 2	**Level 3**	**Level 4**
Level 1	.992	.021*	.056
	(-.22)	(-2.22)	(-1.97)
Level 2		.001*	.007*
		(-1.20)	(-1.75)
Level 3			.959
			(.25)

Note. Scale included the number of years involved and level of involvement. *$p \leq .05$

Table 9

Summary Tukey HSD Post-Hoc Results for Involvement Scale and Individual Scale

	Level 2	**Level 3**	**Level 4**
Level 1	.890	.014*	.120
	(-1.82)	(-7.58)	(-5.63)
Level 2		.003*	.120
		(-5.76)	(-3.81)
Level 3			.633
			(1.95)

Note. Scale included the number of years involved and level of involvement. *$p \leq .05$

Conclusions

Students who responded to this survey were very active in extracurricular clubs and organizations. 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.

The number of clubs in which a student participated was associated with leadership outcomes, for each of the four scales examined (i.e., consciousness of self, congruence, commitment, and individual values scale). The results of this study indicated that there was a threshold of participation where increased participation is no longer associated with increased leadership. In fact, the highest level of participation is associated with lower levels of individual leadership, which was true for each of the four scales.

Perhaps the most surprising finding of this study was that the amount of time per week spent in extracurricular clubs and organizations was not related to increased leadership on any of the four scales examined (i.e., consciousness of self, congruence, commitment, and individual values. This finding is inconsistent with previous research (Foreman & Retallick, in-press), which found the amount of time students spent participating in extracurricular activities related to higher scores on both the SRLS-R2 group and SRLS-R2 omnibus scales. Additional studies have examined the amount of time students spend participating in extracurricular activities and concluded the quantitative measure of involvement as important (Astin 1999; Pascarella & Terenzini, 1991; Rubin et al., 2002).

Students who held a positional leadership role in a club or organization spent more time involved in clubs and organizations and scored significantly higher on the consciousness of self, commitment, and individual values scales. These findings are consistent with those of previous researchers who examined the impact of serving as a club officer and found it related to increased leadership development (Ewing et al., 2009). Dugan (2006) found that students who served as positional leaders scored higher on the SRLS-R2 group values scale and the SRLS-R2 societal values scale. However, students in this study who held a positional leadership role did not score higher on the congruence scale than those who didn't hold an office. This finding is consistent with previous research that 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 (Foubert & Grainger, 2006).

The involvement index that combines the number of clubs in which a student was involved and the level of involvement in the club was related to each of the leadership scales

examined (consciousness of self, congruence, and commitment). The results indicated a law of diminishing returns, where higher levels of leadership were found at each increasing level of involvement, except the highest level where leadership decreased.

Implications and Recommendations

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. Astin (1984) suggested that institutional policies be evaluated in terms of the degree to which they increase or reduce student involvement.

Astin (1984) indicated research needed to explore the relationship between quality and quantity of involvement. The findings of this study in regards to the amount of time student spend participating in extracurricular clubs and organizations is inconsistent with previous studies that found increased leadership associated with higher amount of time devoted to extracurricular clubs and organizations. In fact, the study reported in chapter four of this dissertation found different results examining the group values scores (SRLS-R2) using the same subjects. Additional research is needed to determine if amount of time spent participating in extracurricular clubs and organizations is more likely to be related to group values than individual values.

While the quantitative measure of time spent participating in extracurricular clubs and organizations was not associated with increased leadership development, serving as an

officer (qualitative measure) was associated with increased leadership development. Results of this study suggest that the quality of club involvement may be more important than the number of hours spent participating. 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. On the basis of these findings, increasing the amount of leadership training and opportunities for all students in extracurricular clubs and organizations is recommended.

Astin (1984) proposed that there might be a desirable limit of involvement in which additional involvement doesn't produce desirable results and may be detrimental. The results of this study supported that assumption. When examining the relationships between either the number of clubs in which students participate or the involvement index and leadership development, there seems to be a threshold where increased involvement no longer has a positive effect. This trend suggests that when the quantitative measures of involvement exceed the desirable limit, the quality of the involvement is less and therefore the positive outcomes are reduced.

Faculty and staff need to create meaningful opportunities for students and encourage students to participate. Involvement theory provides some suggestions for these experiences. However, 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.

A limitation of this study is that data were collected at one College of Agriculture and Life Sciences (CALS) at a fairly homogeneous institution. In spite of this limitation, the analysis offers insights for other institutions who aspire to increase student leadership outcomes. It is also noteworthy that a high percentage of students who completed the survey 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 CALS encourages participation in extracurricular clubs and organizations.

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ELIZABETH A. FOREMAN is a graduate student in the Department of Agricultural Education and Studies at Iowa State University, bforeman@iastate.edu

MICHAEL S. RETALLICK is an Assistant Professor in the Department of Agricultural Education and Studies at Iowa State University, 206 Curtiss Hall, Ames, IA 50011, msr@iastate.edu

Chapter VI. Identifying the relationship of precollegiate and collegiate experiences in predicting the community values component of leadership development

A paper prepared for submission to the *Journal of College Student Development*

Elizabeth A. Foreman and Michael S. Retallick

Abstract

Undergraduate college students who were classified as seniors in the College of Agriculture and Life Sciences at Iowa State University (N=969) were sampled to examine undergraduate students' relationship between extracurricular involvement and leadership outcomes. Participants completed a web-based instrument that included the citizenship scale of the Socially Responsible Leadership Scale-Revised2 (SRLS-R2). Hierarchical regression indicated that among precollegiate experiences, high school extracurricular activity was significant for predicting citizenship. However, when college experiences were added to the model, extracurricular activity in college was the most significant predictor and high school extracurricular activity was no longer significant.

Keywords: undergraduate leadership development; undergraduate extracurricular involvement; Social Change Model; Socially Responsible Leadership Scale

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Introduction

Recent higher education reforms have led to 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

An adaptation of Terenzini and Reason's (2005) model explaining college students' first-year experiences served as the framework for this study. The framework for this study

has three components (Figure 1). The first two are precollegiate and college experiences, which literature suggests contribute to leadership development in undergraduate college students (i.e., Armino et al., 2000; Birkenholz & Schumacher, 1994; Ewing et al., 2009; Josselson, 1987; Kezar, 2002; Kezar & Moriarty, 2000; Kimbrough, 1998; Layfield et al., 2000; Moore, Prescott, & Gardener, 2008; Pascarella & Terenzini, 1991; Phinney, 1990; Rubin, Bommer, & Baldwin, 2002). The third component, leadership development, is the outcome of the model and was conceptualized using the social change model (SCM; Higher Education Research Institute, 1996).

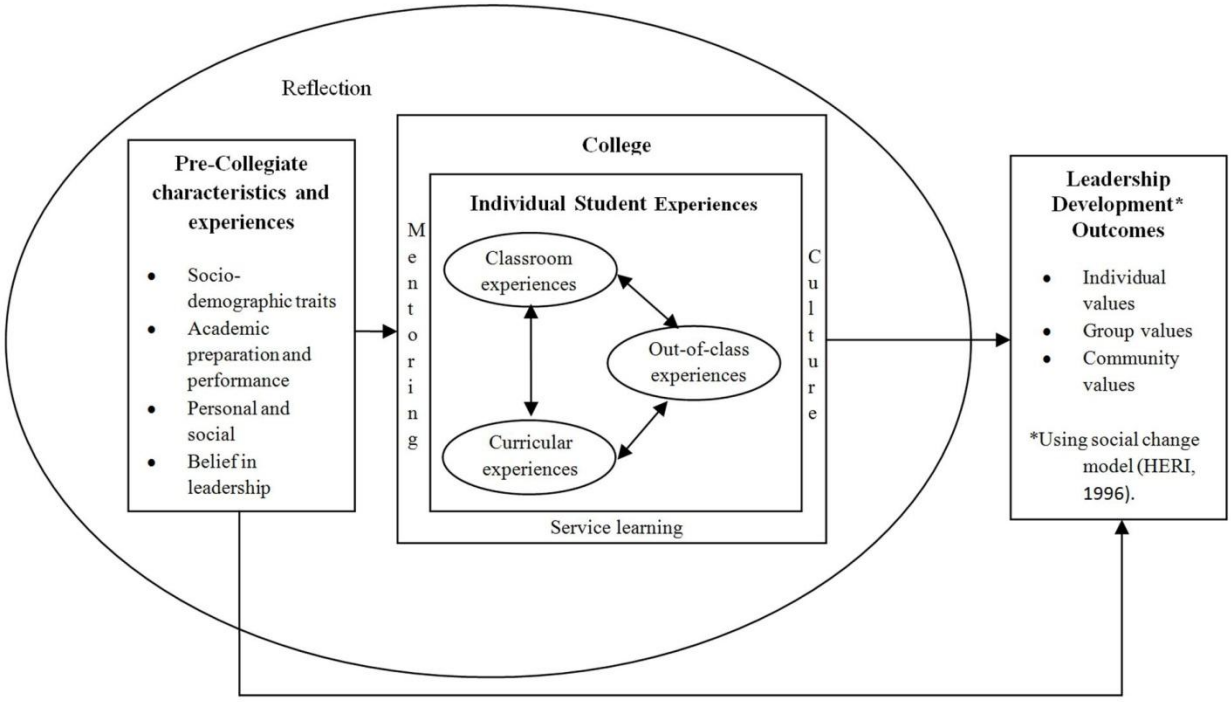


Figure 1. Collegiate leadership development model. Adapted from "Parsing the first year of college: A conceptual framework for studying college impacts" by P.T. Terenzini and R.D. Reason, 2005, paper presented at the meeting of the Association for the Study of Higher Education. Philadelphia, PA. Adapted 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). 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; Dugan & Komives, 2007) are also included in this component.

College Experiences

Kuh and Umbach (2004) used data from the National Survey of Student Engagement (NSSE) and concluded that institutions should organize both in-class and out-of-class experiences to expose them to a variety of opportunities. The college experience construct includes three types of individual student experiences that have been associated with leadership development: 1) classroom experiences, including subject matter, teaching and learning strategies, and peer interactions; 2) curricular experiences, including major, involvement in a departmental learning community, and internships; and 3) out-of-class-experiences.

Classroom experiences are a central part of the college experience. The pedagogy used, as well as the subject matter, contributes to student learning. Research suggests a variety of strategies, such as group assignments and tests (Coers, Williams, Duncan, 2010; Cress, Astin, Zimmerman-Oster, & Burkhardt, 2001; Moore, 2010), using multimedia (Williams & McClure, 2010), asynchronous computer simulations (Boyd & Murphrey, 2002) and service learning (Montelongo, 2002; Sessa, Matos, & Hopkins, 2009) to help learners

become more engaged in the learning process (Boyd and Murphrey, 2002; Cooper, Prescott, Cook, Smith, & Mueck, 1990), increase student learning about theory and practice and how deeply they learned the information (Sessa, Matos, & Hopkins, 2009), apply knowledge in other areas of their life (Boyd & Murphrey, 2002), and develop the skills required to be a life-long learner.

Curricular experiences refer to those experiences specific to an individual academic major or curriculum, including required coursework, academic advising, academic-based learning communities, internship experiences, and study abroad and can be offered as both a stand-alone curriculum or a component integrated in other curricula. The first undergraduate major in Leadership was developed in the 1990's at the Jepson School of Leadership Studies at the University of Richmond (Dugan & Komives, 2007). Since that time additional leadership majors, minors, and certificate programs have been developed throughout the country.

Out-of-class experiences refer to college experiences that occur outside the classroom and formal curriculum (i.e., extracurricular activities, leadership programs, Greek system, and living experiences). Astin (1999) proposed that positive outcomes of involvement are a result of both the quantitative (i.e., how much time a student spends on an activity) and qualitative (i.e., how focused the student is on the activity) aspects. Pascarella and Terrenzini (1991) found that the frequency and quality of students' participation in activities was associated with high educational aspirations, enhanced self-confidence, and increased interpersonal and leadership skills.

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). For example, 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. In addition, holding an office in an extracurricular organization can enhance the richness and magnitude of learning experiences and personal development during college years (Astin, 1984) and was related to increased leadership development (Ewing et al., 2009) and decision making (Rubin et al., 2002). 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.

Most frequent leadership program activities were seminars, workshops, mentors, guest speakers, service and volunteerism (Zimmerman & Burkhardt, 1999). These programs involve a wide variety of teaching strategies, including experiential learning opportunities (Haber & Komives, 2009; Cress et al., 2001) and opportunities for service and active learning through collaboration (Cress et al., 2001).

Positive leadership outcomes were found in a variety of studies, including improving their personal effectiveness, and aided in their professional and career development (Von Stein, 2007), and increasing their leadership ability (Dugan & Komives, 2007; Kezar & Moriarty, 2000; Layfield, Radhakrishna, & Andresen, 2000; Posner, 2009). For example, Cress, Astin, Zimmerman-Oster, & Burkhardt (2001) concluded that participants in leadership development programs were more likely to report growth in their commitment to civic responsibility, conflict resolution skills, ability to plan and implement programs and activities and willingness to take risks. In addition, these students were more likely to be involved in co-curricular activities and hold an office in those activities.

The location of residence while in college was found to be a significant predictor of leadership skill development. Birkenholz and Schumacher (1994) concluded that living in a structured housing arrangement such as a residence hall, fraternity or sorority was positively related to perceived leadership skills. Students who live in campus residences also show greater gains in interpersonal self-esteem and several forms of involvement, including interaction with faculty, involvement in student government, and participation in social fraternities or sororities (Astin, 1999). Similar benefits were found with students who were a

part of the Greek System (Rubin, Bommer, & Baldwin, 2002). Pike (2000) studied the social and cognitive benefits for Greek students and found a direct relationship to students' social involvement and integration of college experiences and an indirect relationship to gains in general abilities associated with cognitive development.

Leadership Development Outcomes

Leadership development is the outcome construct of this model. Many different definitions and theoretical frameworks were 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, p. 102). 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),was 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.

Educational reform movements increased the attention to the importance of leadership development in higher education (Astin, Kuep, & Lindholm, 2002) and provided standards for these programs (CAS, 2006). Research has identified a relationship between extracurricular participation and leadership outcomes (Birkenholz & Schumacher, 1994; Ewing et al., 2009; Layfield et al., 2000), participation in leadership programs and leadership outcomes (Dugan, Bohle, Gebhardt, Hofert, Wilk, & Cooney, 2011; Schumacher & Swan, 1993), and the impact of college classes and leadership outcomes (Buschlen & Dvorak, 2011; Odom, Boyd, & Williams, 2012). However, a more comprehensive approach is needed to better understand the college student experience and the influences of leadership development.

Research Purpose

This study sought to add to the leadership development literature by examining how precollegiate and collegiate experiences contribute to students' community values of Socially Responsible Leadership. The purpose of this study was to identify the extent to which precollegiate and collegiate experiences independently and collectively contribute to college students' socially responsible 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 [Midwestern

State University] (N = 969) were surveyed. Students over 24 years of age were excluded to reduce outliers in the data.

Instrumentation

The researchers designed an on-line questionnaire to meet the research objective. The instrument reflected the conceptual framework and contained three sections: precollegiate characteristics and experiences, collegiate experiences, and community values of leadership.

Precollegiate characteristics and experiences were assessed using both university records and the web-based survey instrument. Demographic and academic information were collected from university records. This information included, gender, race, and high school class rank. The researchers chose to obtain this information from official student records to reduce the length of the online survey and increase the accuracy of demographic data. Additional information about student's high school extracurricular activities, leadership training experiences, and precollegiate leadership self-efficacy was collected via the web-based questionnaire.

Information obtained from students' university records was used to measure classroom experiences. The number of leadership classes a student had completed at [Midwestern State University] was obtained. In addition, the cumulative grade point average was used as a measurement of academic success. Curricular experiences were measured based on student participation in a learning community and internship experiences. Students were asked to indicate whether or not they participated in a learning community and internships.

Information about out-of-classroom experiences was gathered via the web-based instrument. 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 agriculture and life sciences 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. Students were asked to indicate the number of years in which they participated in each activity and their highest level of participation. In addition to extracurricular organizations, information about leadership training during college was collected. Students were asked to indicate what leadership training activities they had participated in during college.

Community Values of the SCM was the dependent variable for this study. Community Values is described as, "Believing in the process whereby an individual and/or a group become responsibly connected to the community and to society through some activity. Recognizing that members of communities are not independent, but interdependent. Recognizing individuals and groups have responsibility for the welfare of others." (Dugan & Komives, 2007, p. 10). Community Values was measured using the citizenship scale of the

Socially Responsible Leadership Scale (SRLS-R2) (National Clearinghouse for Leadership Programs, 2009).

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 community values scale was computed for this study using Cronbach's alpha and was .896.

Validity. A panel of professionals comprised of faculty and graduate students with expertise in undergraduate outcomes, extracurricular 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. All students on the panel had completed between 60 and 85 credits, which equates to 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, a subject was 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 panel 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 via e-mail to participate in the study and were sent up to four e-mail reminders inviting them to participate in the study if they had not yet completed the questionnaire. This process resulted in 270 responses (27%), 199 of which were complete for a usable response rate of 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 responses 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.

Hierarchical regression was the primary statistical technique. Variable blocking reflected the conceptual framework and influences from past research. Block one included demographic and precollegiate experiences. Block two consisted of college experiences, including classroom experiences, curricular experiences, and out-of-classroom experiences.

Block one variables. Gender and high school class rank were collected from university records and entered into the regression. Information from the web-based survey was used to assess high school extracurricular activity, precollegiate leadership training, and a self-perception of leadership ability when students entered college. An activity level construct was created by adding the amount of years a student had participated in each activity (i.e., 1 = 1 year, 2 = 2 years, 3 = 3 years, 4 = 4 years, 5 = 5 or more years) with a score for their highest level of involvement (i.e., 1 = member, 2 = committee member, 3= event or committee chair, 4 = officer or team captain, 5 = state or national leadership). Precollegiate leadership training was calculated by adding together the number of leadership training experiences each subject indicated they had experienced. (i.e., 0 = no leadership training experiences, 2 = 2 leadership training experiences, and 3 = 3 leadership training experiences). Leadership self-perception was measured with a single likert-scale question that asked how students would rate their leadership when they entered college compared to their peers (i.e., 1 = well below average to 5 = well above average.)

Block two variables. Constructs in block two included individual college experiences (i.e., out-of classroom experiences, classroom experiences, and curricular experiences). Collegiate classroom experiences were assessed using cumulative grade point and the number of leadership classes in which a student had completed, both obtained through university records. Cumulative university grade point was entered into the regression. University

records indicated how many credits of classes identified by the university as a leadership course each student had completed, which was entered into the regression.

Curricular experiences were assessed through internship experiences and learning community participation. Students were asked the number of internship experiences in which they had participated. A summative score was created (i.e., 0 = no internship experiences, 1 = 1 internship experience, 2 = 2 internship experiences, and 3 = 3 internship experiences) and entered in the regression. Learning community participation was measured by a simple dichotomous variable (i.e., 0 = no and 1 = yes).

Extracurricular experiences, leadership training, and participation in the Greek community were used to assess out-of-classroom experiences. An activity level construct was created by adding the amount of years a student had participated in each activity (i.e., 1 = 1 year, 2 = 2 years, 3 = 3 years, 4 = 4 years, 5 = 5 or more years) with a score for their highest level of involvement (i.e., 1 = member, 2 = committee member, 3= event or committee chair, 4 = officer or team captain, 5 = state or national leadership). Collegiate leadership training was calculated by adding together the number of leadership training experiences each subject indicated they had experienced (i.e., 0 = no leadership training experiences, 2 = two leadership training experiences, and 3 = three leadership training experiences). Participation in the Greek community was measured by a dichotomous variable (i.e., 0 = no, 1 = yes).

Dependent variable. The community values of the SCM was measured using the SRLS-R2 Citizenship scale. The scale consists of eight Likert-type questions that measure the extent to which students believe they are connected to their community and society. In

addition, the questions assess to what extent they believed that members of a community are interconnected and that individuals have responsibilities for the wellbeing of others.

Results

Ninety-one (45.7%) males and 108 (54.3%) females responded to this study. All were full-time students and classified as seniors. Ninety-six percent of the 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 – 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) = -3.198, p = .002). SRLS-R2 scores for this study were compared with the results of the Multi-Institutional Study of Leadership and can be found in Appendix D. Using a t-test, no differences were found on any of the leadership scales based on gender.

Diagnostic statistics

Diagnostic statistics, including collinearity tolerance, standardized residual histogram, and the normal p-plot of regression standardized residual indicate the variables meet the assumptions of regression analysis. Collinearity tolerance levels ranged from .643 - .970.

Because the collinearity statistics indicate tolerance levels well above 0.2, the assumption of no collinearity is met (Field, 2009) (Table 1). The histogram of regression standardized residual (Figure 2) indicates a normal distribution. In addition, the normal p-plot of regression standardized residual (Figure 3) indicated an acceptable distribution of residuals.

Table 1

Excluded variables

Model	Beta In	t	Sig.	Partial Correlation	Collinearity Statistics
					Tolerance
Collegiate extracurricular involvement	.291[a]	3.563	.000	.261	.643
Collegiate leadership training	.025[a]	.351	.726	.027	.875
Collegiate leadership class credit	.062[a]	.898	.371	.068	.970
Greek involvement	.276[a]	4.143	.000	.300	.946
Learning community involvement	.035[a]	.495	.621	.038	.931
Internship experiences	.079[a]	1.111	.268	.084	.913
Cummulative grade point	.179[a]	2.425	.016	.181	.814

Note. [a.] Predictors: (Constant), gender, precollegiate leadership training, high school class rank, leadership self-perception, precollegiate extracurricular involvement.

[b.] Predictors: (Constant), gender, precollegiate leadership training, high school class rank, leadership self-perception, precollegiate extracurricular involvement, college leadership classes completed, Greek involvement, learning community involvement, internships, college leadership training, cumulative GPA, and collegiate extracurricular involvement.

Figure 2.

Regression standardized residual histogram

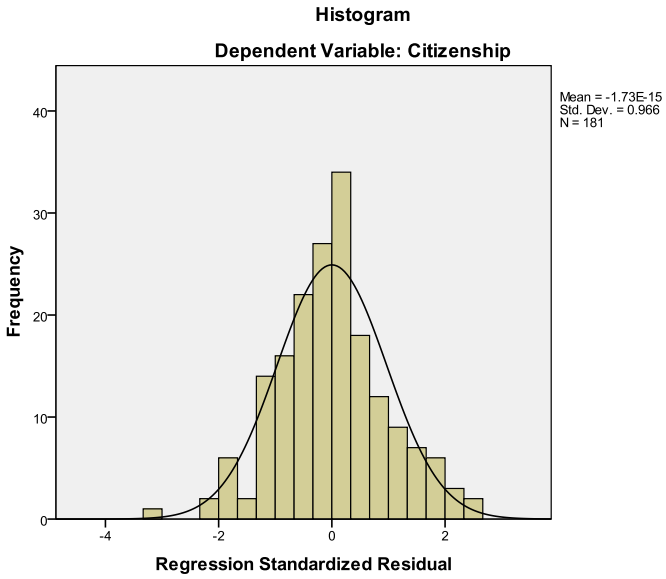
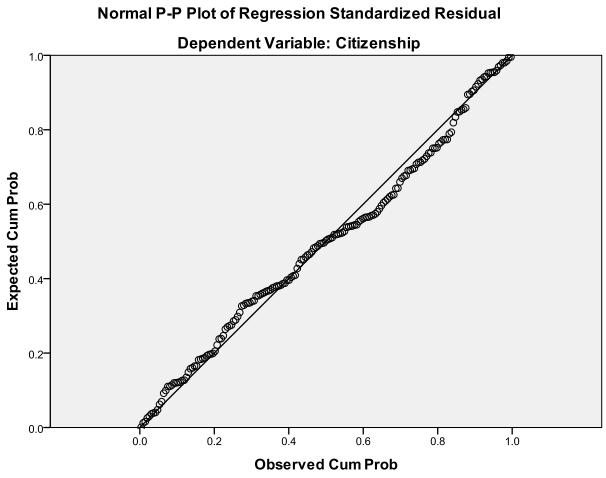


Figure 3.

Normal p-plot of regression standardized residuals



Correlations

The correlations indicate significant relationships between several variables at a significance level of $p \leq .05$ (Table 2). High school extracurricular participation and high school training were significant with a correlation of .487. High school extracurricular participation, high school leadership training, and college extracurricular participation were significant with leadership self-perception with correlations of .356, .325, .232 respectively. College extracurricular participation was significantly correlated to several high school variables (i.e., high school extracurricular participation, high school leadership training, and high school class rank). In addition, college extracurricular participation was correlated to college variables (i.e., college leadership training, internships, and college GPA).

Regression Modeling

The first block containing precollegiate characteristics and experiences (i.e., precollegiate extracurricular involvement, precollegiate leadership training, leadership self-perception, high school class rank, and gender) explained 19.8% of the variance of the dependent variable community values. The second block, containing college experiences (i.e., extracurricular involvement, leadership classes completed, leadership training, Greek participation, learning community participation, internships, and cumulative grade point average) increased the explained variance by 12%, explaining 31.8% for the model (Table 3).

Table 2.

Correlation Results

	Community	HS extracurricular	HS leadership training	Leadership self perception	HS rank	Gender	Collegiate extracurricular	Collegiate leadership training	Collegiate leadership classes	Greek	Learning community	Internship	GPA
Community	1.000	.370*	.276*	.202*	.073	.238*	.403*	.116	.057	.302*	.069	.135*	.179*
HS extracurricular		1.000	.487*	.356*	.262*	.085	.519*	.264*	.080	.187*	.150*	.233*	.142*
HS leadership training			1.000	.325*	.174*	-.003	.318*	.287*	-.003	.014	.082	.160*	-.018
Leadership self perception				1.000	.033*	.062	.232*	.166*	-.013	.091	-.052	.149*	-.028
HS rank					1.000	.096	.394*	.167*	.108	.041	.219*	.140*	.410*
Gender						1.000	.159*	-.084	-.090	-.075	-.017	-.110	.071
Collegiate extracurricular							1.000*	.398*	-.026	.302*	.168*	.388*	.358*
Collegiate leadership train								1.000	-.073	.134*	.084	.232*	.143*
Collegiate leadership class									1.000	.140*	.034	-.009	-.114
Greek										1.000	-.047	.187*	.106
Learning community											1.000	.059	.024
Internship												1.000	.159*
Collegiate GPA													1.000

Note. *$p \leq .05$.

Table 3

Regression model summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig F Change
1	.445[a]	.198	.176	3.56163	.198	8.664	5	175	.000
2	.564[b]	.318	.270	3.35231	.120	4.220	7	168	.000

Note. [a.] Predictors: (Constant), gender, precollegiate leadership training, high school class rank, leadership self-perception, precollegiate extracurricular involvement.

[b.] Predictors: (Constant), gender, precollegiate leadership training, high school class rank, leadership self-perception, precollegiate extracurricular involvement, college leadership classes completed, Greek involvement, learning community involvement, internships, college leadership training, cumulative GPA, and collegiate extracurricular involvement.

Precollegiate extracurricular involvement and gender were the only two significant variables in the first block, which contained precollegiate characteristics and experiences. When collegiate experiences were added to the regression, different variables emerged as significant (Table 4). Gender remained a significant predictor in the second model. Several precollegiate experiences emerged as significant in the second model (i.e., leadership training, class rank) that were not significant in the first. However, precollegiate extracurricular activity was significant in the first model and not in the second. In addition, collegiate experiences were significant in the second model (i.e., extracurricular involvement and Greek involvement).

Table 4
Regression model

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
1 (Constant)	27.379	1.558		17.570	.000
HS extracurricular	.072	.021	.284	3.466	.001*
HS leadership training	.431	.262	.131	1.648	.101
Leadership self perception	.205	.328	.046	.626	.532
HS class rank	-.006	.010	-.047	-.660	.510
Gender	1.706	.541	.216	3.157	.002*
2 (Constant)	25.007	2.076		12.045	.000
HS extracurricular	.034	.021	.133	1.586	.115
HS leadership training	.580	.255	.176	2.277	.024*
Leadership self-perception	.181	.313	.041	.578	.564
HS class rank	-.023	.011	-.169	-2.216	.028*
Gender	1.705	.535	.215	3.189	.002*
College extracurricular	.071	.032	.206	2.216	.028*
College leadership training	-.278	.353	-.057	-.787	.433
College leadership classes	.506	.488	.069	1.038	.301
Greek involvement	2.160	.682	.220	3.169	.002*
Learning community	.424	.529	.054	.802	.424
Internship	-.055	.263	-.015	-.210	.834
Cumulative GPA	.955	.514	.139	1.858	.065

Note. * $p \leq .05$

Conclusions

This study revealed that both precollegiate and collegiate experiences help explain differences in community values of leadership. In addition to both model one and model two being significant, the change between model one, containing demographic and precollegiate experiences, and the second model, which added collegiate experience, was significant. The findings of this study are consistent with Dugan and Komives (2010) who concluded that college experiences were influential in each of the scales of the socially responsible leadership instrument. In addition to the importance of the significance of the overall model, several individual variables were noteworthy.

Extracurricular participation was an important predictor of the citizenship scale of the SRLS in this study. Precollegiate extracurricular activity was the most significant predictor when only demographics and precollegiate experiences were analyzed. When collegiate experiences were added to the analysis, college extracurricular activities were significant; however, high school extracurricular activities were not.

The involvement construct for this model included both the number of organizations a student was a member of as well as their highest level of participation. When looking more closely at the impact of holding an office, the results were consistent with other studies that concluded that students who held an office showed increased leadership development (Astin, 1984; Cooper et al., 1994; Ewing et al., 2009; Kuh, 1985; Rubin et al., 2002). 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.

Precollegiate leadership training did not emerge as a significant predictor in this study in the first model that included demographics and precollegiate experiences. When collegiate experiences were added, college leadership training experiences were not significant. However, precollegiate leadership training did emerge as a significant predictor of leadership outcomes in the second model. The statistically significant correlations between leadership training and other factors may have impacted their influence in the model. For example, high school training and high school extracurricular participation were correlated (r = .487) as were college extracurricular participation and college leadership training (r = .398) and high school leadership training and college extracurricular participation (r = .318).

Similar to Haber and Komives (2009) who found leadership training and education were not significant in predicting individual values of social change, classroom education was not a significant predictor of leadership in this study. This is inconsistent with other studies who have reported a positive relationship between leadership training programs and leadership (Cress, Astin, Zimmerman-Oster & Burkhardt, 2001; Dugan & Komives, 2007; Kezar & Moriarty, 2000; Posner, 2009). In addition, Dugan and Komives (2010) reported moderate term leadership training as a significant predictor of the citizenship scale. This study did not measure the duration, content, or quality of the leadership training which may account for inconsistent findings.

Although females were more likely to respond to this study and caution should be taken in interpreting the results related to gender, gender was a significant variable in both models. Based on the multi-institutional study of leadership, Dugan and Komives (2007) found females scored higher than males on each of the scales of the socially responsible

leadership scales, except change. In addition, Haber and Komives (2009) reported a similar trend. Involvement in community organizations was a significant predictor of leadership development for females.

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.

The importance of collegiate extracurricular participation was confirmed in this study. Precollegiate extracurricular activities were significant at predicting community values when only high school activities were included. However, when collegiate activities were added to the analysis, high school activities were no longer significant. Faculty and staff need to create meaningful extracurricular opportunities for students and encourage students to participate. 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. Additional research

should be conducted to examine the relationship between high school involvement and collegiate involvement to examine what impact high school involvement has college involvement and if this may help explain this finding.

The finding that leadership programs and classroom education were not significant predictors of the outcome warrants the examination of the duration, content, or quality of the leadership training offered. Perhaps the outcomes of these programs are not consistent with social change model and would therefore not be a valid predictor of the outcome this study measured. Or perhaps, the training was not effective or was offered to the wrong audience.

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ELIZABETH A. FOREMAN is a graduate student in the Department of Agricultural Education and Studies at Iowa State University, bforeman@iastate.edu

MICHAEL S. RETALLICK is an Assistant Professor in the Department of Agricultural Education and Studies at Iowa State University, 206 Curtiss Hall, Ames, IA 50011, msr@iastate.edu

Chapter VII. General Conclusions and Recommendations

The purpose of this dissertation was to examine the precollegiate and collegiate experiences that resulted in increased leadership development and consisted of three individual research papers prepared for submission to research journals. The conceptual framework for the entire study used the *Collegiate leadership development model* as the conceptual framework and the SCM as the outcome (i.e., dependent variable). However, each paper analyzed a different portion of the SCM. The first paper found in chapter 4, which examined undergraduate involvement in extracurricular activities, used the omnibus and group scales to measure the leadership outcome and served as a the foundational paper. The second paper, found in chapter 5, examined the relationship between undergraduate extracurricular involvement and individual values of the SCM through the lens of Astin's (1999) involvement theory. Finally, the third paper, found in chapter 6, identified the relationship of precollegiate and collegiate experiences in predicting the community values of SCM.

This chapter will examine the general conclusions and recommendations for both practice and research. The conclusions are organized into four categories: the need to implement a conceptual framework, involvement in extracurricular clubs and organizations, leadership education, and reflection.

The need to implement a conceptual framework

A significant gap exists between leadership theory and practice (Dugan & Komives, 2007). To reduce this gap, institutions of higher education and perhaps the individual colleges within those institutions should adopt a conceptual framework for developing and assessing leadership outcomes that includes curricular, classroom, and extracurricular

components. Astin's (1999) involvement theory supports the need for increased engagement both inside and outside the classroom. Astin (1984) describes an involved student as one who "devotes considerable energy to studying, spends much time on campus, participates actively in student organizations, and interacts frequently with faculty members and other students" (p. 518).

Involvement in extracurricular clubs and organizations

Institutions of higher education should develop and maintain a culture in which extracurricular participation is valued as more than a social function and not seen as competing with academic work. The results of this study indicate that CALS at Iowa State University has a culture that values involvement in extracurricular activities and could serve as a model for other colleges. Students who responded to this study reported a high extracurricular activity level. 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.

Involvement in extracurricular clubs and organizations influenced the level of leadership. The findings of this study indicated that extracurricular participation was an important predictor of community values. Precollegiate extracurricular activity was the most significant predictor when only demographics and precollegiate experiences were analyzed. Therefore, extracurricular involvement at the secondary level should be encouraged because it helps prepare students for collegiate experiences. When these students arrive on campus, they should be encouraged to get involved in extracurricular activities because the findings of this study would indicate that collegiate extracurricular activities were significant at predicting leadership outcomes. Thus, the leadership skills and development that occurs

during undergraduate student experiences has a significant impact on actual leadership development.

Results of this study are consistent with previous research on the importance of participating in extracurricular clubs and organizations(Birkenholz & Schumacher, 1994; Ewing et al., 2009; Layfield et al., 2000), and it is recommended that more of these opportunities be made available to students and that students be encouraged to participate. Additional research is recommended 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.

Based on the results of this study, it is recommended that students participate in three or four extracurricular clubs and organizations to optimize leadership development. While membership in a club or organization did influence leadership, a threshold of involvement was identified to optimize leadership development. Mean leadership scores increased as involvement increased. But after involvement in three or four clubs or organizations, leadership decreased. This finding confirms Astin's (1984) supposition that there might be a desirable limit of involvement in which additional involvement doesn't produce desirable results and may be detrimental.

The impact of time spent involved with clubs and leadership positions was inconclusive. This study examined two components of extracurricular involvement (i.e., amount of time spent and positional leadership role). It is difficult to draw conclusions based on the amount of time spent participating in clubs and organizations because the findings were inconsistent. Group values and omnibus values were influenced by the amount

of time spent in extracurricular clubs and organizations. However, individual values were not affected. When leadership was influenced by time spent in clubs and organizations, it important to note that the differences only occurred between the least (i.e., 0 – 1 hours per week) and most (i.e., 7 or more hours per week). These inconclusive results create an opportunity for future research to determine if the amount of time spent participating in extracurricular clubs and organizations is more likely to be related to group values than individual values.

Serving as a club officer resulted in higher leadership outcomes. This finding is consistent with previous researchers that examined the impact of serving as a club officer and found it related to leadership development (Dugan, 2006; Ewing, et. al., 2009). 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. On the basis of these findings, increasing the amount of leadership training and opportunities for all students in extracurricular clubs and organizations is recommended.

Leadership education

Similar to Haber and Komives (2009) who found leadership training and education were not significant in predicting individual values of social change, classroom education and collegiate leadership training did not influence leadership outcomes in this study. However, the high correlations between leadership training and other factors may be affecting their influence in the regression model of this study. For example, high school training and high school extracurricular participation were correlated ($r = .487$) as were

college extracurricular participation and college leadership training (r = .398) and high school leadership training and college extracurricular participation (r = .318). Additional analysis should be completed to learn more about the relationships between these high school and college experiences and their influences on leadership development.

Although many studies have reported a positive relationship between leadership training programs and leadership outcomes (Cress, Astin, Zimmerman-Oster & Burkhardt, 2001; Dugan & Komives, 2007; Kezar & Moriarty, 2000; Posner, 2009) and Dugan and Komives (2010) concluded that moderate term leadership training was a significant predictor of the citizenship scale, this study did not measure the content or quality of the leadership training. These two factors may help explain why leadership education did not influence leadership outcomes. Additional research is needed to determine the content and quality of the leadership training that is most likely to increase leadership outcomes.

Reflection

Because of the experiential nature of leadership development and the role reflection plays in the experiential learning process, reflection was a major component of the Collegiate leadership development model that transcended precollegiate and collegiate experiences. While research has explored the role of reflection in classroom settings (Roberts, 2008), internship experiences (Stedman, Rutherford, & Roberts, 2011), and service learning (Sessa, et al, 2009), research is needed to further explore the role of reflection in extracurricular clubs and organization. It is recommended that continuing education be provided for faculty and staff to further incorporate the experiential learning process into classroom, curricular, and extracurricular components of the collegiate experience.

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Appendix A. Copyright permission

Pat Terenzini [terenzini@psu.edu]

Actions
To:
'Foreman, Elizabeth A [AEX S]' [bforeman@iastate.edu]
Cc:
Bob Reason [rreason@iastate.edu]

Monday, January 09, 2012 11:36 PM

Hello, Beth, and thank you for your interest in my and Dr. Bob Reason's work. Bob, as you probably already know, is a faculty member on your campus.

Bob and I appreciate your interest in examining how our model might be applied in the study of leadership development. The model attached to your note presents no copyright infringement problems provided you cite:

Terenzini, P. T., & Reason, R. D. (2005, November). Parsing the first year of college: A Conceptual framework for studying college impacts. Paper presented at the meeting of the Association for the Study of Higher Education, Philadelphia, PA.

Bob and I wish you well in your research, and thanks again for your interest in our work.

Pat Terenzini

****
Patrick T. Terenzini
Distinguished Professor and Senior Scientist, Emeritus
Center for the Study of Higher Education
Pennsylvania State University

Mailing Address: 1245-48 Westerly Parkway
State College, PA 16801

Voice: (814) 237-3956
Fax: (814) 865-3638
E-mail: Terenzini@psu.edu

Appendix B. Institutional Review Board approval and survey instrument

IOWA STATE UNIVERSITY
OF SCIENCE AND TECHNOLOGY

Institutional Review Board
Office for Responsible Resear
Vice President for Research
1138 Pearson Hall
Ames, Iowa 50011-2207
515 294-4566
FAX 515 294-4267

Date: 4/11/2011

To: Elizabeth Foreman
33 Curtiss Hall

CC: Dr. Michael Retallick
206 Curtiss Hall

From: Office for Responsible Research

Title: Identifying the Relationships among Pre-collegiate Characteristics, College Experiences, and Leadership Development.

IRB Num: 11-056

Approval Date:	4/8/2011	**Continuing Review Date:**	4/7/2012
Submission Type:	New	**Review Type:**	Expedited

The project referenced above has received approval from the Institutional Review Board (IRB) at Iowa State University. Please refer to the IRB ID number shown above in all correspondence regarding this study.

Your study has been approved according to the dates shown above. To ensure compliance with federal regulations (45 CFR 46 & 21 CFR 56), please be sure to:

- **Use only the approved study materials** in your research, **including the recruitment materials and informed consent documents that have the IRB approval stamp**.
- **Obtain IRB approval prior to implementing any changes** to the study by submitting the "Continuing Review and/or Modification" form.
- **Immediately inform the IRB** of (1) **all serious and/or unexpected adverse experiences** involving risks to subjects or others; and (2) **any other unanticipated problems** involving risks to subjects or others.
- **Stop all research activity if IRB approval lapses**, unless continuation is necessary to prevent harm to research participants. Research activity can resume once IRB approval is reestablished.
- **Complete a new continuing review form** at least three to four weeks prior to the **date for continuing review** as noted above to provide sufficient time for the IRB to review and approve continuation of the study. We will send a courtesy reminder as this date approaches.

Research investigators are expected to comply with the principles of the Belmont Report, and state and federal regulations regarding the involvement of humans in research. These documents are located on the Office for Responsible Research website http://www.compliance.iastate.edu/irb/forms/ or available by calling (515) 294-4566.

Upon completion of the project, please submit a Project Closure Form to the Office for Responsible Research, 1138 Pearson Hall, to officially close the project.

For IRB Use Only		
	Review Date: April 8, 2011	IRB ID: 11-056
	Approval Date: April 8, 2011	Length of Approval: 1 year
	Approval Expiration Date: April 7, 2012	FULL Committee Review:
	EXEMPT per 45 CFR 46.101(b): ____ Date:	Minimal Risk: ✓
	EXPEDITED per 45 CFR 46.110(b) 1	More than Minimal Risks:
	Category 5, 7, Letter	Project Closed Date:

RECEIVED
JAN 31 2011
By IRB

INSTITUTIONAL REVIEW BOARD (IRB)
Application for Approval of Research Involving Humans

SECTION I: GENERAL INFORMATION

Principal Investigator (PI): Elizabeth Foreman	Phone: 515-294-4548	Fax: 515-294-2844
Degrees: M.S. Human Development Family Studies	Correspondence Address: 33 Curtiss Hall	
Department: Agricultural Education and Studies	Email Address: bforeman@iastate.edu	
Center/Institute:	College: Agriculture and Life Sciences	
PI Level: ☐ Faculty ☐ Staff ☐ Postdoctoral ☒ Graduate Student ☐ Undergraduate Student		
Alternate Contact Person: Dr Michael Retallick	Email Address: msr@iastate.edu	
Correspondence Address: 206 Curtiss Hall	Phone: 515-294-4810	
Title of Project: Identifying the relationships among pre-collegiate characteristics, college experiences, and leadership development.		
Project Period (Include Start and End Date): [*mm/dd/yy*][*2/15/2011*] to [*mm/dd/yy*][*12/15/2012*]		

FOR STUDENT PROJECTS	
Name of Major Professor/Supervising Faculty: Dr. Michael Retallick	Signature of Major Professor/Supervising Faculty:
Phone: 515-294-4810	Campus Address: 206 Curtiss Hall
Department: Agricultural Education and Studies	Email Address: msr@iastate.edu
Type of Project: (check all that apply) ☐ Research ☐ Thesis ☒ Dissertation ☐ Class project ☐ Independent Study (490, 590, Honors project) ☐ Other. Please specify:	

KEY PERSONNEL

List all members and relevant experience of the project personnel. This information is intended to inform the committee of the training and background related to the specific procedures that each person will perform on the project.

NAME & DEGREE(S)	SPECIFIC DUTIES ON PROJECT	TRAINING & EXPERIENCE RELATED TO PROCEDURES PERFORMED, DATE OF TRAINING
✓ Elizabeth Foreman, M.S. Human Dev. & Family Studies	Principal Investigator	Human Subjects training 2-~~14~~-2008 thesis research involved human subjects 3-20-04
✓ Dr. Michael Retallick, Ph.D. Agriculture Education	Major Professor	Human Subjects training 3-13-2002 Experience in Human Subjects research.

FUNDING INFORMATION

☐ Internally funded, please provide account number:
☐ Externally funded, please provide funding source and account number:
☐ Funding is pending, please provide OSPA Record ID on GoldSheet:
Title on GoldSheet if different from above:
☐ Other: *(e.g., funding will be applied for later)*
☒ Student Project—no funding or funding provided by student (per PI 2/10/11 AS)

SCIENTIFIC REVIEW

Although the assurance committees are not intended to conduct peer review of research proposals, the federal regulations include language such as "consistent with sound research design," "rationale for involving animals or humans" and "scientifically valuable research," which requires that the committees consider in their review the general scientific relevance of a research study. Proposals that do not meet these basic tests are not justifiable and cannot be approved. If an assurance review committee(s) has concerns about the scientific merit of a project and the project was not competitively funded by peer review or was funded by corporate sponsors, the project may be referred to a scientific review committee. The scientific review committee will be an ad hoc and will consist of your ISU peers and outside experts as needed. If this situation arises, the PI will be contacted and given the option of agreeing that a consultant may be contacted or withdrawing the proposal from consideration.

☐ Yes ☒ No Has or will this project receive peer review?

If the answer is "yes," please indicate who did or will conduct the review:

If a review was conducted, please indicate the outcome of the review:

COLLECTION OR RECEIPT OF SAMPLES

Will you be: (Please check all that apply.)

☐ Yes ☒ No Receiving samples from outside of ISU? See examples below.
☐ Yes ☒ No Sending samples outside of ISU? See examples below.

Examples include: genetically modified organisms, body fluids, tissue samples, blood samples, pathogens.

If you will be receiving samples from or sending samples outside of ISU, please identify the name of the outside organization(s) and the identity of the samples you will be sending or receiving outside of ISU. If the outside organizations have not been identified, please check no for both questions above.

N/A

Please note that **some samples may require a** USDA Animal Plant Health Inspection Service (APHIS) **permit**, a USPHS Centers for Disease Control and Prevention (CDC) Import Permit for Etiologic Agents, a Registration for Select Agents, High Consequence Livestock Pathogens and Toxins or Listed Plant Pathogens, or a Material Transfer Agreement (MTA) EH&S Website

ASSURANCE

- I certify that the information provided in this application is complete and accurate and consistent with any proposal(s) submitted to external funding agencies.
- I agree to provide proper surveillance of this project to ensure that the rights and welfare of the human subject or welfare of animal subjects are protected. I will report any problems to the appropriate assurance review committee(s).
- I agree that I will not begin this project until receipt of official approval from all appropriate committee(s).
- I agree that modifications to the originally approved project will not take place without prior review and approval by the appropriate committee(s), and that all activities will be performed in accordance with all applicable federal, state, local and Iowa State University policies.

CONFLICT OF INTEREST

A conflict of interest can be defined as a set of conditions in which an investigator's or key personnel's judgment regarding a project (including human or animal subject welfare, integrity of the research) may be influenced by a secondary interest (e.g., the proposed project and/or a relationship with the sponsor). ISU's Conflict of Interest Policy requires that investigators and key personnel disclose any significant financial interests or relationships that may present an actual or potential conflict of interest. By signing this form below, you are certifying that all members of the research team, including yourself, have read and understand ISU's Conflict of Interest policy as addressed by the ISU Faculty Handbook (http://www.provost.iastate.edu/faculty) and have made all required disclosures.

☐ Yes ☒ No Do you or any member of your research team have an actual or potential conflict of interest?
☐ Yes ☐ No If yes, have the appropriate disclosure form(s) been completed?

SIGNATURES

Signature of Principal Investigator — Date: 1-31-2011

Signature of Department Chair — Date: 1/31/2011

The Major Professor/Supervising Faculty member must sign the cover page in the section entitled "For Student Projects".

PLEASE NOTE: Any changes to an approved protocol must be submitted to the appropriate committee(s) before the changes may be implemented.

Please proceed to SECTION II.

SECTION II: IRB SECTION - STUDY SPECIFIC INFORMATION

Please complete all of the following questions.

STUDY OBJECTIVES

Briefly explain in **language understandable to a layperson** the specific aim(s) of the study.

The purpose of this study is to identify and measure the relationships among pre-collegiate characteristics, college experiences, and leadership development, as conceptualized by the Social Change Model.

BENEFITS TO SOCIETY AND PARTICIPANTS

Explain in **language understandable to a layperson** how the information gained in this study will advance knowledge, and/or serve the good of society. Please also describe the direct benefits to research participants; if there are no direct benefits to participants, indicate that. **Note:** monetary compensation cannot be considered a benefit to participants.

Leadership development is an outcome of the College of Agriculture and Life Sciences. This study will provide information about the role of extra-curricular activities in enhancing leadership development. It will help to identify and describe specific characteristics and experiences that are associated with higher levels of leadership development. This information will be useful as the college continues to develop and measure the outcomes of undergraduate education. The findings will contribute to the literature by measuring the effects of extra-curricular participation while controlling for pre-collegiate characteristics and other college experiences. There are no direct benefits for participants of this study..

PART A: PROJECT INVOLVEMENT

1) ☐ Yes ☒ No Is this project part of a Training, Center, Program Project Grant?
   Director Name: Overall IRB ID:
2) ☐ Yes ☒ No Is the purpose of this project to develop survey instruments?
3) ☐ Yes ☒ No Does this project involve an investigational new drug (IND)? Number:
4) ☐ Yes ☒ No Does this project involve an investigational device exemption (IDE)? Number:
5) ☒ Yes ☐ No Does this project involve existing data or records?
6) ☐ Yes ☒ No Does this project involve secondary analysis?
7) ☐ Yes ☒ No Does this project involve pathology or diagnostic specimens?
8) ☐ Yes ☒ No Does this project require approval from another institution? Please attach letters of approval.
9) ☐ Yes ☒ No Does this project involve DEXA/CT scans or X-rays?

PART B: MEDICAL HEALTH INFORMATION OR RECORDS

10) ☐ Yes ☒ No Does your project require the use of a health care provider's records concerning past, present, or future physical, dental, or mental health information about a subject? The Health Insurance Portability and Accountability Act established the conditions under which protected health information may be used or disclosed for research purposes. If your project will involve the use of any past or present clinical information about someone, or if you will add clinical information to someone's treatment record (electronic or paper) during the study, you must complete and submit the Application for Use of Protected Health Information.

PART C: ANTICIPATED ENROLLMENT

Estimated number of participants to be enrolled in the study Total: 1189 Males: 666 Females: 523	
Check if any enrolled participants are: ☐ Minors (Under 18) Age Range of Minors: ☐ Pregnant Women/Fetuses ☐ Cognitively Impaired ☐ Prisoners	Check below if this project involves either: ☐ Adults, non-students ☐ Minor ISU students ☒ ISU students 18 and older ☐ Other (explain)
List estimated percent of the anticipated enrollment that will be minorities *if known*:	
American Indian: 10	Alaskan Native: reported with American Indian
Asian or Pacific Islander: 21	Black or African American: 14
Latino or Hispanic: 24	

PART D: PARTICIPANT SELECTION

Please use additional space as necessary to adequately answer each question.

11. Explain the procedures and rationale for selecting participants, including the inclusion and exclusion criteria (e.g., where will names come from, what persons will be included or excluded and why, etc.).

Subjects will include all full- time students in the College of Agriculture and Life Sciences who have completed at least 90 credits and are between 19 and 24 years of age. Contact information (e-mail addresses) will be obtained from the ISU Registrar's Office. Because the purpose of the study is to access the role of collegiate extra-curricular clubs, students who have 90 credits were chosen to increase the opportunities students have had to become involved. Students over 24 years old were excluded to reduce outlyers in the data, as the focus of this study is traditional-age college students.

12. Describe the procedures for contacting participants (e.g., letter, email, flyer, advertisements, phone call, etc.). Attach copies of any letters, scripts, flyers, or advertisements that will be used. Recruitment materials should include a statement of the voluntary and confidential nature of the research.

Participants will be contacted via e-mail using modified procedures that were developed by Dillman (2000). The e-mail messages are attached.

PART E: RESEARCH PLAN

Include sufficient detail for IRB review of this project independent of the grant, protocol, or other documents.

13. The information needed here is similar to that in the "methods" or "procedures" sections of a research proposal—it should describe the flow of events that will occur during your interactions with subjects. Please describe in detail your plans for collecting data from participants, including all procedures, tasks, or interventions participants will be asked to complete during the research (e.g., random assignment, any conditions or treatment groups into which participants will be divided, mail survey or interview procedures, sensors to be worn, amount of blood drawn, etc.) . This information is intended to inform the committee of the procedures used in the study and their potential risk. Please do not respond with "see attached" or "not applicable."

The subjects will be contacted via Iowa State University e-mail and the purpose of the study will be explained as well as statements about voluntary participation. Web-based survey sofware Qualtrics will be used to collect data. Subjects will follow a link to "Qualtrics" where modified informed consent will be explained and the survey instrument made available. Subjects may be contacted via e-mail up to 5 times to decrease non-response. Those who

respond will be removed from the e-mail list and will not be contacted again.
E-mail contacts will be made to subjects over a 14 day period.
Day 1 - Introduction e-mail explains the purpose of the study and consent with the survey link
Day 4 - Follow-up to non-respondents
Day 7 - Follow-up to non-respondents
Day 11 - Follow-up to non-respondents
Day 14 - Final contact with non-respondents

In an effort to reduce the length of the survey, demographic data (gender, age, race, HS rank, ISU GPA, entry type, semester hours of leadership classes taken, major) will be collected from the ISU Registrar's Office.

14. For studies involving pathology/diagnostic specimens, indicate whether specimens will be collected prospectively and/or already exist "on the shelf" at the time of submission of this review form. If prospective, describe specimen procurement procedures; indicate whether any additional medical information about the subject is being gathered, and whether specimens are linked at any time by code number to the participant's identity. If this question is not applicable, please type N/A in the response cell.

N/A

15. For studies involving deception or where information is intentionally withheld from participants, such as the full purpose of the study, please explain how persons will be deceived or what information will be withheld. Additionally, a waiver of the applicable elements of consent will be needed. Please complete the "Waiver of Elements of Consent" form (available at the IRB website). If this question is not applicable, please type N/A in the response cell.

N/A

PART F: CONSENT PROCESS

A copy of any translated informed consent documents and an English version should be submitted with the application. Provide the name of the individual who translated the consent documents, their qualifications for translating documents, and in particular informed consent documents, below.

If the consent process does not include documented consent, a waiver of documentation of consent must be requested. If any information about the study is intentionally withheld or misleading (i.e., deception is used), a waiver of the elements of consent must be requested. Forms for requesting waivers are available at the IRB website.

16. Describe the consent process for adult participants (those who are age 18 and older).

All subjects will be over 18 years old.

The e-mail sent to participants will explain the purpose of the study and will assure participants that all information will be kept confidential.

Modified informed consent will be used. After modified informed consent is described, students will be instructed to click the "NEXT" button to consent to participate in the study.

17. If your study involves minor children, please explain how parental consent will be obtained prior to enrollment of the minor(s).

N/A

18. Please explain how assent will be obtained from minors (younger than 18 years of age), prior to their enrollment. Also, please explain if the assent process will be documented (*e.g., a simplified version of the consent form, combined with the parental informed consent document).* According to the federal regulations assent "...means a child's

affirmative agreement to participate in research. Mere failure to object should not, absent affirmative agreement, be construed as assent."

N/A

PART G: DATA ANALYSIS

19. Describe how the data will be analyzed (*e.g. statistical methodology, statistical evaluation, statistical measures used to evaluate results*).

Survey results will be automatically recorded as subjects complete the survey. Incomplete data and response set error will be documented and eliminated from the survey data. Student Records through the ISU Registrar's Office will be used to collect demographics and academic information (gender, age, race, HS rank, ISU GPA, entry type(direct from HS or transfer), semester hours of leadership classes taken, and major. E-mail addresses will be used to match student record information from the ISU Registrar's Office. Data will be analyzed using SPSS. Measures of central tendency and variability will be computed for each question. T-tests, and ANOVAs will be computed to identify relationships among pre-collegiate characteristics, extra-curricular experiences and the Social Change Model. Demographic variables will be used to determine non-response error.

PART H: RISKS

The concept of risk goes beyond physical risk and includes risks to participants' dignity and self-respect as well as psychological, emotional, legal, social or financial risk.

20. ☐ Yes ☒ No Is the ***probability*** of the harm or discomfort anticipated in the proposed research greater than that encountered ordinarily in daily life or during the performance of routine physical or psychological examinations or tests?

21. ☐ Yes ☒ No Is the ***magnitude*** of the harm or discomfort greater than that encountered ordinarily in daily life, or during the performance of routine physical or psychological examinations or tests?

22. Describe any risks or discomforts to the participants and how they will be minimized and precautions taken. Do ***not*** respond with N/A. If you believe that there will not be risk or discomfort to participants, you must explain why.

The only possible discomfort to the participants is the time required in completing the survey. An effort has been made to reduce the length of the survey by gathering demographic and academic data from the ISU Registrar's Office.

23. If this study involves vulnerable populations, including minors, pregnant women, prisoners, the cognitively impaired, or those educationally or economically disadvantaged, what additional protections will be provided to minimize risks?

N/A

PART I: COMPENSATION

24. ☒ Yes ☐ No Will participants receive compensation for their participation? If yes, please explain.

Do not make the payment an inducement, only a compensation for expenses and inconvenience. If a person is to receive money or another token of appreciation for their participation, explain when it will be given and any conditions of full or partial payment. (E.g., volunteers will receive $5.00 for each of the five visits in the study or a

total of $25.00 if he/she completes the study. If a participant withdraws from participation, they will receive $5.00 for each of the visits completed.) It is considered undue influence to make completion of the study the basis for compensation.

Subjects who participate in the survey will be entered into a random drawing for twelve $10.00 gift certificates for on-campus food sales (Dairy Science Club ice cream sales, Team Ag Ed pizza sales, Agronomy pizza sales). Qualtrics will be used to randomly select the e-mails of the twelve winners.

PART J: CONFIDENTIALITY

25. Describe below the methods that will be used to ensure the confidentiality of data obtained. (For example, who has access to the data, where the data will be stored, security measures for web-based surveys and computer storage, how long data or specimens will be retained, anticipated date that identifiers will be removed from completed survey instruments and/or audio or visual tapes will be erased, etc.)

Data will be collected using "Qualtrics. The "Qualtrics" privacy statement reads, "We provide the most advanced survey building tools for corporations, research companies, consultants and universities. We do not sell or make available specific information about our clients, their clients, or either of their data, except in cooperation with law enforcement bodies in regards to content violations or violations of applicable laws. We maintain a database of user information which is used only for internal purposes such as technical support, notifying members of changes or enhancements to the service.Qualtrics has SAS 70 Certification and meets the rigorous privacy standards imposed on health care records by the Health Insurance Portability and Accountability Act (HIPAA). All Qualtrics accounts are hidden behind passwords and all data is protected with real-time data replication."
http://www.qualtrics.com/security-statement/

Elizabeth Foreman and Dr. Michael Retallick will have access to the data for analysis.

To ensure confidentiality, participants' responses will be treated as anonymous. All identifying data will be removed before developing the spreadsheet for data analysis.

Data will be stored on a password protected server in the Student Services Office in the College of Agriculture and Life Sciences.

PART K: REGISTRY PROJECTS

26. To be considered a registry: (1) the individuals must have a common condition or demonstrate common responses to questions; (2) the individuals in the registry might be contacted in the future; and (3) the names/data of the individuals in the registry might be used by investigators other than the one maintaining the registry.

☐ Yes ☒ No Does this project establish a registry?

If "yes," please provide the registry name below.

Checklist for Attachments

Listed below are the types of documents that should be submitted for IRB review. Please check and attach the documents that are applicable for your study:

☐ A copy of the informed consent document **OR** ☒ Letter of introduction containing the elements of consent
☐ A copy of the assent form if minors will be enrolled
☒ Letter of approval from cooperating organizations or institutions allowing you to conduct research at their facility
☒ Data-gathering instruments (including surveys)
☐ Recruitment fliers, phone scripts, or any other documents or materials participants will see or hear

The original signed copy of the application form and one set of accompanying materials should be submitted for review. **Federal regulations require that one copy of the grant application or proposal be submitted for comparison with the application for approval.**

FOR IRB USE ONLY:

Action by the Institutional Review Board (IRB):

☑ Project approved. Date: 4/8/2011
☐ Project is exempt. Date: _____
☐ Project not approved. Date: _____
☐ IRB approval is not required. Date: _____
  ☐ Project is not research according to the federal definition.
  ☐ Project does not include human subjects as defined by the federal regulations.

_____ _____ April 8, 2011

IRB Approval Signature Date

SECTION III: ENVIRONMENTAL HEALTH AND SAFETY INFORMATION

☐ Yes ☒ No Does this project involve human cell or tissue cultures (primary OR immortalized), or human blood components, body fluids or tissues?

PART A: HUMAN CELL LINES

☐ Yes ☒ No Does this project involve human cell or tissue cultures (primary OR immortalized cell lines/strains) that have been documented to be free of bloodborne pathogens? If the answer is "yes," please answer question 1 below and attach copies of the documentation.

1) Please list the specific cell lines/strains to be used, their source and description of use.

CELL LINE	SOURCE	DESCRIPTION OF USE

Add New Row

2) Please refer to the ISU "Bloodborne Pathogens Manual," which contains the requirements of the OSHA Bloodborne Pathogens Standard. Please list the specific precautions to be followed for this project below (e.g., retractable needles used for blood draws):

Anyone working with human cell lines/strains that have not been documented to be free of bloodborne pathogens is required to have Bloodborne Pathogen Training annually. Current Bloodborne Pathogen Training dates must be listed in Section I for all Key Personnel. Please contact Environmental Health and Safety (294-5359) if you need to sign up for training and/or to get a copy of the Bloodborne Pathogens Manual
(http://www.ehs.iastate.edu/cms/default.asp?action=article&ID=214)

PART B: HUMAN BLOOD COMPONENTS, BODY FLUIDS OR TISSUES

☐ Yes ☒ No Does this project involve human blood components, body fluids or tissues? If "yes," please answer all of the questions in the "Human Blood Components, Body Fluids or Tissues" section.

1) Please list the specific human substances used, their source, amount and description of use.

SUBSTANCE	SOURCE	AMOUNT	DESCRIPTION OF USE
E.g., Blood	*Normal healthy volunteers*	*2 ml*	*Approximate quantity, assays to be done.*

Add New Row

2) Please refer to the ISU "Bloodborne Pathogens Manual," which contains the requirements of the OSHA Bloodborne Pathogens Standard. Specific sections to be followed for this project are:

Anyone working with human blood components, body fluids or tissues is required to have Bloodborne Pathogen Training annually. Current Bloodborne Pathogen Training dates must be listed in Section I for all Key Personnel. Please contact Environmental Health and Safety (294-5359) if you need to sign up for training and/or to get a copy of the Bloodborne Pathogens Manual (http://www.ehs.iastate.edu/cms/default.asp?action=article&ID=214).

From: Minnick, Judy A [REC]
Sent: Wednesday, January 26, 2011 10:20 AM
To: Foreman, Elizabeth A [AEX S]
Subject: RE: research

To Whom It May Concern:
Under FERPA, "an institution may disclose personally identifiable information without the student's written consent to school officials whom the institution has determined have a legitimate educational interest." At Iowa State, we have determined that a school official can be a person employed by the institution in an administrative, supervisory, academic or research position. As spokesperson for the Registrar's Office, I believe that Elizabeth Foreman's study and plans for using/storing/destroying the student record data meets the FERPA regulations.
Please contact me if you have any questions.

Judy

Judy A. Minnick
Assistant Registrar and
Residency Classification Officer
210 Enrollment Services Center
Ames, IA 50011-2011
jaminni@iastate.edu
515 294-0762
FAX 515 294-1088

IRB ID# _11-056_____

REQUEST FOR WAIVER OF SOME OR ALL ELEMENTS OF CONSENT

Principal Investigator Name:	Elizabeth Foreman
Phone Number:	(515) 294-4548
E-mail Address:	bforeman@iastate.edu
Title of Study:	Identifying relationships among pre-collegiate characteristics, college experiences, and leadership development.

Iowa State University's Institutional Review Board (IRB) may approve a consent procedure which does not include, or which alters, some or all of the elements of informed consent that are required by the regulations. The IRB may also waive the requirement to obtain informed consent altogether. For either waiver, the investigator must request a waiver and provide sufficient project-specific justification that all criteria listed below are met. *The IRB will make the final determination as to whether or not a waiver is appropriate based on the information provided by the investigator. Please note that the IRB can only approve a waiver if the study is not under the authority of the FDA (e.g., dietary supplement studies).*

Type of Waiver Requested (Place an "X" in the appropriate cell)

	Waiver of All Elements of Consent
X	Waiver of Some Elements of Consent
	Specify Elements to be Waived: Modified, informed consent will be used for the on-line data survey. This waiver is for student records to be gathered from the Iowa State University Registrar's Office.

Please describe with details specific to your research how your study satisfies all four of the following conditions. If you are requesting a waiver of some of the elements of consent, be sure to explain how waiving each of the specified elements meets the following conditions in your study. The space will expand as you type.

1. All of the research plans present no more than minimal risk to participants.
Justification: Research does not involve sensitive topics and all identifiers (subject e-mail) linking the subject to their student records will be deleted prior to analysis.
2. Not obtaining consent from participants or not including all elements of consent will not adversely affect the rights and welfare of the subjects.

Justification: Registrar Office memo indicates that the research plans for using/storing/destroying the student record data meets the FERPA regulations. E-mail will be the only personal identifying information and will be deleted once matched with the survey responses.
3. The research could not be practicably carried out without this waiver.
Justification: Research methods suggest that using actual data (such as student records) instead of self-reported data is more accurate and therefore preferred. Asking these questions on the survey would dramatically increase the length of the survey thus increase survey mortality. Research plans also include comparing the demographics for all students in the population with those that respond to the survey to determine non-response error. This would not be possible if demographics for the population were not collected from the Registrar's Office.
4. Subjects will be provided with additional pertinent information after participation (e.g., a debriefing). If this is not appropriate or necessary, please explain why.
Justification: Only aggregate data that combine student records with survey responses will be reported. No additional information or correspondence will be needed and subjects will not be contacted after data completion.

IRB ID# _11-056_____

REQUEST FOR WAIVER OF DOCUMENTATION OF CONSENT

Principal Investigator Name:	Elizabeth Foreman
Phone Number:	(515) 294-4548
Email Address:	bforeman@iastate.edu
Title of Study:	Identifying the relationships among pre-collegiate characteristics, college experiences, and leadership development

Iowa State University's Institutional Review Board (IRB) may waive the requirement for obtaining a signed informed consent document from each research participant if the investigator can provide specific reasons that the research meets regulatory criteria. *The IRB will make the final determination as to whether or not a waiver is appropriate based on the information provided by the investigator.*

Please note: A waiver of documentation of consent only means you do not need to have participants sign a document prior to their participation. Participants must still be given an opportunity to give consent to participate in the research and must be provided sufficient information upon which they can base their decision. A waiver of documentation is not a waiver of the consent process.

Please describe with details specific to your research how your research study satisfies the criteria listed in either #1 or #2 (a) and (b) below. The space will expand as you type.

1. The only record linking the subject and the research would be the consent document, and the principal risk would be potential harm resulting from a breach of confidentiality.
Justification:
2. (a) The research presents no more than minimal risk of harm to subjects.
Justification: Web-based data collection instrument with minimal risk to participants will be used. All elements of consent are addressed in the e-mail to participants.
(b) And, involves no procedures for which written consent is normally required outside of the research context.
Justification: Consent is explained in each of the e-mail contacts to participants. In order to participate, subjects are required to click on the URL which takes them to an introductory page of the survey instrument. The conditions of consent are reviewed and subjects click the "Next" button giving consent to participate.

E-mail #1

I am conducting a research study to learn more about the extra-curricular and leadership experiences of students in the College of Agriculture and Life Sciences. As a senior, you have had many opportunities to participate in a wide variety of experiences. The study consists of an on-line survey that will ask questions about your high school experiences, college experiences, and attitudes about leadership. Please take 15 minutes to share your experiences, using the survey link below. Selecting the survey link indicates that you voluntarily agree to participate in this study, that the study has been explained to you, that you have been given the time to read the document, and that your questions have been satisfactorily answered.

Take the Survey

Or copy and paste the URL below into your internet browser:
http://iastate.qualtrics.com/WRQualtricsSurveyEngine/?Q_SS=bqFvdenAKlFSgwk_e8NLPbFs9Xm30ry&_=1

All participants will be entered in a random drawing for twelve $10.00 gift certificates for college organization food sales. There are no foreseeable risks at this time from participating in this study.

If you decide to participate in this study there will be no direct benefit to you. It is hoped that the information gained in this study will improve the extra-curricular experiences of students in the future. Your participation is completely voluntary and you may refuse to participate or leave the study at any time. If you decide to not participate in the study or leave the study early, it will not result in any penalty or loss of benefits to which you are otherwise entitled. You can skip any questions that you do not wish to answer.

Data from your student records will be gathered and combined with your survey data for analysis. However, all identifiers linking you to your responses or student records will be deleted prior to analysis.

In this study, we are interested in group data, such as averages, and not individual data so your confidentiality will be ensured. Therefore, records identifying participants will be kept confidential to the extent permitted by applicable laws and regulations and will not be made publicly available. However, federal government regulatory agencies auditing departments of Iowa State University and the Institutional Review Board (a committee that reviews and approves human subject research studies) may inspect and/or copy your records for quality assurance and data analysis. These records may contain private information. To ensure confidentiality to the extent permitted by law, the following measures will be taken: After responses have been collected, all identifiers linking you to your responses will be removed and only the summary data of all responses will be reported, data will be stored on a password

protected computer, and only available to the researchers listed below. If the results are published, your identity will remain confidential.

If you have any questions regarding this study, please feel free to contact Beth Foreman at bforeman@iastate.edu. If you have any questions about the rights of research subjects or research-related injury, please contact IRB Administrator (515) 294-4566 at IRB@iastate.edu, or Director (515) 294-3115, Office for Responsible Research, Iowa State University, Ames, IA 50011.

Thank you for providing us information about your experiences.

Sincerely,

Beth Foreman

Beth Foreman
Graduate Student
bforeman@iastate.edu

Michael S. Retallick

Michael S. Retallick, Ph.D.
Assistant Professor
msr@iastate.edu

Please note: If you do not wish to receive further e-mails from us, please click the link below and you will be removed from our mailing list.
http://iastate.qualtrics.com/CP/Register.php?OptOut=true&RID=MLRP_e35nAXBYou6pJdy&LID=UR_d4kgBHEQiWmS7jK&_=1

E-mail #2

I contacted you a few days ago about participating in a research study concerning the extra-curricular and leadership experiences of students in the College of Agriculture and Life Sciences. I have not heard from you. As a senior, you have had many opportunities to participate in a wide variety of experiences. Please take 15 minutes to share your experiences, using the survey link below. Selecting the survey link indicates that you voluntarily agree to participate in this study, that the study has been explained to you, that you have been given the time to read the document, and that your questions have been satisfactorily answered.

Take the Survey

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Data from your student records will be gathered and combined with your survey data for analysis. However, all identifiers linking you to your responses or student records will be deleted prior to analysis.

In this study, we are interested in group data, such as averages, and not individual data so your confidentiality will be ensured. Therefore, records identifying participants will be kept confidential to the extent permitted by applicable laws and regulations and will not be made publicly available. However, federal government regulatory agencies auditing departments of Iowa State University and the Institutional Review Board (a committee that reviews and approves human subject research studies) may inspect and/or copy your records for quality assurance and data analysis. These records may contain private information. To ensure confidentiality to the extent permitted by law, the following measures will be taken: After responses have been collected, all identifiers linking you to your responses will be removed and only the summary data of all responses will be reported, data will be stored on a password

protected computer, and only available to the researchers listed below. If the results are published, your identity will remain confidential.

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Thank you for providing us information about your experiences.

Sincerely,

Beth Foreman

Beth Foreman
Graduate Student
bforeman@iastate.edu

Michael S. Retallick

Michael S. Retallick, Ph.D.
Assistant Professor
msr@iastate.edu

Please note: If you do not wish to receive further e-mails from us, please click the link below and you will be removed from our mailing list.
http://iastate.qualtrics.com/CP/Register.php?OptOut=true&RID=MLRP_e35nAXBYou6pJdy&LID=UR_d4kgBHEQiWmS7jK&_=1

E-mail #3

I contacted you a few days ago about participating in a research study concerning the extra-curricular and leadership experiences of students in the College of Agriculture and Life Sciences. I have not heard from you. As a senior, you have had many opportunities to participate in a wide variety of experiences. Please take 15 minutes to share your experiences, using the survey link below. Selecting the survey link indicates that you voluntarily agree to participate in this study, that the study has been explained to you, that you have been given the time to read the document, and that your questions have been satisfactorily answered.

Take the Survey

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All participants will be entered in a random drawing for twelve $10.00 gift certificates for college organization food sales. There are no foreseeable risks at this time from participating in this study.

If you decide to participate in this study there will be no direct benefit to you. It is hoped that the information gained in this study will improve the extra-curricular experiences of students in the future. Your participation is completely voluntary and you may refuse to participate or leave the study at any time. If you decide to not participate in the study or leave the study early, it will not result in any penalty or loss of benefits to which you are otherwise entitled. You can skip any questions that you do not wish to answer.

Data from your student records will be gathered and combined with your survey data for analysis. However, all identifiers linking you to your responses or student records will be deleted prior to analysis.

In this study, we are interested in group data, such as averages, and not individual data so your confidentiality will be ensured. Therefore, records identifying participants will be kept confidential to the extent permitted by applicable laws and regulations and will not be made publicly available. However, federal government regulatory agencies auditing departments of Iowa State University and the Institutional Review Board (a committee that reviews and approves human subject research studies) may inspect and/or copy your records for quality assurance and data analysis. These records may contain private information. To ensure confidentiality to the extent permitted by law, the following measures will be taken: After responses have been collected, all identifiers linking you to your responses will be removed and only the summary data of all responses will be reported, data will be stored on a password

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Thank you for providing us information about your experiences.

Sincerely,

Beth Foreman

Beth Foreman
Graduate Student
bforeman@iastate.edu

Michael S. Retallick

Michael S. Retallick, Ph.D.
Assistant Professor
msr@iastate.edu

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E-mail #4

I contacted you several times in the last two weeks about participating in a research study concerning the extra-curricular and leadership experiences of students in the College of Agriculture and Life Sciences. I have not heard from you. As a senior, you have had many opportunities to participate in a wide variety of experiences. Please take 15 minutes to share your experiences, using the survey link below. Selecting the survey link indicates that you voluntarily agree to participate in this study, that the study has been explained to you, that you have been given the time to read the document, and that your questions have been satisfactorily answered.

Take the Survey

Or copy and paste the URL below into your internet browser:
http://iastate.qualtrics.com/WRQualtricsSurveyEngine/?Q_SS=bqFvdenAKlFSgwk_e8NLPbFs9Xm30ry&_=1

All participants will be entered in a random drawing for twelve $10.00 gift certificates for college organization food sales. There are no foreseeable risks at this time from participating in this study.

If you decide to participate in this study there will be no direct benefit to you. It is hoped that the information gained in this study will improve the extra-curricular experiences of students in the future. Your participation is completely voluntary and you may refuse to participate or leave the study at any time. If you decide to not participate in the study or leave the study early, it will not result in any penalty or loss of benefits to which you are otherwise entitled. You can skip any questions that you do not wish to answer.

Data from your student records will be gathered and combined with your survey data for analysis. However, all identifiers linking you to your responses or student records will be deleted prior to analysis.

In this study, we are interested in group data, such as averages, and not individual data so your confidentiality will be ensured. Therefore, records identifying participants will be kept confidential to the extent permitted by applicable laws and regulations and will not be made publicly available. However, federal government regulatory agencies auditing departments of Iowa State University and the Institutional Review Board (a committee that reviews and approves human subject research studies) may inspect and/or copy your records for quality assurance and data analysis. These records may contain private information. To ensure confidentiality to the extent permitted by law, the following measures will be taken: After responses have been collected, all identifiers linking you to your responses will be removed and only the summary data of all responses will be reported, data will be stored on a password

protected computer, and only available to the researchers listed below. If the results are published, your identity will remain confidential.

If you have any questions regarding this study, please feel free to contact Beth Foreman at bforeman@iastate.edu. If you have any questions about the rights of research subjects or research-related injury, please contact IRB Administrator (515) 294-4566 at IRB@iastate.edu, or Director (515) 294-3115, Office for Responsible Research, Iowa State University, Ames, IA 50011.

Thank you for providing us information about your experiences.

Sincerely,

Beth Foreman

Beth Foreman
Graduate Student
bforeman@iastate.edu

Michael S. Retallick

Michael S. Retallick, Ph.D.
Assistant Professor
msr@iastate.edu

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E-mail #5

I contacted you several times in the last two weeks about participating in a research study concerning the extra-curricular and leadership experiences of students in the College of Agriculture and Life Sciences. I have not heard from you. As a senior, you have had many opportunities to participate in a wide variety of experiences. This will be the last time you are contacted to complete this survey, so please take 15 minutes to share your experiences, using the survey link below. Selecting the survey link indicates that you voluntarily agree to participate in this study, that the study has been explained to you, that you have been given the time to read the document, and that your questions have been satisfactorily answered.

Take the Survey

Or copy and paste the URL below into your internet browser:
http://iastate.qualtrics.com/WRQualtricsSurveyEngine/?Q_SS=bqFvdenAKlFSgwk_e8NLPbFs9Xm30ry&_=1

All participants will be entered in a random drawing for twelve $10.00 gift certificates for college organization food sales. There are no foreseeable risks at this time from participating in this study.

If you decide to participate in this study there will be no direct benefit to you. It is hoped that the information gained in this study will improve the extra-curricular experiences of students in the future. Your participation is completely voluntary and you may refuse to participate or leave the study at any time. If you decide to not participate in the study or leave the study early, it will not result in any penalty or loss of benefits to which you are otherwise entitled. You can skip any questions that you do not wish to answer.

Data from your student records will be gathered and combined with your survey data for analysis. However, all identifiers linking you to your responses or student records will be deleted prior to analysis.

In this study, we are interested in group data, such as averages, and not individual data so your confidentiality will be ensured. Therefore, records identifying participants will be kept confidential to the extent permitted by applicable laws and regulations and will not be made publicly available. However, federal government regulatory agencies auditing departments of Iowa State University and the Institutional Review Board (a committee that reviews and approves human subject research studies) may inspect and/or copy your records for quality assurance and data analysis. These records may contain private information. To ensure confidentiality to the extent permitted by law, the following measures will be taken: After responses have been collected, all identifiers linking you to your responses will be removed and only the summary data of all responses will be reported, data will be stored on a password

protected computer, and only available to the researchers listed below. If the results are published, your identity will remain confidential.

If you have any questions regarding this study, please feel free to contact Beth Foreman at bforeman@iastate.edu. If you have any questions about the rights of research subjects or research-related injury, please contact IRB Administrator (515) 294-4566 at IRB@iastate.edu, or Director (515) 294-3115, Office for Responsible Research, Iowa State University, Ames, IA 50011.

Thank you for providing us information about your experiences.

Sincerely,

Beth Foreman

Michael S. Retallick

Beth Foreman
Graduate Student
bforeman@iastate.edu

Michael S. Retallick, Ph.D.
Assistant Professor
msr@iastate.edu

Please note: If you do not wish to receive further e-mails from us, please click the link below and you will be removed from our mailing list.
http://iastate.qualtrics.com/CP/Register.php?OptOut=true&RID=MLRP_e35nAXBYou6pJdy&LID=UR_d4kgBHEQiWmS7jK&_=1

Thank you for participating in this research study about extra-curricular and leadership experiences. Participation in this study is voluntary and you may withdraw from this study at any time and skip any questions that you don't feel comfortable answering. Please select the "NEXT" button to consent to participate in the survey.

>> NEXT

If you have any questions regarding this study, please feel free to contact Beth Foreman at bforeman@iastate.edu. If you have any questions about the rights of research subjects or research-related injury, please contact IRB Administrator (515) 294-4566 at IRB@iastate.edu, or Director (515) 294-3115, Office for Responsible Research, Iowa State University, Ames, IA 50011.

College Experiences

This section focuses on leadership involvement during your college experience. Please answer these questions based on your **actual experiences**.

<< BACK >> NEXT

Please indicate whether or not you have participated in the following experiences while in college, **including experiences at previous colleges.**

	Yes	No
Were you involved in a **learning community** (i.e., class-based or residential?	○	○
Have you completed any **off-campus internships** (including summer, 6 months, 9 months, or other)?	○	○
Have you been involved in the **Greek system?**	○	○
Have you participated in any **extra-curricular clubs/organizations?** (CALS organizations, university organizations, social or recreational clubs/organizations, GSB, religious, or community-based organizations, etc.)?	○	○
Have you participated on any **competitive teams** (i.e., judging, NAMA, etc.)?	○	○
Have you participated in any **leadership training other than classwork** (i.e., Iowa State Leadership Experience (ISLE), National Agronomy Conference, Ambassador Retreat, AFA Conference, etc.)?	○	○

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If you have any questions regarding this study, please feel free to contact Beth Foreman at bforeman@iastate.edu. If you have any questions about the rights of research subjects o research-related injury, please contact IRB Administrator (515) 294-4566 at IRB@iastate.edu, or Director (515) 294-3115, Office for Responsible Research, Iowa State University, Ames, IA 50011.

Please list up to three **internships** that you have participated in **since starting college**, including those at a previous college.

	Company	Length of time - choose the one that best describes your experience.	Did you receive academic credit?
	type text here		
Internship 1			
Internship 2			
Internship 3			

<< BACK >> NEXT

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Please select the **clubs/organizations** that you participated in while in college, including those at previous colleges. If the organization at your previous college is not listed, please select the **most similar** or select the **other club/organization** option.

- ☐ CALS Ambassadors
- ☐ CALS Student Council
- ☐ ACT Club
- ☐ Agricultural Business Club
- ☐ Agriculture Education Club
- ☐ Agronomy Club
- ☐ Alpha Zeta
- ☐ ASABE Club
- ☐ AST Club
- ☐ Beginning Farmer's Network
- ☐ Block and Bridle
- ☐ BSC
- ☐ Collegiate 4-H
- ☐ Collegiate Beef Team
- ☐ Collegiate FFA
- ☐ Culinary Science Club
- ☐ Dairy Science Club
- ☐ Farm Operations Club
- ☐ Food Science Club
- ☐ Forestry Club
- ☐ Fisheries Wildlife Biology Club
- ☐ Horticulture Club
- ☐ International Agriculture Club
- ☐ MANRRS
- ☐ Microbiology Club
- ☐ NAMA
- ☐ Pre-Vet Club
- ☐ PSA Club
- ☐ Rodeo Club
- ☐ Sigma Alpha
- ☐ SWCC
- ☐ Turf Club
- ☐ WiSE
- ☐ Livestock Judging Team
- ☐ Meat Judging Team
- ☐ Meat Animal Evaluation Team
- ☐ Dairy Evaluation Team
- ☐ Soils Judging Team
- ☐ Crops Judging Team
- ☐ Other Judging or Competitive Team _____
- ☐ Government of the Student Body (GSB)
- ☐ Intramural Sports
- ☐ Honor's Program
- ☐ University-Related organizations (i.e., VEISHEA, Homecoming, Family Weekend, etc.)
- ☐ Social or Recreational Clubs/Organizations
- ☐ Faith/Religious-Based Organizations
- ☐ Community-Based Organizations (i.e., Habitat for Humanity, Red Cross, etc.
- ☐ Greek System

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Using the organizations you identified in the previous questions, please **rank order** the clubs/organizations you have participated in while in college by **clicking** on the organizations and **dragging and dropping** them, based on which you feel were the most important in your **leadership development,** "1" being most important.

CALS Ambassadors

CALS Student Council

ACT Club

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If you have any questions regarding this study, please feel free to contact Beth Foreman at bforeman@iastate.edu. If you have any questions about the rights of research subjects or research-related injury, please contact IRB Administrator (515) 294-4566 at IRB@iastate.edu, or Director (515) 294-3115, Office for Responsible Research, Iowa State University, Ames, IA 50011.

For these organizations, please indicate the number of **years you were active** in the organization and your **highest level of participation.**

	Number of years you were active in organization	Highest level of your participation in the organization
CALS Ambassadors		
CALS Student Council		
ACT Club		

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If you have any questions regarding this study, please feel free to contact Beth Foreman at bforeman@iastate.edu. If you have any questions about the rights of research subjects o research-related injury, please contact IRB Administrator (515) 294-4566 at IRB@iastate.edu, or Director (515) 294-3115, Office for Responsible Research, Iowa State University, Ames, IA 50011.

Please list **up to three leadership training activities** (i.e., Iowa State Leadership Experience (ISLE), National Agronomy Conference, Ambassador Retreat, AFA Conference, etc.) that were most important to your leadership development that you participated in while attending college. From the drop down menu, identify the kind of training the best describes the training.

	Leadership Training Activity (Enter text here)	Type of Training
Activity #1		
Activity #2		
Activity #3		

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Leadership

The following 4 pages relate to leadership development. Please indicate the **extent to which you agree or disagree** with the following items by choosing the response that most closely represents your opinion about that statement.

<< BACK >> NEXT

Please indicate the **degree to which you agree or disagree** with the following items by choosing the response that most closely represents your opinion about that statement.

For the statements that refer to a group, think of the **most effective, functional group** of which you have been a part. This might be a formal organization or an informal study group. For consistency, use the same group in all your responses.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I am open to others' ideas.	○	○	○	○	○
Creativity can come from conflict.	○	○	○	○	○
I value differences in others.	○	○	○	○	○
I am able to articulate my priorities.	○	○	○	○	○
Hearing differences in opinions enriches my thinking.	○	○	○	○	○
I have low self-esteem.	○	○	○	○	○

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I struggle when group members have ideas that are different than mine.	○	○	○	○	○
Transition makes me uncomfortable.	○	○	○	○	○
I am usually self-confident.	○	○	○	○	○
I am seen as someone who works well with others.	○	○	○	○	○
Greater harmony can come out of disagreement.	○	○	○	○	○
I am comfortable initiating new ways of looking at things.	○	○	○	○	○

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
My behaviors are congruent with my beliefs.	○	○	○	○	○
I am committed to a collective purpose in those groups to which I belong.	○	○	○	○	○
It is important to develop a common direction in a group in order to get anything done.	○	○	○	○	○
I respect opinions other than my own.	○	○	○	○	○
Change brings new life to an organization.	○	○	○	○	○

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

<< BACK >> NEXT

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Please indicate the **degree to which you agree or disagree** with the following items by choosing the response that most closely represents your opinion about that statement.

For the statements that refer to a group, think of the **most effective, functional group** of which you have been a part. This might be a formal organization or an informal study group. For consistency, use the same group in all your responses.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
The things about which I feel passionate have priority in my life.	○	○	○	○	○
I contribute to the goals of the group.	○	○	○	○	○
There is energy in doing something a new way.	○	○	○	○	○
I am uncomfortable when someone disagrees with me.	○	○	○	○	○
I know myself pretty well.	○	○	○	○	○
I am willing to devote time and energy to things that are important to me.	○	○	○	○	○

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I stick with others through the difficult times.	○	○	○	○	○
When there is a conflict between two people, one will win and the other will lose.	○	○	○	○	○
Change makes me uncomfortable.	○	○	○	○	○
It is important to me to act on my beliefs.	○	○	○	○	○
I am focused on my responsibilities.	○	○	○	○	○
I can make a difference when I work with others on tasks.	○	○	○	○	○

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I actively listen to what others have to say.	○	○	○	○	○
I think it important to know other people's priorities.	○	○	○	○	○
My actions are consistent with my values.	○	○	○	○	○
I believe I have responsibilities to my community.	○	○	○	○	○
I could describe my personality.	○	○	○	○	○

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

<< BACK >> NEXT

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Please indicate the **degree to which you agree or disagree** with the following items by choosing the response that most closely represents your opinion about that statement.

For the statements that refer to a group, think of the **most effective, functional group** of which you have been a part. This might be a formal organization or an informal study group. For consistency, use the same group in all your responses.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I have helped to shape the mission of the group.	○	○	○	○	○
New ways of doing things frustrate me.	○	○	○	○	○
Common values drive an organization.	○	○	○	○	○
I give time to making a difference for someone else.	○	○	○	○	○
I work well in changing environments.	○	○	○	○	○
I work with others to make my communities better places.	○	○	○	○	○
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I can describe how I am similar to other people.	○	○	○	○	○
I enjoy working with others toward common goals.	○	○	○	○	○
I am open to new ideas.	○	○	○	○	○
I have the power to make a difference in my community.	○	○	○	○	○
I look for new ways to do something.	○	○	○	○	○
I am willing to act for the rights of others.	○	○	○	○	○
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I participate in activities that contribute to the common good.	○	○	○	○	○
Others would describe me as a cooperative group member.	○	○	○	○	○
I am comfortable with conflict.	○	○	○	○	○
I can identify the differences between positive and negative change.	○	○	○	○	○
I can be counted on to do my part.	○	○	○	○	○
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

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Please indicate the **degree to which you agree or disagree** with the following items by choosing the response that most closely represents your opinion about that statement.

For the statements that refer to a group, think of the **most effective, functional group** of which you have been a part. This might be a formal organization or an informal study group. For consistency, use the same group in all your responses.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Being seen as a person of integrity is important to me.	○	○	○	○	○
I follow through on my promises.	○	○	○	○	○
I hold myself accountable for responsibilities I agree to.	○	○	○	○	○
I believe I have a civic responsibility to the greater public.	○	○	○	○	○
Self-reflection is difficult for me.	○	○	○	○	○
Collaboration produces better results.	○	○	○	○	○
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I know the purpose of the groups to which I belong.	○	○	○	○	○
I am comfortable expressing myself.	○	○	○	○	○
My contributions are recognized by others in the groups I belong to.	○	○	○	○	○
I work well when I know the collective values of a group.	○	○	○	○	○
I share my ideas with others.	○	○	○	○	○
My behaviors reflect my beliefs.	○	○	○	○	○
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I am genuine.	○	○	○	○	○
I am able to trust the people with whom I work.	○	○	○	○	○
I value opportunities that allow me to contribute to my community.	○	○	○	○	○
I support what the group is trying to accomplish.	○	○	○	○	○
It is easy for me to be truthful.	○	○	○	○	○
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

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High School Experiences

This is the last section with seven questions. It focuses on **extra-curricular** and **leadership** experiences prior to attending college.

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Please indicate whether or not you participated in the following activities/events while in high school.

	Yes	No
Did you participate in **extra-curricular activities** (including school and community activities)?	○	○
Did you participate in any **leadership training** (i.e., 4-H officer training, student council training, chapter FFA officer retreat, etc.)?	○	○

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Please select the **organizations** that you participated in prior to attending college.

- [ ] Student Government/Council
- [ ] Athletics
- [ ] Music
- [ ] Drama/Speech
- [ ] Newspaper/Yearbook
- [ ] FFA
- [ ] FCCLA
- [ ] FBLA/BPA
- [ ] DECA
- [ ] National Honor Society
- [ ] Academic Bowl
- [ ] Other School Organization
- [ ] Faith/Religious-Based
- [ ] Boy's State/Girl's State
- [ ] 4-H
- [ ] Scouts
- [ ] Other Community Organization

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Using the activities that you identified in the last question, please **click, drag and drop** the organizations to **rank** them based on how important they were to your **leadership development,** "1" being the most important.

Music

4-H

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For these organizations, please list the **number of years** you were active in the organization as well as your **level of participation.**

	Number of years	Level of participation
Music		
4-H		

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In addition to the organizations you listed above, how many other organizations were you actively involved in prior to attending college?

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Please list **up to three leadership training activities** (i.e., 4-H officer training, student council training, chapter FFA officer retreat, etc.) that were most important to your leadership development that you participated in prior to attending college. From the drop down menu, identify the type of training the best describes the training.

	Leadership Training Activity (Enter text here)	Type of Training
Activity #1		
Activity #2		
Activity #3		

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Looking back, how would you rate your leadership skills (compared to your peers) when you entered college?

- well above average
- above average
- average
- below average
- well below average

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We thank you for your time spent taking this survey.
Your response has been recorded.

If you have any questions regarding this study, please feel free to contact Beth Foreman at bforeman@iastate.edu. If you have any questions about the rights of research subjects o research-related injury, please contact IRB Administrator (515) 294-4566 at IRB@iastate.edu, or Director (515) 294-3115, Office for Responsible Research, Iowa State University, Ames, IA 50011.

Appendix C. Socially Responsible Leadership Scale permission

From: Sara O'Brien [sobrien@surveysciences.com] On Behalf Of SRLS [SRLS@surveysciences.com]

Sent: Monday, December 13, 2010 12:55 PM
To: Foreman, Elizabeth A [AEX S]
Subject: RE: research license

Beth-

I just received your completed license agreement, thank you! I've attached the SRLS materials that you have requested. Please let me know if you have any questions.

Best,

Sara

From: Foreman, Elizabeth A [AEX S] [mailto:bforeman@iastate.edu]
Sent: Thursday, December 02, 2010 9:34 AM
To: SRLS
Subject: RE: research license

Sara,

Thank you for the information. I had not received this previously.

Thanks,

Beth

From: Sara O'Brien [mailto:sobrien@surveysciences.com] **On Behalf Of** SRLS
Sent: Thursday, December 02, 2010 8:20 AM
To: Foreman, Elizabeth A [AEX S]
Subject: RE: research license

Greetings Beth-

I just came across your message and I wanted to be sure you had the details you needed for the SRLS. There is a student version available that can be used free if charge if you are able to complete and return the attached form.

Best,

Sara O'Brien

From: Foreman, Elizabeth A [AEX S] [mailto:bforeman@iastate.edu]
Sent: Friday, October 29, 2010 8:24 PM
To: info@srlsonline.org
Subject: research license

I am intersted in using the SRLS for my dissertation research and would like to talk to someone about the expected cost and procedure.

Please call me at 515-294-4548 or e-mail bforeman@iastate.edu

Thanks,

Beth Foreman

Appendix D. Comparison of SRLS-R2 values

Comparison of SRLS-R2 Values

Social Change Model of Leadership Development

	Multi-Institutional Study of Leadership		Iowa State University (CALS)	
	Mean	**SD**	**Mean**	**SD**
Consciousness of Self	3.96	.51	4.07	.42
Congruence	4.18	.46	4.21	.48
Commitment	4.24	.47	4.39	.48
Collaboration	3.98	.45	4.10	.43
Common Purpose	4.04	.42	4.12	.43
Controversy with Civility	3.84	.42	3.96	.39
Citizenship	3.84	.46	4.10	.49
Change	3.75	.47	3.94	.43
Omnibus SRLS	3.96	.38	3.51	.32