ABSTRACT

Title of Document: TOWARDS AN EMPIRICAL TYPOLOGY OF COLLEGIATE LEADERSHIP DEVELOPMENT PROGRAMS: EXAMINING EFFECTS ON STUDENT SELF-EFFICACY AND LEADERSHIP FOR SOCIAL CHANGE

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The purpose of this study was to determine whether a meaningful empirical typology of institutions with co-curricular leadership development programs could be developed based on structural elements and programmatic characteristics, and then examine any effects of different classifications of leadership programs on perceived student leadership outcomes of self-efficacy and social change. Findings from a two-step cluster analysis and an integrative content analysis indicate an emergent typology of leadership programs based on variables related to theoretical intentionality, resource level, and productivity. Results from two hierarchical linear models reveal numerous level-one effects on perceived student leadership outcomes related to social change and

self-efficacy for leadership, including pre-college positional leadership and group experiences, gender, and race. Two-level hierarchical linear models also showed limited second level interaction effects, primarily related to institutional control and Carnegie classification. Typologic clusters had few meaningful differential effects on student outcomes.

Results suggest the importance of pre-college experiences to collegiate student leadership development, reveal gender differences related to efficacy for leadership and actual leadership performance, and detail significant interaction effects among institutional control, race, and leadership outcomes. Results have implications for higher education research in that the use of hierarchical linear modeling revealed significant effects of institutional type and control on student leadership outcomes that were not apparent in existing literature (Pascarella & Terenzini, 2005). Cluster analysis results provide validation of extant leadership program evaluation variables (Kellogg, 1999; CAS, 2006). Implications for professional practice include the need to attend to the heterogeneity of collegiate leadership development programs in access to resources, theoretical approach, and stage of development. The on-going development of a data-driven typology will assist with leadership program planning, advocacy, and evaluation needs.

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CHAPTER I
INTRODUCTION

Context for the Study

Students graduating from institutions of higher education today face a turbulent world characterized by complex social problems in need of multifaceted, creative solutions (Astin & Astin, 2000; Kezar, Carducci, & Contreras-McGavin, 2005). The shift from an industrial to a knowledge-based society, rapidly changing technology, and increasing globalism challenge leaders of the future to draw from a wide variety of knowledge, skills, and experiences to take an adaptive approach to leadership (Allen & Cherrey, 2000; Heifetz, 1994; Wheatley, 1999).

Since the mid 1600s, colleges and universities have had the stated goal of preparing students for positions of leadership in society (Caruso, 1981; Lucas, 1994), yet it was not until the mid 1970s that college educators started recognizing the need to focus on student leadership development as an explicit outcome of the college experience (Roberts, 1997). Worried about student graduates who seem increasingly disengaged from social processes and leadership that seems dominated by narrow careerism and private self-interest, many colleges sought ways to ameliorate this "crisis of leadership" (Ehrlich, 2000; Eisenhower, 1996).

Based on the fundamental belief that leadership can be learned and refined through education, training, and development, colleges and universities began designating resources to the development of formal leadership programs (Astin, 1993; Roberts & Ullom, 1989). By 1986, the Leadership Task Force of the American College Student Personnel Association (ACPA) had identified 182 college leadership programs in

41 states (ACPA, 1986). By the late 1990s that number had grown to almost 700 curricular and co-curricular programs according to the *Chronicle of Higher Education* (Reisberg, 1998). Recent research indicates that the trend is not slowing in that over 800 leadership development programs exist on U.S. college campuses (Cress, Astin, Zimmerman-Oster, & Burkhardt, 2001; Schwartz, Axtman, & Freeman, 1998).

The growing popularity of programs aimed at developing college student leadership abilities gives rise to numerous questions. What is really known about the impact of such programs on student learning and development? What elements of the design and delivery of leadership programs make the most difference to student leadership learning? What institutional factors shape student leadership experiences? Although several attempts have been made to study the effects of college leadership development programs (Chambers, 1992, 1994; Cress et al, 2001; Eich, 2007; Kellogg, 1999; Reinelt & Russon, 2003; Zimmerman-Oster & Burkhardt, 1999a,b), most literature provides proscriptions as to what elements "quality" programs should include without strong empirical foundation (Boatman, 1997, 1999, 2000; Callahan & Mabey, 1985; Council for the Advancement of Standards in Higher Education [CAS] 1996, 2003; Freeman, Gregory, & Clark, 1986; Janosik & Sina, 1988; Komives, Dugan, Owen, Slack, & Wagner, 2006; Roberts, 1997; Roberts & Ullom, 1989; Seitz & Pepitone, 1996). Reinelt and Russon (2003) agree that "there is a great deal of anecdotal evidence about program impact, but few systemic studies that demonstrate impact across programs" (p. 119). The few studies that do exist are garnered less useful in that they examine effectiveness at a single institution (Shertzer & Schuh, 2004) or small number of institutions (Cress et al. 2001; Eich, 2007), confound college leadership development

programs with business and community programs (Reinelt & Russon, 2003), focus predominantly on student outcomes rather than program design (Dugan, 2006) or, most commonly, prescribe leadership environments and actions without explicitly linking them to student outcomes (Zimmerman-Oster & Burkhardt, 1999a).

Despite the scatter-shot nature of the leadership program evaluation literature, a scan of findings and suggestions reveals several common themes or elements that are suggested to make a difference in student leadership learning (CAS, 2006; Chambers 1992, 94; Cress et al., 2001; Roberts & Ullom, 1989; Zimmerman-Oster & Burkhardt, 1999a). These themes are outlined below.

Program Philosophy/ Theoretical Orientation

It has been argued that a clear theoretical framework, knowledge of the literature, and well-defined values and assumptions make for more effective leadership programs (Dugan & Owen, 2007; Zimmerman-Oster & Burkhardt, 1999a, 1999b). Involving key stakeholders in the development and articulation of theoretical and definitional frames is paramount to establishing buy-in (CAS, 2006; Chambers 1992, 94; Roberts & Ullom, 1989). Further, in a Kellogg Foundation study of 31 youth leadership development projects, Zimmerman-Oster and Burkhardt (1999a, 1999b) suggest that the most successful leadership programs are characterized by the presence of a strong connection between the mission of the institution and the mission of the leadership development program or center; a leadership program that links curricular and co-curricular elements; a program that has an academic home above the departmental level; and that is, ideally, under the auspices of both Academic and Student Affairs.

Common Program Elements

Incorporating strategies of training, education, and development is part of many student leadership program models (CAS, 2006; Haber, 2006; Roberts & Ullom, 1989). Haber (2006) also recommends differentiating programs based on their intended audiences (open, targeted, and/or positional student leaders) and their scope (short, moderate, and long-term programs).

Strategic Planning and Evaluation

Zimmerman-Oster and Burkhardt (1999a, 1999b) suggest that faculty and administrators from across the institution are involved and committed to the student leadership development program. This often occurs through the presence of an advisory body or leadership planning team (Roberts & Ullom, 1989). Most leadership program models include reference to the importance of on-going strategic planning and goal-setting activities, as well as the presence of clear evaluation processes and measurable student learning outcomes (CAS, 2006; Chambers 1992, 94; Cress et al., 2001; Roberts & Ullom, 1989; Zimmerman-Oster & Burkhardt, 1999a).

Access to resources

CAS (2003) Standards for Student Leadership Programs (SLPs) state that programs must have adequate funding to accomplish their mission and goals and, where possible, "institutional funding should be allocated regularly for the operation of leadership programs" (p. 326). In addition to fiscal resources, the CAS SLP standards also offer recommendations for human resources, including suggested staffing qualifications.

Collaboration/Partnerships

Boatman (1997) states that "successful leadership development programs do not belong to a single office or department of a college, but rather are woven throughout the institution in a multidimensional web" (p.54). Partnerships that welcome student involvement, collaborations with other campus departments and divisions, value community members, and adopt local, national, and global perspectives are paramount to meeting the leadership needs of diverse constituents.

Although these themes may be useful as planning tools or to guide the development of new leadership programs or refine existing programs, they must be approached with caution. Factors such as institutional differences and the kind of leadership a campus is trying to develop in students may affect how that campus approaches incorporating the elements enumerated above. There is still a great need for the rigorous exploration of how divergent types of leadership development programs differentially influence particular kinds of student learning outcomes. Perhaps Reinelt and Russon (2003) state it best when they offer "It is a perilous moment in the history of leadership programming; the need for leadership has never been greater; the demands for accountability and results are increasing rapidly; and the resources, tools, and approaches for learning are not yet adequate to document and demonstrate impact" (p.129).

Design of the Study and Research Questions

This study addressed gaps in the college leadership program evaluation literature creating an emergent empirical typology of institutions with leadership development programs based on structural elements and programmatic characteristics. Secondly, it

quantitatively examined the effects of different classifications of leadership programs on perceived student leadership outcomes. Student outcome data, including scores of perceived leadership efficacy and perceptions of leadership for social change, were drawn from the Multi-Institutional Study of Leadership (MSL), a 52 campus study with findings from 50,378 students. Measures of leadership development program elements were taken from the Multi-Institutional Study of Leadership – Institutional Survey (MSL-IS), a survey instrument and document submission process completed by identified subject matter experts at each of the 52 participating MSL campuses.

Two-step cluster analysis was used to explore the creation of a typology of institutions with common elements of leadership development programs as identified by the MSL-IS data. Secondary qualitative measures, including content analysis of institutional documents and websites, were used to aid interpretation of reported institutional and programmatic characteristics. Next, this study used hierarchical linear modeling to examine the relationships between resulting typologic clusters and student outcomes from a companion dataset of 50,378 students drawn from the 52 campuses. Outcomes explored include perceived leadership efficacy and perception of outcomes related to leadership for social change.

Using the leadership program evaluation literature (Boatman, 1997; CAS, 1996, 2002; Chambers 1992, 1994; Eich, 2007; Haber, 2006; Janosik & Sina, 1988; Roberts, 1981; Roberts & Ulom, 1990; W.K. Kellogg Foundation, 1999), the social change model of student leadership development (1996), and Bandura's social learning theory (1977, 1986, 1995, 1997) as theoretical frames, this study addressed the following research questions:

Research Question #1

Can a meaningful, empirical typology of institutions with collegiate leadership development programs be developed based on structural and programmatic characteristics?

Research Question #2

Are there differences in the extent to which divergent classifications of leadership programs influence perceived college student leadership efficacy and leadership learning outcomes?

Definition of Terms

Scholars have long decried the ambiguous nature of the term "leadership" (Bass, 1990; Drath, 2001; Roberts, 2007; Rost, 1993; Stogdill, 1974). Klenke (1993) described the field of leadership studies as "riddled with paradoxes, inconsistencies, and contradictions" and stated "there are few areas of inquiry and practical importance which have produced more divergent, inconsistent, overlapping definitions, theories, and educational models than leadership" (p. 112). Given that, it is imperative that any empirical study in the field of leadership development explicitly define terms such as 'leadership' and 'leadership development'. The following definitions form the basis of this research:

Leadership and leadership development. This study used the social change model of leadership development (Higher Education Research Institute [HERI], 1996) as its orienting philosophy of leadership and leadership development. Designed to explain and foster leadership development in undergraduate college students, the social change model

offers a definition of leadership where leadership is viewed as a process that includes all people – those who hold a leadership position and those who do not. Further, the social change model imparts that the main goal of leadership should be to "facilitate positive social change at the institution or in the community" (p. 19). By emphasizing values such as equity, social justice, self-knowledge, personal empowerment, collaboration, citizenship, and service the model encourages students to understand their own talents and interests so that they can mobilize themselves and others to serve and work collaboratively. At the 2007 National Leadership Symposium, participants were challenged to more explicitly define the concept of leadership for social change. Though consensus on a definition was not reached, most working groups defined leadership for social change as a process that was ethical, dynamic, relational, synergistic, and collaborative (Cilente, 2007). Themes of interconnectedness, reflection, social justice, and responsible action were also inherent in leadership for social change (Cilente).

It should be noted that this definition of leadership is explicitly values-based (HERI, 1996). It incorporates the notion that positive social change is the inherent end-goal of leadership, and that leadership is a process that happens between and among people and does not reside in any one individual regardless of title or position. This model is only one of many possible models of leadership development and care must be taken when applying inferences from this study to leadership development programs with divergent goals and values.

Leadership learning outcomes. According to the social change model, presented in Figure 1 below, there are eight key constructs that are necessary for students to learn in order to practice socially-responsible leadership: consciousness of self, congruence,

collaboration, common purpose, controversy with civility, citizenship, and the overarching goal of change (HERI, 1996). The model defines these eight core values as presented in Figure 1.2 (Wagner, 2006). Consciousness of self refers to being aware of the beliefs, values, attitudes, and emotions that motivate one to take action. Congruence refers to thinking, feeling, and behaving with consistency, genuineness, authenticity, and honesty toward others. Commitment refers to the energy that motivates an individual to serve and that drives the collective effort. Collaboration is to work with others in common effort. Common purpose means to work with shared aims and values. Controversy with civility recognizes that differences in viewpoint are inevitable and that such differences must be aired openly and with civility. Citizenship refers to processes whereby an individual and a collaborative group become responsibly connected to community and society. Change is the ultimate goal of leadership and refers to making the world a better place for self and others. The Socially Responsible Leadership Scale (Tyree, 1998) operationalized these eight values into measures that assess student knowledge, behaviors, and attitudes related to leadership. In this study, "student leadership learning" refers to a composite score developed from students' scores on each of these eight measures.

Figure 1.1 Diagram of the Social Change Model (HERI, 1996)

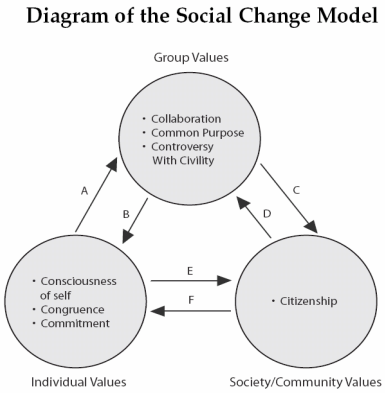


Figure 1.2 Definitions of the Values of the Social Change Model (Wagner, 2006)

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 toward 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 passions.
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 differences in viewpoint 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 at the "hub" of the SCM.*	
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)

Leadership self-efficacy. Based on concepts defined in social cognitive theory, self-efficacy refers to future-oriented judgments about one's capabilities to organize and execute courses of action required to produce given attainments in specific situations or contexts (Bandura, 1997). Thus, leadership self-efficacy refers to an individual's beliefs about one's own ability to perform the processes and tasks of leadership. Perceived self-efficacy is distinct from concepts such as self-concept, self-worth, and self-esteem, in that self-efficacy is specific to a particular task rather than a more holistic valuing of self (Goddard, Hoy, & Woolfolk Hoy, 2004). For example, one can have high estimations of self-esteem but still have low self-efficacy for a particular task, and vice versa. This study examines how diverse types of leadership programs shape student self-efficacy for leadership.

Leadership development program. Building on the definition of a student leadership program articulated in the CAS Standards for Student Leadership Programs (2006), Haber (2006) defines student leadership programs as "any program or activity intentionally designed with the purpose of enhancing the leadership skills, knowledge, or abilities or college students" (p. 29). For the purposes of this study, leadership development programs are any *set* of programs or activities intentionally designed with the purpose of enhancing the leadership skills, knowledge, or abilities or college students. Furthermore, while many quality credit-bearing leadership development programs exist, this study focuses only on co-curricular leadership development programs, or those programs and activities that occur outside of the formal classroom.

Leadership program evaluation. In addition to assessing student leadership development and outcomes, it is also important to conduct systematic and comprehensive

evaluations of campus leadership development programs (Anthony-Gonzalez & Fiutuk, 1981; CAS, 2006; Owen, 2001). Here, leadership program evaluation refers to any attempt to define measurable goals or objectives, gather data about those objectives, and to use and communicate the findings in program design.

Significance of the Study

Zimmerman-Oster (2000) stated that "despite the large number of leadership programs, there is little direction provided in the leadership literature regarding how to document measurable student, institutional, and community outcomes" (p.9). This study goes beyond merely documenting leadership outcomes by examining which types of leadership programs make the most difference to student learning. By connecting structural and programmatic characteristics of leadership programs to student learning outcomes, this study adds needed specificity to the leadership program evaluation literature. Further, it extends existing program evaluation literature beyond qualitative, single institution studies to quantitative, multi-institution studies. This has not been feasible until the recent establishment of a new national normative data set on student leadership outcomes, the Multi-Institutional Study of Leadership (MSL).

This study also addressed inconsistent recommendations from prior leadership program evaluation literature. For example, it is unclear whether human or fiscal resources have the greatest effect on student leadership learning; whether leadership commitments in institutional or programmatic mission statements are more essential to student outcomes; whether theoretical pluralism or single-focused approaches have greater effect; how many and what types of collaborations are most fruitful; what is the appropriate balance among training, education, and development functions of leadership

programs; which has greater effect, curricular or co-curricular leadership programs; and where student leadership programs should ideally be located. Though this study in no way resolved all these unanswered questions, the development of an emergent typology of leadership development programs provided needed insight into the complexities of leadership development that go beyond artificial dichotomies that can "constrain the ability to realize the stated goal of a holistic education of students" (Love & Estanak, 2004, p. 15).

Finally, there was great practical significance to this study. Once one understands the institutional and programmatic factors that shape student leadership experiences on diverse campuses, it allows practitioners to more effectively assess program design and delivery, to advocate for necessary resources, and make increasingly effective decisions.

Summary

Since few studies have demonstrated the effects of leadership program design across programs and institutions, this study takes advantage of a new national normative database on student leadership outcomes to examine the connections among institutional factors, leadership program characteristics, and student outcomes related to leadership for social change and self-efficacy for leadership. Two-step cluster analysis was used to identify institutions with common patterns of programmatic and structural characteristics such as theoretical orientation, program structure and resources, planning and evaluation processes, and collaborative design. Secondary qualitative measures, including content analysis of institutional documents and websites, were conducted to assist with interpretation of institutional and programmatic characteristics and the resulting typology. Next, this study used hierarchical linear modeling to examine the extent to which

institutional characteristics and classifications of leadership development programs influenced student leadership outcomes taken from a companion dataset of 50,378 students drawn from 52 campuses. Results contributed needed empirical analysis to the leadership program evaluation literature, addressed conflicting recommendations about leadership program design, and provided practitioners a tool for program planning, advocacy, and assessment.

CHAPTER II
REVIEW OF THE LITERATURE

Overview

Predicting the extent to which institutional and leadership development program characteristics influence college student leadership efficacy and leadership learning outcomes requires a review of several key bodies of literature. To frame the first research question of whether a meaningful, empirical typology of institutions with collegiate leadership development programs can be developed based on structural and programmatic characteristics, this chapter begins with an overview of prior attempts to classify collegiate leadership development programs. As few formal typologies exist for collegiate leadership programs, an historical review of literature outlining key elements in the design and delivery of student leadership development programs is presented. Because so many leadership programs also include elements of community service and service-learning, and because the field of service-learning has also begun to explore questions of how organizational structures, policies and resources affect student outcomes, service-learning program evaluation literature is also briefly reviewed.

Secondly, to frame the second research question examining the extent to which institutional characteristics and typologic clusters of leadership development programs effect student outcomes, this chapter reviews what is known about the contribution of institutional factors such as size, type, and Carnegie classification, and programmatic factors such as philosophy, context, and resources to the development of student leadership. Finally, to examine more closely the dependent variables of this study, this chapter concludes with an exploration of some of the intended outcomes of student

leadership programs, focusing on outcomes related to leadership for social change (HERI, 1996) and self-efficacy for leadership (Bandura, 1986, 1995, 1997).

Typologies of Leadership Development Programs

Numerous typologies, or theoretically-based classification systems, exist in the field of higher education to help label, organize, plan, and assess differing types of programs, interventions, and experiences (Hair, Anderson, Tatham, & Black, 1998). Common typologies include those that distinguish among types of theories such as learning typologies and style typologies (Holland, 1973; Kolb, 1983; Myers, 1980), those that attempt to identify patterns among groups of students in the form of subcultures, involvement, and interests (Astin, 1993; Clark & Trow, 1966; Kuh, Kinzie, Schuh, Whitt, & Associates, 2005) and those that label organizational structures, program designs, and environments (Gabelnick, MacGregor, Matthews, & Smith, 1990; Inkelas, Soldner, Longerbeam, & Brown Leonard, 2007; Inkelas & Weisman, 2003; Lenning & Ebbers, 1999; Love & Tokuno, 1999; Shapiro & Levine, 1999).

Despite wide interest in collegiate leadership development programs, and a plethora of documents proscribing essential elements of leadership programs, there have been few attempts to classify or label particular types of leadership development programs. The Center for Creative Leadership has noticed that many leadership typologies focus on delineating individual competencies, and are presently working on developing a typology of team and organizational capabilities (2007). The International Leadership Association is currently working on developing guidelines for leadership education programs (Ritch, 2007). This study seeks to look beyond the individual and organizational level and attempts to develop a typology of leadership programs that

crosses institutional boundaries. Despite the haphazard nature of the leadership program evaluation literature, a scan of findings and suggestions reveals several common themes or elements that are suggested to make a difference in student leadership learning (CAS, 2006; Chambers 1992, 94; Cress et al., 2001; Roberts & Ullom, 1989; Zimmerman-Oster & Burkhardt, 1999a). These themes serve as headers in Figure 2.1 below. Figure 2.1 offers a visual summary of some of the prescriptive documents that describe essential elements of leadership programs, and the next section presents a critical examination of each of these.

Figure 2.1 Frameworks for Effective Collegiate Leadership Development Programs

Author/Date/ Source	**Program Philosophy/ Theoretical Orientation**	**Common Program Elements**	**Strategic Planning and Evaluation**	**Access to Resources**	**Collaboration and Partnership**	**Program Audience**
Roberts (1981) Student leadership programs in higher education	Program mission should have connection to institutional mission; uses Burn's definition of 'true leader'.	Programs should offer training, education, and development; classes, seminars, workshops, retreats, and conferences.	Program evaluation cycle (PEC) applied to programs.	Consider physical setting, financial assets, level of staff competence, materials and supplies.	Not mentioned.	Design programs based on participant characteristics, commitment to leadership role, time commitment, group/ org assessment.
Janosik & Sina (1988) Comprehensive planning model for student leadership programs	Not mentioned.	Programs should integrate courses, retreats and workshops, seminars, group consultations, and leadership newsletters.	Recommends assessing: participant satisfaction; skill acquisition; skill application; program impact	Goal to increase efficiency of programs by sharing resources and avoiding duplication.	Select collaborators based on knowledge of leadership; facilitation ability; ability to mobilize resources.	Target specific groups for training.
Roberts & Ullom (1990) Student leadership program model	Program mission should have connection to institutional mission; Suggested program core beliefs and underlying principles are outlined.	Programs should include training, education, and development; Should include academic and experiential elements.	Provides checklist for program planning; specified program content; outcomes assessment & program evaluation.	Recommends accessing both institutional and community resources.	Involve broad range of faculty, student affairs staff, and students.	Address needs of special populations.
Chambers (1992, 1994) College student leadership program criteria	Program should clearly articulated mission and well-defined goals; Program should be theory-based and multi-	Programs should connect theory to practice; focus on: personal skill development, organizational leadership;	Suggests variety of planning techniques: analysis of literature, use of internal and external consultants;	Details program structure, staff, and advisory committee functions.	Involve students as collaborators and peer mentors; students, staff and community involved in planning and	Provide activities for broad cross-section of students, and specific groups of students; participation not restricted on

	disciplinary.	contemporary issues; include community service.	review of best practices; quantitative and qualitative evaluation plans.		assessment.	basis of leadership role, race, sex, religion, disability, culture, etc.
Boatman (1997) Student leadership development: Approaches, methods, and models	Distinguishes different theoretical approaches to leadership development, including: Skills, information, values, community-based; cultural; individual development; emergent paradigm; Program should be multi-disciplinary.	Academic components: classes; strategies across the curriculum. Co-curricular components: workshops, seminars, retreats, mentoring, org. involvement; service-learning; student employment; beyond-campus involvement.	Brief mention of need for careful planning process; advocates use of multiple assessment and evaluation techniques to assess participant learning and program success.	Brief mention of need for financial, material, informational, and human resources.	Recommends use of a leadership planning team from across campus.	Consider audience in advance of program planning – specific audiences not mentioned.
W.K. Kellogg Foundation (1999) Leadership in the making	Suggests strong connection between mission of institution and mission of the leadership program; program should have clear definition of leadership and theoretical framework, well defined values and assumptions.	Program should include multiple delivery modes such as: self-assessment and reflection; skill building; problem solving; intercultural issues; service learning; outdoor activities; mentoring; community involvement; student recognition; capstone experiences.	Process, outcome, and impact objectives should be clearly stated and measurable. Program results should be disseminated to all stakeholders and used to strengthen program, Strategic vision and plan should extend beyond 3-5 years.	States that sustainability is important.	Program should be supported across the institution. Involved faculty and administrators should remain committed throughout the life of the program.	Program should address individual development and also build institutional and community capacity.
CAS Standards for Student Leadership Programs (1996, 2002, 2006)	Programs must incorporate student learning and development in their mission and be consistent with the mission and goals of the institution. Student leadership development should be an integral part of institution's educational mission. Program must be based on a broad philosophy of leadership.	Program consists of curriculum and co-curriculum; should develop competencies in cognitive and experiential domains; must address foundations of leadership, individual development, organizational development. Training, education, and developmental activities should be offered.	Programs must be structured purposefully and managed effectively to achieve stated goals. Programs must conduct regular assessment and evaluations that must be used to improve programs and services and to recognize staff performance. Leadership program self-assessment guides (SAGs) exist to help with evaluative efforts.	Programs must be adequately staffed by qualified individuals and programs must have adequate funding to accomplish its mission and goals. Detailed descriptions of human and financial resources, facilities, technology, and equipment needs.	An advisory group should be established with representatives from areas involved in student leadership development. Student organization advisors should be considered resources to leadership programs.	Programs must be reflective of the developmental and demographic profiles of the student population and responsive to the needs of individuals, special populations, and communities.

Author/Date/ Source	Program Philosophy/ Theoretical Orientation	Common Program Elements	Strategic Planning and Evaluation	Access to Resources	Collaboration and Partnership	Program Audience
Haber (2006) Comprehensive leadership program model	Program mission should complement departmental and institutional mission; program should adopt a definition of leadership consistent with the emergent paradigm; should be theory-based.	Should involve a variety of program strategies including: training, education, and development; educational, experiential, and reflective components; topics ranging from self, group, to community.	Campuses should prepare for change; create a planning team that includes wide range of students, staff, faculty, and senior administrators; design and assess clear student learning outcomes.	Not specifically mentioned.	Involve students, campus and community partners as key stakeholders.	Recommends designing programs that are open to any student; targeted to specific student populations; and are for positional student leaders. Focus on inclusivity to diversity.
Eich (2007) Model of high quality leadership programs	Program content should be theory-based and developmental. Programs should explicitly state and model their mission and values.	Programs should consist of a variety of themes, service sites, group and individual project choices, and memberships which allow for student choice. Programs should incorporate a wide variety of delivery methods to appeal to different student learning styles.	Program development should be continuous, with stakeholders involved in assessment, evaluation, and systemic improvement.	Provides information about staffing qualifications (programs should hire student-centered educators who model exemplary leadership practices). No mention of fiscal resources.	Involve all participants in building and sustaining a leadership learning community including: diverse students and experienced educators.	Programs should use an application and selection procedure to select students who are interested in their own and others' development and will be committed to engaging fully; Programs should recruit from many sources to create a diverse learning community.

Program Evaluation Literature

Developing a meaningful, empirical typology of institutions with collegiate leadership development programs requires a thorough review of past attempts to classify and evaluate collegiate leadership development programs. After a brief review of the larger body of program evaluation literature, an historical critical review of the collegiate leadership development program evaluation literature is presented.

Educational Program Evaluation

Gall, Gall, and Borg (2003) define program evaluation as "the process of making judgments about the merit, value, or worth of educational programs" (p.542). They use the term 'program' as a generic label for any of several phenomena, including methods, materials, organizations, and individuals. Upcraft and Schuh (1996) add that program evaluation is "any effort to use assessment evidence to improve institutional, departmental, divisional, or institutional effectiveness" (p. 19). Other purposes for educational program evaluation include needs assessment, policy analysis, advocacy, program management, and cost-benefit analyses (Gall, Gall, & Borg, 2003). The prevalence of educational program evaluation can be traced to the *Elementary and Secondary Education Act of 1965* or *Title I*, where the U.S. government mandated that all education programs receiving federal funds use a portion of those funds on program evaluation (McLaughlin, 1975). Program evaluation is now so commonplace, there are even standards for educational evaluators (Sanders, 1994; Stufflebeam, 1988, 1991).

There are a myriad of different proscriptions as to what constitutes effective program evaluation (Cronbach, 1982; Guba & Lincoln, 1981, 1989; Herman, 1997; Scriven, 1994; Stufflebeam, 2001; Worthen, Sanders, & Fitzpatrick, 1997). This is because program evaluation has no methods of its own, but instead borrows from other social sciences (Krathwohl, 1998). Cronbach states "evaluative investigation is an art…the design must be chosen afresh in each new undertaking and the choices to be made are almost innumerable" (as cited in Krathwohl, 1998, p. 587). Characteristics that distinguish program evaluation from other processes, such as research, include: it is decision-driven rather than hypothesis driven; the merits of program evaluation are

determined by its utilization or usefulness rather than other criteria such as theoretical advancement; the process may be as important as the product; results should be tailored to stakeholders (Krathwohl). These characteristics of educational program evaluation help explain why efforts at leadership program evaluation may appear atheoretical, utilitarian, or lack parsimony. The next section offers an historical review of attempts to evaluate collegiate leadership development programs.

Leadership Program Evaluation

The explosion of collegiate student leadership development programs since the mid-1980s (ACPA 1986; Cress, Astin, Zimmerman-Oster, & Burkhardt, 2001; Schwartz, Axtman, & Freeman, 1998) has been accompanied by a myriad of attempts to document the effects of such programs. Although some attempts had been made prior to the 1980s to evaluate leadership development efforts in higher education (Bass & Stogdill, 1974; Bray, Campbell, & Grant, 1974), they are less useful because of their focus on the processes of management rather than leadership, and because they mainly examined the effects of leadership on student future earnings potential and career aspirations, rather than on student learning and personal development. Most early attempts at measuring student leadership development suffered from applying corporate and executive leadership program evaluation to collegial student environments (Bray, Campbell, & Grant, 1974) or narrowly examined the effects of a single seminar, workshop, or retreat (Ender & Duvall, 1978; Kelly & Caruso, 1981).

Anthony-Gonzales and Fiutak (1981) offer several reasons why "the potential for doing a systematic and comprehensive analysis of leadership program processes and results [was] hampered" (p.187). In addition to limited time and training of student

personnel administrators to do the work of program evaluation, they also stated that because "leadership skills, attitudes, and knowledge are acquired over a period of time and are generated from a number of sources…it is difficult to develop a methodology which will isolate the learning derived from a given leadership program" (p.188). Despite these limitations, Anthony-Gonzales and Fiutak offered one of the first attempts to apply program evaluation literature to leadership development programs. They developed a Program Evaluation Cycle (PEC) for Comprehensive Leadership Programs. Although cumbersome in nature, and not as domain-specific as one would expect, their model set several important standards for leadership program evaluation literature. First, they attempted to connect the functional phases of the PEC cycle (organizational; in-process feedback; program feedback; documentation; and spring board planning) to leadership specific processes, including examining training, education, and developmental functions of leadership. They also set the stage for future evaluations of leadership programs, and could be seen as foreshadowing the development of Astin's (1991) inputs-environment-outcomes (I-E-O) model, by acknowledging the importance of the *assumptions* students bring with them to the process, along with prior skills, knowledge, and experiences, as well as the *methods* educators use to help student reach goals. They further acknowledged the importance of the *process* of evaluation to inform on-going leadership program planning.

In 1988, Janosik and Sina published a comprehensive planning model and delivery system for leadership training programs that drew heavily from the work of Anthony-Gonzales and Fiutak, as well as Roberts (1981). Janosik and Sina's model "moves beyond the excellent theory base presented in Roberts' ACPA publication,

Student Leadership Programs in Higher Education, by defining a planning system from which a campus-wide leadership training program utilizing divisional, departmental, and individual resources can be coordinated" (p. 181). The model consisted of eight steps: assess the environmental culture; define the strategies for change; identify the methods of training; target the population; develop your leadership team; develop the programs; implement the programs; evaluate the programs. Although this model appears elementary in retrospect, the contribution of Janosik and Sina's model to future leadership program evaluation literature is that it acknowledged "the greatest weakness of most leadership programs is found in the procedures used to evaluate the impact of the training" (p. 183). It made a case for campus-wide and multi-level program assessment. Their model included participant self-evaluation, participant satisfaction feedback and evaluation of facilitation style and program content, as well as for "rigorous research designs" that measure outcomes of "total leadership training systems" (p.183).

Roberts and Ullom (1990) responded by incorporating the idea of multiple methods of program evaluation into their Student Leadership Program Model, a project of the Inter-Association Leadership Task Force. Roberts and Ullom iterated that "comprehensive leadership programs have a responsibility to those they serve and to those who provide resources for their existence to clearly demonstrate their impact and effectiveness" (p.6). They go on to outline the importance of both program *evaluation*, which emphasizes the analysis of factors, the design and administration of leadership programs, and *outcomes assessment*, or the extent to which leadership program participants are affected by their involvement in the programs. Though they did not specify what particular outcomes might be appropriate for leadership programs, they did

advocate for a multi-method approach. Further contributions of the Roberts and Ullom document were that they called for a broad range of faculty, staff, and students to be involved in the design and delivery of leadership development programs; that program participant needs be considered in program design; that programs are evaluated on an on-going and multi-dimensional basis; and that multiple strategies for program implementation exist to incorporate the complex needs of diverse constituents.

As a step toward what eventually became the movement to define learning outcomes for student leadership programs, Chambers (1992, 1994) led the charge by calling for leadership programs to establish clear evaluation criteria to help identify "standards of judgment for the evaluation of leadership programs for college students" (p. 340). Chambers championed the development of criteria for leadership programs for several reasons: their usefulness in decision-making; their helpfulness in understanding the effects of leadership programs on student educational outcomes; and their serving as helpful frameworks for evaluation. Chambers used a Delphi approach (Harman & Press, 1975; Helmer, 1966), a non-interactive method for eliciting and refining the opinions of a group of experts in a given field, to develop criteria for the evaluation of college student leadership programs. Chambers' research resulted in a series of forty-four Leadership Program Evaluation Criteria (LPEC), clustered in four categories of program structure (α=.8496), methodology (α=.8464), program administration (α=.8705), and consequences (α=.9190). Though by no means an exhaustive list, these forty-four criteria could be used as a program planning tool, as well as for evaluation and assessment efforts.

Chambers (1994) conducted a follow-up study to examine the applicability of the LPEC to diverse types of leadership programs. After surveying one hundred leadership

development educators, from Student Affairs, Academic Affairs, or Community-based leadership programs, and conducting two-way ANOVAs, Chambers observed no significant difference in the overall importance of LPEC evaluation criteria among educators from different types of leadership development programs ($F=0.07$; $p=.9286$). He did, however, note that educators perceived particular kinds of evaluation as more important than others ($F=21.34$; $p=.0001$). Specifically, leadership educators perceived program structuring evaluation and program administration evaluation as significantly more important than consequences evaluation and methodology. This is particularly predictive of the current problems in evaluating leadership programs where program structure and delivery are examined more frequently than program design and outcomes. Chambers concluded with a general observation of "the need for more scholarship on program evaluation and outcomes assessment" for leadership development programs (p. 234).

Concurrent with these emerging practices in leadership program evaluation, the W. K. Kellogg Foundation (1999) was also concerned with "supporting and testing various models of leadership development for young adults" (p.2). Kellogg funded 31 youth leadership development projects between the years 1990 and 1998, with grants ranging in value from $9,000 to $1.18 million dollars. Collectively, $14.1 million dollars was invested in youth leadership development programs (p.1). In 1998, external reviewers and Kellogg Foundation staff members conducted a retrospective evaluation of their leadership development projects, including twenty-one projects based in colleges and universities. The stated goals of the evaluation project were to "identify the best practices used by successful leadership development programs, and define lessons

learned so programs could be modified and/or replicated in the future" (p.4). Because the program evaluations occurred after several of the leadership programs ended, researchers used non-traditional procedures to gather information (p. iii). Because of the diversity of the projects being analyzed (projects varied in terms of scope, type of institution, strategies, and expectations) the researchers' goals of creating logic models for each program was deemed not feasible. Instead, a relational database was developed to "quantify and categorized institutional characteristics, activities, and outcomes across all of the projects" (p. iv). Data was derived from project assessments conducted by the granting agency, information surveys completed by grantees, and site visits used to gather additional qualitative information.

The final report, *Leadership in the Making: Impact and Insights from Leadership Development Programs in U.S. Colleges and Universities* (1999), offered descriptive statistics related to the 31 projects including data related to institutional characteristics, participant characteristics, project characteristics, and observed outcomes for students, institutions, and community. Perhaps the most utilitarian aspects of the Kellogg report are the "Hallmarks of Exemplary Projects" developed by the evaluation team. These hallmarks offer suggestions for developing or enhancing leadership development programs within four categories: context, philosophy, sustainability, and common practices. Though often used by practitioners to guide collegiate leadership program development and evaluation, these guidelines offer anecdotal evidence as to what constitutes quality leadership programs, but does little to connect the design and delivery of programs to student outcomes data. Because of their reliance on a post-hoc design, student and institutional inputs were not accounted for in this process. Kellogg (1999)

proffered the following caveats about their hallmarks: “Research has shown that each successful program develops within its own environment….not every hallmark can be found, or will be applicable, in every situation” (p.16).

To address the need for longitudinal research on student experiences in leadership development programs, the Kellogg Foundation contracted with the Higher Education Research Institute (HERI) at the University of California, Los Angeles, to conduct a long term impact assessment using data from 10 of the 31 grantee institutions (Cress, Astin, Zimmerman-Oster, & Burkhardt, 2001). Research questions included: 1) were the programs at these ten institutions effective in enhancing students’ leadership knowledge and skills? and 2) what relationship, if any, appears to exist between leadership development and other educational outcomes such as multicultural awareness and civic responsibility? The ten colleges examined ranged in type and control of institution, and were selected because of their participation in the Kellogg program and because longitudinal data of program participants was available through HERI’s access to data from the Cooperative Institutional Research Program (CIRP). The sample consisted of 875 students from the ten institutions, 425 who self-identified as participants in leadership development programs, and 450 self-identified non-participants. Longitudinal data were collected from students at time of college entry, 1994 (freshmen), and during the academic year, 1997-98 (senior). As part of the on-going CIRP data collection, students were administered the follow-up questionnaire, the College Student Survey (CSS), that explored students’ educational experiences and future plans. Students in the selected sample were also administered 20 supplemental questions in addition to the CSS that asked them to describe changes since entering college related to, among other items,

their understanding of self, interest in developing leadership in others, commitment to civic responsibility, sense of personal ethics and values, and understanding of leadership theories. The majority of respondents were female (*n*=593, 68%) and White (*n*=679, 78%). Descriptive and multivariate analyses were performed, using a hierarchical regression model, and using Astin's (1991) inputs-environments-outcomes college impact model (I-E-O model) as a conceptual frame. This model permits the researcher to "assess the impact of various environmental experiences by determining whether students grow or change differently under varying environmental conditions" (p. 7).

Results provided "clear evidence of student gains from participation in leadership development programs" (Cress et al., 2001, p. 23) and concluded that it is not merely individual characteristics or self-selection, but rather experience in leadership education and training programs, which affect the intended outcomes. Descriptive analyses were conducted to examine the self-report outcomes for leadership program participants as compared to students who began college at the same time but who did not participate in leadership activities. Chi-square analyses indicated that participants were significantly higher than non-participants on ten of the developmental outcomes measures, specifically in the three leadership areas of skills ($p<.001$), values ($p<.001$), and cognitive understanding ($p<.001$). After using principal components with varimax rotation to develop scales from the leadership-related items on the College Student Survey and supplemental survey, five distinct composite measures emerged: a) leadership understanding and commitment; b) leadership skills; c) personal and societal values; d) civic responsibility; and e) multicultural awareness and community orientation. Analysis of variance (ANOVAs) were then conducted to test for significant differences between

participants and non-participants on the five composite scales. Participants scored significantly higher than non-participants on all five composite outcomes. Cress et al. (2001) caution "although these group differences in outcomes are highly suggestive, they raise a critical question regarding self-selection" (p.19). To further explore the extent students' pre-college attitudes and experiences, along with other non-leadership experiences at college influence outcomes, hierarchical regression was conducted.

Multivariate analyses used four sets of control variables (inputs) related to student characteristics which included: a) demographic characteristics (gender, race, and ethnic identity) b) student pre-disposition qualities related to leadership outcomes measures; c) academic major, and d) student engagement in a variety of college experiences. The environmental measure was students' self-report of participation in leadership activities. Outcomes assessed included the aforementioned five composite variables determined by exploratory factor analysis (principal components with varimax rotation) of the CSS items. After controlling for inputs, leadership participants indicated significant growth and change for four of the five outcomes measures as follows: leadership understanding and commitment (b=.184; R^2=.2286); civic responsibility (b=.142; R^2=.2944); leadership skills (b=.087; R^2=.1199); multicultural awareness (b=.081; R^2=.1561); and personal and societal values (did not enter). When examining predictors, gender did not enter any of the regression equations and race only came into effect when looking at the outcome of multicultural awareness. Hours per week spent volunteering was a significant positive predictor for each of the five outcomes, participation in class projects indicated gains on four of the five outcomes (all but civic responsibility), and student participation in internships positively predicted the three outcomes of leadership understanding, civic

responsibility, and multicultural awareness. Cress et al.'s (2001) study provides the most empirically sound attempt to link student participation in leadership programs to developmental learning outcomes. Limitations are the lack of inclusion of information about the range of leadership education and training experiences offered at each of the ten institutions, the design and delivery of such programs, or about extent of student participation in these programs.

Concurrent with the Kellogg studies, several other key documents emerged in the late 1990s and early 2000 that addressed collegiate student leadership program evaluation. Developed in 1996, and revised in 2002, the CAS Professional Standards for Student Leadership Programs (SLPs) provided much needed guidelines for establishing and maintaining high quality leadership programs. The CAS standards for SLPs are composed of thirteen component parts, each designed to examine an essential aspect of leadership programs and services (CAS, 2006). Each CAS standard addresses the following elements: mission; program; leadership; organization and management; human resources; financial resources; facilities, technology, and equipment; legal responsibilities; equal opportunity, access, and affirmative action; campus and community relations; diversity; ethics; and assessment and evaluation. CAS standards are designed to be useful for programs of various sizes, comprehensiveness, funding levels, and departmental home. In order to use the CAS standards for program evaluation, a set of Self Assessment Guides (SAGs) for leadership programs were established in 1997. Many campuses use these for programmatic self-study or as part of re-accreditation processes (Miller, 1997). As program evaluation moved from looking at program design, to also examining the effect of programs on learning outcomes, CAS developed

Frameworks for Assessing Learning and Development Outcomes (FALDOs) for student leadership programs in 2006 (Strayhorn). The FALDOs offer an introduction to leadership development, theoretical contexts for learning and development, relevant variables that could be assessed, examples of quantitative and qualitative assessment, and available instruments, websites, and resources. Taken together, the SLP standards and associated SAGs and FALDOs provide a useful frame for evaluating leadership programs, though they fall short of providing a systematic approach to linking program design and assessment of learning outcomes, and fail to offer any national normative data tables that programs could use for comparative purposes.

In 1997, the National Association of Campus Activities (NACA) published a monograph on *Student Leadership Development: Approaches, Methods, and Models* (Boatman). This monograph attempted to link leadership theory and college student leadership development, explored methods and models for student leadership development, and offered advice about designing and sustaining successful student leadership programs. Though Boatman called for leadership educators to pay "attention to the methods by which the needs and learning of participants will be assessed, and the ways in which the success of the program will be evaluated" (p.55), she offers no formal proscriptions for how such assessment and evaluation should be conducted. Roberts and Faulkner (2006) have been working with the higher education assessment group, Student Voices, to design an instrument to assess student leadership development. Though focused on assessing individual student leadership development, they also make suggestions for how to assess leadership programming that suggests "data collection at multiple times of year from multiple constituents" (p. 2). They suggest assessing

outcomes along six dimensions: participation in activities and organizations; reaction to leadership development initiatives; knowledge/learning about leadership theories and concepts; self-awareness of leadership characteristics; corollary impact on organizations and institutions; and behaviors or actions of students. Though it does not specifically address institutional inputs or program design, it does offer a multi-frame approach to leadership assessment.

More recently, Eich (2007) used a qualitative interview approach to develop a grounded theory of high quality leadership development programs in his unpublished doctoral dissertation. Citing the lack of empirical research on collegiate leadership program activities as his rationale, Eich conducted a series of interviews with leadership program faculty, staff, student staff, alumni, and students drawn from four campuses that were identified by field experts as having a long term reputation for leadership program excellence. Using a constant comparative technique, Eich constructed a theory identifying 16 attributes of high quality leadership programs that can be clustered into three themes: 1) participants are engaged in building and sustaining a learning community; 2) the presence of student-centered experiential learning activities; and 3) research-grounded continuous program development. Though this work provides meaningful insight into the range of leadership development activities and their perceived effect on students, it does little to account for student and institutional inputs and their role in student articulation of leadership learning.

Other recent efforts to evaluate the impact of leadership development programs have taken a cross-sector approach (Day, 2001; Grove, Kibel, & Haas, 2005; Reinelt & Russon, 2003; W.K. Kellogg, 2002). Most notably, in 2002, the W.K. Kellogg

Foundation conducted a scan of fifty-five leadership development programs to observe how these programs are evaluating their outcomes and impacts. A wide-variety of leadership development programs were examined, including: fellowship programs; skill-building programs; social entrepreneurial programs; community service programs; pipeline programs; organizational development programs; grassroots, community-based programs; and issue-based programs. These programs were drawn from sectors as diverse as K-12 education, higher education, public policy, health policy, and international development. Qualitative interviews were conducted with program staff, evaluators, and foundation staff when appropriate, to determine what kinds of outcomes programs are seeking to evaluate. Results indicate, not surprisingly, that "leadership programs articulate and pursue a wide diversity of outcomes depending on the focus of the program and the type of activities the program implements" (Reinelt & Russon, 2003, p.120). Most programs attempted to evaluate outcomes related to individual and group leadership development. Impact of organizations, communities, systems, or particular fields of practice were much less frequently evaluated. Reinelt and Russon articulated the need for connecting the activities of leadership development programs with outcomes:

> As a field, we need to understand what we already know about impact, and where there are gaps in our knowledge; we need to know which approaches and methods are promising for what kinds of learning, and we need to surface our challenges so that we can work together to address these in innovative and creative ways. (p. 121)

In summary, though numerous attempts have been made to assess the effects of collegiate leadership programs, it is agreed that "the extent of knowledge about the outcomes and impacts of leadership programs and the capacity to evaluate these impacts has not kept pace with the rapid proliferation of programs" (Reinelt & Russon, 2003,

p.119). Most prior attempts at program evaluation have suffered from a variety of limitations. Early efforts struggled to adapt general managerial program evaluation literature to the unique context of collegiate leadership development programs (Anthony-Gonzales and Fiutak, 1981; Bass & Stogdill, 1974; Bray, Campbell, & Grant, 1974); lack specificity about the design (Boatman, 2000; Janosik & Sina, 1998) or intended outcomes of leadership development programs (Chambers 1992, 1994; Roberts, 1990); fail to account for student or institutional inputs (CAS, 2006; Eich, 2007); confound collegiate leadership development efforts with those from other sectors (Grove, Kibel, & Haas, 2005; Reinelt & Russon, 2003; W.K. Kellogg, 2002); and generally fail to connect the design and delivery of programs to student outcomes data (W. K. Kellogg, 1999). This study attempted to address these gaps.

Service-Learning Program Evaluation

Before the effect of institutional and programmatic factors on student leadership development programs is examined, it would be remiss not to explore what closely related fields, such as community service-learning, can offer in linking organizational dimensions and student and institutional outcomes. Though research connecting the design and delivery of service-learning activities to student and community impact is extensive, (Furco, 1999, 2001; Furco, Muller, & Ammon, 1998; Gelmon, Holland, & Shinnamon 1998; Holland, 1997, 2000; Kecskes & Muyllaert, 1997) two key studies will be explored here.

Holland (1997) drew from 23 case studies of diverse institutions (size, mission, geographic region) conducted between 1994 and 1997 as part of an evaluation of institutions funded by grants from the Pew Charitable Trusts and the Corporation for

National Service. She used a combination of interviews and document analysis to identify a matrix of seven organizational factors that characterize highly integrated institutional commitment to service. The seven factors include: 1) mission that delineates service-learning as a central and defining characteristic of the institution; 2) promotion, tenure, and hiring practices that document and reward service/service-learning; 3) organization structures that allow for widespread faculty and student participation; 4) student involvement in curricular, co-curricular and community-based service-learning efforts; 5) faculty involvement including community-based research and interdisciplinary/collaborative work; 6) community involvement by actively partnering in the design and evaluation of research and service; and 7) campus publications that value community connections. The resulting matrix not only helped illuminate potential facilitators and obstacles to engagement in service and service-learning, but also revealed disconnects between expressed institutional goals and actual performance (Holland, 1997). Holland postulated factors that seem likely to enhance commitment on each of the seven factors. These organizational factors may prove analogous to institutional factors that promote leadership development, especially leadership development for social change, in students.

Building on the work of Holland (1997) and efforts by the Western Campus Compact Consortium to develop a continuum of service benchmarking process (Kecskes & Muyllaert, 1997), Furco (1999, 2000) designed a self-assessment rubric for service-learning programs that integrated five key dimensions of organizational design along three stages of organizational development. Furco noted that service-learning programs can be in one of three stages: the *building critical mass* stage where campuses begin to

recognize service-learning and build a campus-wide constituency; the *building quality stage*, where campuses shift to focus on the quality of experiences more than the quantity; and the *sustained institutionalization* stage where service-learning has been fully woven into the fabric of the institution. Institutions at each of these stages varied on how they experienced five dimensions: defining a clear philosophy and mission for service-learning; building faculty support for and involvement in service-learning; building student support for and involvement in service-learning; building community participation and partnerships; and achieving institutional support. Furco tested his matrix on 43 Campus Compact member institutions of diverse type and location drawn from four states. After institutions completed a quantified benchmark worksheet, he regressed four clusters relating to faculty, student, institution, and evaluation inputs on the outcomes measure of increased institutionalization of service-learning. Results indicated that over two-thirds of the variance in scores was accounted for by faculty involvement, incentives, and support. He then conducted t-tests to determine significance within groups (institution size, type, and mission) on the dependent variable of increased institutionalization of service-learning and ANOVAs for differences between groups. Findings revealed no statistical differences on scores by institutional differences. Finally, Furco conducted a content analysis of challenges reported by institutions by both institutional type and level of institutionalization which revealed that regardless of institutional type and level of institutionalization, faculty and institutional challenges are the most prevalent. Furco's use of organizational dimensions as predictors on outcome scores, as well as his mixed method design, parallels the method used in this study, and leads into a discussion about the effect of institutional factors on leadership development.

Because institutional factors did not discriminate among service-learning related outcomes, it was interesting to examine their effects on leadership-related outcomes.

Institutional Factors and Student Leadership Development

A close examination reveals that very little is known about the contribution of institutional factors such as size, type, and Carnegie classification, on the development of student leadership. Brungardt (1996) offered that "very little research has been conducted to study the role formal education might play in leadership development" (p. 85). Research that does exist reveals a positively correlated relationship between formal education and achievement of leadership or managerial positions (Bass, 1990). Student leadership skills improve during college, even when taking pre-college characteristics into account, to an extent than can be attributed to more than just maturation (Astin, 1993; Astin & Cress, 1998). However, Pascarella and Terenzini (2005) characterize most of the post-1990s research institutional effects on leadership skills as follows:

> Most studies find few, if any, independent effects on freshmen- to senior-year changes linked to institutional type, control, or size after adjusting for students' pre-college traits (usually including their initial evaluations of their leadership talents) and experiences during college….most of these studies suggest that various aspects of a campus's climate or the experiences students have while enrolled are more powerful predictors of leadership development than an institution's structural or organizational characteristics. (p. 236)

Kimborough and Hutchenson (1998) searched for net effects in leadership skills among African-American students attending an HBCU rather than a PWI, and Langdon (1997) examined leadership skills of women who attended a women's college. Neither study found statistically significant effects related to the type of institution. In *The Shape of the River* (1998), an empirical examination of the long-term consequences of considering race in college and university admissions, researchers Bowen and Bok suggested that

college selectivity does play a role in the kinds of leadership roles college student participate in. Graduates of less selective institutions are more likely to practice leadership in youth and educational groups, while graduates of more selective positions are more likely to lead cultural, alumni, or other social and communal groups. Pascarella and Terenzini (2005) critiqued Bowen and Bok for not accounting for the kinds of activities students participated in while on campus as part of their study. This study addressed these discrepancies by including both institutional factors and programmatic elements as predictors.

In their 2001 study of pre- and post-college CIRP outcomes of 2,269 students attending 315 different institutions, Toutkoushian and Smart noted that students enrolled in larger institutions reported lower gains than other students in interpersonal skills, tolerance/awareness, and preparation for graduate school. Although they did not directly assess leadership gains, one could argue the overlap between interpersonal skills and leadership outcomes. For example, studies on college student leadership identity development articulate the connection between interpersonal influences such as engaging in groups, learning from membership continuity, and establishing interpersonal efficacy, with more complex leadership identity development (Komives, Owen, Longerbeam, Mainella, & Osteen, 2005). Institutional size might affect the number and nature of opportunities for students to engage meaningfully with others. This study examined the relationship between institutional size and student leadership gains.

Program Elements Contributing to Student Leadership Outcomes

If, as the aforementioned literature suggests, student experiences during college were more powerful predictors of leadership development that institutional

characteristics, it follows that the design and delivery of those experiences should have differential effects on student leadership learning. Astin (1999b) concurred stating "all institutional policies and practices – those relating to non-academic as well as academic matters – can be evaluated in terms of the degree to which they increase or reduce student involvement" (p. 529). This section will explore what is known about the effects of five key organizational features, as determined by a thematic analysis of the leadership program evaluation literature, on student leadership learning. Absent relevant literature on student leadership outcomes, broader developmental effects will be considered. This literature served as a frame for elements that emerged as clustering variables in the resulting typology.

Program Philosophy/ Theoretical Orientation

The literature is replete with suggestions that programmatic mission statements should be congruent with institutional mission statements (Boyer, 1990; Chaffee, 1998; Holland, 1999; Kezar, 2006; Roberts & Ullom, 1990; Zimmerman-Oster & Burkhardt, 1999a, 1999b) and vice versa (CAS, 2006). The rationale behind these statements seems to be the idea that "articulating a shared purpose is a requisite step on the road to organizational success" and that statements of institutional priorities are essential to guiding decisions about program creation and termination (Morphew & Hartley, 2006, p. 456). In *Leadership in the Making* (Zimmerman-Oster & Burkhardt, 1999a), one hallmark of successful collegiate leadership development programs was the presence of a strong connection between the mission of the institution and the mission of the leadership development program or center. This statement seems to be a proxy for the extent to which the program's approach is supported across the institution. The CAS standards for

student leadership programs take this assertion further and imply bi-directional influence by stating that not only must "[student leadership program] mission statements be consistent with the mission and goals of the institution" but also that student leadership programs must be present "as an integral part of the institution's overall mission" (p. 322). Similarly, Roberts and Ullom (1990) stated "the leadership program should advocate consistency between what is taught through the program and the process by which institutional decisions affecting students are made" (p. 4).

But what is really known about the effect of mission congruence on program delivery and student learning outcomes? As part of larger examination of 20 institutional participants in the Documenting Effective Educational Practices (DEEP) study, Kezar (2006a) used document coding to explore differences in policies and practices related to student engagement based on unique institutional mission. Findings echo Pascarella and Terenzini (2005) in that individual campus missions seemed to have more impact on programmatic practices than institutional type (Kezar & Kinzie, 2006), and that smaller, more mission focused institutions tended to rely on shared values and philosophies to promote active student engagement, while larger campuses with more complex missions tended to use structured activities and programs to achieve engagement (Kezar, 2006a). Though direct effects on student leadership are yet to be examined, there is evidence that "leadership depends on the perspectives of the individuals in an organization whose opinions are shaped by the institutional history and culture" (Kezar, Carducci, & Contreras-McGavin, 2006, p. 12).

In addition to program-institutional mission congruence, it has been argued that a clear theoretical framework, knowledge of the literature, and well-defined values and

assumptions make for more effective leadership programs (Dugan & Owen, 2007; Haber, 2006; CAS, 2006; Rost, 1993; Yukl, 2002; Zimmerman-Oster & Burkhardt, 1999a). With thousands of competing definitions and perspectives on leadership, and an interdisciplinary foundation for the emerging field of leadership studies, leadership as a construct has been notoriously difficult to operationalize. Rost (1993) states it best that "the issue of defining leadership is central to the problems both scholars and practitioners have had with conceptualizing and practicing leadership" (p. 37). Whether programs adopt a focused, heterogeneous, or atheoretical approach will likely effect outcomes achieved. Though few have empirically tested this assumption, the evaluation literature is rife with evidence that learning does not happen by accident (Astin,1991; Erwin, 1991; Schuh & Upcraft, 2001; Upcraft & Schuh, 1996). Intentionality affects effectiveness. Carpenter (2003) stated that professional practice should be "intentional, theory- and research-based carefully considered, and evaluated" (p. 582). Adopting a central definition and theoretical approach allows program stakeholders to establish a common language and set of values (Haber, 2006). Eich (2007) found that leadership programs that explicitly state and model their theoretical orientation have greater effect on student leadership learning. Many argue that centrality of involving key stakeholders in the development and articulation of theoretical and definitional frames is paramount to establishing buy-in (Chambers 1992, 94; Roberts & Ullom, 1989).

This study sought to provide missing empirical foundation to examine the effects of program-institutional mission congruence, clarity of theoretical frame, and involvement of key stakeholders in the evolution and adoption of philosophical approach, on student leadership outcomes.

Common Program Elements

Much of the collegiate program evaluation literature enumerated in a previous section sought to prescribe the nature and types of activities that should be included in a quality leadership development program. Incorporating strategies of training, education, and development is part of many student leadership program models (CAS, 2006; Haber, 2006; Roberts & Ullom, 1989). Roberts (1981) differentiates these so that *training* refers to activities designed to improve individual performance in their current role; *education* consists of activities designed to improve the overall leadership competence of an individual beyond their present role, and *development* involves activities and environments that encourage development in an ordered hierarchical sequence of increasing complexity (p.23). Haber (2006) also recommended differentiating programs based on their intended audiences (open, targeted, and/or positional student leaders) and their scope (short, moderate, and long-term programs). Zimmerman-Oster and Burkhardt (2000) offered a comprehensive list of common activities and methods for approaching leadership development that include, among others, practices of reflection, skill-building, problem-solving, service-learning, mentoring, outdoor education, and capstone experiences. The CAS Standards for Student Leadership Programs (CAS, 2006) stated that programs should address foundations of leadership, personal development, and organizational development and offer "multiple delivery methods and contexts" (p. 324).

Despite all these prescribed elements, very few studies have examined the process by which leadership program design affects student learning outcomes. Kezar and Moriarty (2000) examined the effects of specific curricular and co-curricular programs on the development of leadership among a diverse group of students. Using data from the

1987 CIRP freshmen survey and 1991 follow-up study, Kezar and Moriarty used Astin's (1991) input-environment-output (I-E-O) model to examine 9,731 students representing 352 four year institutions. A step-wise regression was performed that controlled for the inputs of general background characteristics and pre-college experiences, used self-rated leadership ability and student race (African-American and White only) and gender as the primary predictors, and examined dependent variables of self-perceptions of a) leadership ability; b) communication skills (public speaking and writing); c) self-confidence (intellectual and social); and d) ability to influence others. Among numerous other findings, the study revealed that enrollment in a leadership course was a positive predictor for all four groups (African-American males and females, White males and females) and as the most significant predictor for White women (b=.13). Being elected to office was the strongest predictor of leadership ability for White men (b=.13) and African American women (b=.17), while participating in volunteer work was the only significant predictor for African American men (b=.12). Overall, men rated themselves higher than women, both upon entering and leaving college, on leadership ability, public speaking, and social self-confidence. Though important findings, this study did not account for the design or quality of the curricular and co-curricular program interventions, and did not address leadership outcomes from any particular theoretical stance.

As previously described, Cress et al. (2001) conducted a long term impact assessment using data from 10 institutions that were recipients of W. K. Kellogg grants for youth leadership development. Not only did the study reveal that participants in formal leadership development programs demonstrated significantly higher levels of positive change in leadership skills and knowledge than non-participants on 10 out of 21

outcomes previously enumerated, there also was an intriguing additional finding. Uninvolved students at schools that had a leadership development program indicated higher leadership outcomes than peers at campuses that did not have formal leadership program. One way to explain this result is that students who participated in formal leadership development programs not only increased specific leadership skills (such as ability to set goals, to make decisions, etc.) but also "increased their commitment to developing leadership in others" (Cress et al., p.25). This "halo effect" has important implications for the effect of leadership programs on students both involved and uninvolved in campus leadership interventions

More recent studies that examined the differential effect of student involvement on self-reported leadership abilities have attempted to examine student leadership outcomes from a particular theoretical lens. Using outcomes enumerated by the social change model of leadership (HERI, 1996), Dugan (2006) conducted a single-institution study looking at mean differences of 859 participants and non-participants in community service activities, positional leadership roles, student organizations, and formal leadership programs. He examined the effects of different forms of student involvement on the social change outcomes of consciousness of self, congruence, commitment, collaboration, common purpose, controversy with civility, citizenship, and change. Findings indicated that participation in formal leadership training significantly enhanced student leadership outcomes of establishing a common purpose ($t=-2.6$, $p<.05$) and citizenship ($t=-6.33$, $p<.05$). Dugan and Haber (2007) analyzed the effects of co-curricular leadership programs on social change model outcomes as part of the Multi-Institutional Study of Leadership (MSL), a 52 campus study with an $n=50,378$. Findings revealed that

approximately 60% of college students sampled (*n*=29,986) indicated some degree of involvement in short term leadership programs, 40% (*n*=20,198) have participated in moderate term, and 20% (*n*=9,867) in long term. Examining the differential effects of "short", "moderate", and "long-term" leadership programs on leadership outcomes related to the social change model of leadership, all three types of leadership involvement resulted in significantly higher score across all elements of the social change model for involved versus uninvolved students. When looking at effect sizes, short-term programs actually accounted for greater impact on student outcomes than moderate or long term programs.

Using the same MSL dataset to examine the effect of curricular leadership programs on social change outcomes, Owen and Komives (2007) found dramatically lower levels of involvement of students sampled in leadership certificate programs (2.5%, *n*=1249), leadership capstone experiences (1.1%, *n*=566), leadership minors (0.8%, *n*=406) and leadership majors (0.8%, *n*=390). Only 18.9% (*n*=9,537) report ever having taken a leadership course. Chi-squared tests revealed that women were significantly less likely to be involved in curricular leadership programs than their male counterparts ($p<.00$ for both minors and majors), and African-American, Asian, and Latino students reported significantly more involvement in curricular leadership programs than White or Multiracial students ($p<0.5$) and no significant differences across race for involvement in leadership majors ($p=.146$). Shockingly, participation in leadership minors, majors, and certificates reported significantly lower values across all eight measures associated with the social change model than their uninvolved peers. Possible reasons for this result include the wide variety of theoretical approaches for curricular leadership programs that

may or may not include social change orientations (hence, the emphasis on theoretical focus above), or decreased student confidence with social change outcomes resulting from an increased awareness of the complexity of such attributes.

When viewed in total, there is a paucity of research on how particular leadership program delivery methods affect college student learning. Much is anecdotal, does not approach leadership from a particular theoretical orientation, or suffers from single-institution or cross-sectional design. This is natural given that the intentional development of student leadership programs on college campuses is a relatively recent phenomenon. Scholars concur that there is more work to be done in examining how the nature and type of leadership development activity relates to student outcomes (Kezar et al., 2006; Roberts, 2007). This study attempted to address these unanswered questions.

Strategic Planning and Evaluation

Rowley, Lujan, and Dolence (1997) defined strategic planning as "a formal process designed to help an organization identify and maintain an optimal alignment with the most important elements of its environment" (p. 15). Zimmerman-Oster and Burkhardt (1999a) referenced the importance of weaving elements of strategic planning into the design and delivery of collegiate leadership development programs. Specifically, they called for programs to have process, outcome, and impact objectives that are clearly stated and measurable; a clearly stated evaluation plan which includes dissemination of results to all stakeholders and the use of results in planning and decision-making; and a process for strategic planning and visioning that goes beyond three to five years. In his grounded theory of high quality leadership programs, Eich (2007) found that successful programs utilized multiple assessment and feedback mechanisms in a continuous way so

that leadership programs were always innovating and changing to meet current needs. Even early leadership program design recommendations include an emphasis on needs assessment, on-going program evaluation, and the presence of a planning team that includes faculty, students, and staff members (Anthony-Gonzalez & Fiutak, 1981; Roberts & Ullom, 1990). Chambers (1992, 1994) iterated four rationales for the centrality of strategic planning in leadership programs: 1) pressure to document outcomes of student leadership development activities, 2) increasing emphases on accountability and use of sound management techniques, 3) public demand for effectiveness as a justification for resources, and 4) the need for information to make programmatic decisions and set direction. Finally, CAS (2006) offers the following:

> Guided by an overarching intent to ensure student learning and development, Student Leadership Programs (SLPs) must be structured purposefully and managed effectively to achieve stated goals….Evidence of effective management must include use of comprehensive and accurate information for decisions, clear sources and channels of authority, effective communication practices, decision-making and conflict resolution procedures, responsiveness to changing conditions, accountability and evaluation systems, and recognition and reward processes (p. 325).

So once again, there are numerous recommendations for including strategic planning and on-going evaluation into the design of leadership programs, but little empirical evidence that well-planned programs have direct effect on leadership outcomes. Research on organizational design from the fields of higher education and management offer some insight (Birnbaum 1998, 2000; Bolman & Deal, 1997; Hage, 1980; Hage & Aiken, 1970; Strange, 2003). Organizations can be described in terms of complexity, centralization, formalization, stratification, production, and efficiency (Hage & Aiken, 1970). Organizations that are larger in size, or that are more mature in age, are more likely to

have higher levels of formalization and structure (Robbins, 1983). As organizations increase in structure, more political behavior becomes necessary and decision-making and implementation processes become more complicated (Thompson, 1967). One might infer that elements of strategic planning such as assessment and plan creation help organizations align more effectively with changing environments and thus produce enhanced outcomes.

Day (2001) supported this supposition. He conducted a meta-analytic review of leadership and management literature to examine how leadership development is being conducted in the context of organizational work. In a review of numerous management trends such as 360-feedback (i.e., systematically collecting perceptions of an individual's performance from a variety of collaborators that might include peers, direct reports, supervisors, and even external stakeholders), executive coaching, mentoring, action learning, and job assignments, Day revealed that one of the biggest challenges facing organizations is "reversing a tendency that allows leadership development to become a 'haphazard process' which results from embedding development in the ongoing work of the organization without sufficient notice to intentionality, accountability, and evaluation" (p. 586). He goes on to suggest that organizations adopt consistent and intentional implementation of leadership and planning efforts, that these practices be infused throughout the organization rather than bound at the top levels, and that developmental purposes and strategic challenges be linked. Strategic planning in collegiate leadership programs served as a clustering variable in this study.

Access to Resources

CAS Standards (2006) for Student Leadership Programs (SLPs) state that programs must have adequate funding to accomplish their mission and goals and, where possible, "institutional funding should be allocated regularly for the operation of leadership programs" (p. 326). In addition to fiscal resources, the CAS SLP standards also offer recommendations for human resources, including suggested staffing qualifications. As most universities experience constrained resources, both fiscal and human, due to rising funds and shifting funding sources (Woodard, Love, & Komives, 2000), it makes sense to examine what is known about the impact of institutional spending patterns on student learning outcomes.

Toutkoushian and Smart (2001) reviewed inconsistent findings about the effects of institutional expenditures on student gains in college (Hanushek, 1972; Rock, Baird, & Linn, 1972; James & Alsalam, 1993).Using pre- and post- college data from the Cooperative Institutional Research Program (CIRP) gathered in 1986 and 1990 from 2,269 students attending 315 different institutions, the researchers examined a number of different variables related to student and institutional characteristics. Resource related inputs included level of tuition and fees, level of spending per student, student-faculty ratio, and average faculty salary at each college or university. Analyses included two multiple regressions, one that looked primarily at the effect of institutional characteristics on student gains, and the other which included the effects of student-acquired characteristics such as time studying, time spent on employment, level of involvement in out-of-class activities, interaction with peers and faculty. Findings indicated that, after controlling for student background and acquired characteristics, "higher per-student

expenditures are positively related to student gains in interpersonal skills and learning/knowledge acquisition" (p. 48). Thus, the amount an institution spends is positively related to student learning and development.

Using a similar methodology but looking more squarely at growth in student leadership abilities, Smart, Ethington, Riggs, and Thompson (2002), discovered institutional expenditure patterns may affect gains in freshmen to senior leadership skills above and beyond pre-college characteristics and college experiences in leadership. Using pre- and post- college data from the Cooperative Institutional Research Program (CIRP) gathered in 1986 and 1990 from 4,408 students attending 360 different institutions, Smart et al. used path analytic procedures to test a causal model that expenditures related to three functions of instruction (e.g faculty salaries), academic support (e.g. library), and student services (e.g. advising and counseling) on student self-reported change in leadership ability during college, after accounting for pre-college leadership self-ratings, goals, and socioeconomic status. Findings revealed that funding devoted to instruction had a significant ($p<.01$) negative total effect on student leadership, while student services expenditures had a significant ($p<.01$) positive total effect on student leadership abilities while at college. Both types of expenditures had indirect effects (instruction, -.052; student services, .051) mediated by two variables: 1) students' perceptions of the emphasis placed on student development and the acquisition of leadership competencies by their institution and 2) the extent of student involvement in leadership activities over their four years in college. Findings support Astin's (1993) conclusion that "investment in student services is a more critical environmental factor than investment in instruction" (p.331).

This study tested the emerging hypotheses that institutional expenditures, particularly on areas related to student services and student leadership development, have a statistically significant, albeit modest, affect on student leadership competencies. By examining the extent to which fiscal and human inputs of co-curricular leadership programs effected student leadership outcomes, this study contributed empirical evidence to the question "what resources make a difference?".

Collaboration/Partnerships

Kezar, Carducci, and Contreras-McGavin (2006) categorized collaboration and partnering as revolutionary leadership concepts in higher education. Rather than focusing studies of leadership only on positional leaders or powerful individuals, more research is now showing the benefits of collaboration and "demonstrating that these partnerships help meet institutional goals, improve morale, and create greater institutional effectiveness" (p. 145). Most prescriptions for the design of student leadership programs emphasize the importance of building collaborative networks. Zimmerman-Oster and Burkhardt (1999a) called for leadership programs to be supported across the institution, and to involve curricular and co-curricular offerings. Roberts and Ullom (1990) required "a broad range of faculty, student affairs staff, and students should be involved in the planning and delivery of the various components of leadership programs" (p. 4). Haber (2006) listed more than twenty different campus and community partners that leadership programs should consider partnering with. She described the benefits of partnering as increasing community awareness of the leadership program, access to fiscal and human resources, and access to additional sources of leadership expertise. The CAS Standards for Student Leadership Programs (2003) stated that programs "must establish, maintain,

and promote effective relations with relevant individuals, campus offices, and external agencies" (p.327).

What empirical evidence exits that collaborative efforts are more effective at producing student outcomes than single-unit efforts? Studies indicated that "collaborative programs have generally higher outcomes than do student affairs programs" (Inkelas, Longerbeam, Brown Leonard, & Soldner, 2005, p. 25; Magolda, 2005; Pike, 1999). Yet how collaboration is conceived and implemented does seem to matter. Kezar et al. (2006) depicted collaboration as hotly debated in the literature. Researchers have indicated that, to truly affect outcomes, collaboration must go beyond simply sharing leadership in a functional way, to include developing a shared knowledge base, involving external constituencies, recognizing the ways roles and structures inhibit or enable collaboration, and modeling and rewarding collaboration (Birnbaum, 1992; Ferren & Stanton, 2004; Kezar, Hirsch, & Burack, 2002; Palmer, 1998). Yet, little research exists about the roles of students, alumni, and external groups in campus collaboration, or about how unique campus environments effect collaboration (Kezar et al., 2006).

Certainly the literature is rife with evidence that faculty-student interactions (Chickering & Gamson, 1991; Feldman & Newcomb, 1969; Shapiro & Levine, 1999) and interactions with other students (Astin, 1993; Kuh & Huh, 2003; Newcomb, 1962; Pike, 1999) are key contributors to student learning. In *What Matters in College*, Astin (1993) found the strongest effects on leadership skill formation within college can be attributed to student interaction with peers. One can make an educated leap that increased collaboration results in increased interactions with diverse faculty, staff, and students which in turn results in heightened learning outcomes for students. This study examined

the extent to which highly collaborative leadership programs are associated with enhanced student learning outcomes.

Outcomes of Student Leadership Programs

The preceding literature review has examined institutional and programmatic effects on student leadership development writ large. Since this study examined two specific theoretical approaches to student leadership development, the social change model of leadership and student self-efficacy for leadership, these outcomes are explored here in more depth. A general review of the evolution of leadership theory is also included.

Historical Approaches to Leadership Development

Leadership is a multidimensional construct. Diverse conceptions and definitions of leadership abound (Burns, 1978; Gardner, 1990; Rost, 1991). Recently, however, there has been a profound shift in the way leadership scholars and practitioners think about leadership (Allen & Cherrey, 2000; Chrislip & Larson, 1994; Rost, 1991). This shift "from an authoritative, hierarchical model to a decentralized, collaborative model" of leadership has been noted by theorists and researchers alike (Eisenhower, 1996, p.7).

Until the 1970s and early 1980s, the majority of leadership models were concerned primarily with individual reputation and accomplishment. Leaders were special people who did special things. The rest were followers who, "for reasons ranging from fear to convenience, went along with what the leader said and did" (Eisenhower, 1996, p.7). Rost (1991) labeled these theories and models as the "industrial school of leadership" (p.91) and characterized them as being "rational, management-oriented, male, technocratic, quantitative, goal dominated, cost-benefit driven, personalistic, hierarchical,

short term, pragmatic, and materialistic" (p.94). In short, these theories and models were based on command and control and do little to "renew a sense of community, or build a new civic culture" (Chrislip & Larson, 1994, p.125).

In stark contrast to the industrial school of leadership, are the more collaborative, process-oriented models of what Rost (1991) has termed the "post-industrial paradigm." Shifts such as moving "from a world of fragmentation to one of connectivity and integrated networks" and moving "from an industrial to a knowledge era" require new ways of relating, influencing change, learning, and leading (Allen & Cherrey, 2000, p.1). Rost (1991) characterized the post-industrial leadership models as "involving active people, engaging in influence relationships based on persuasion, intending real changes to happen, and insisting that those changes reflect their mutual purposes" (p.123).

James Mac Gregor Burns' (1978) groundbreaking work on transforming leadership put a label on this new type of post-industrial leadership. He remarked, "The transforming leader looks for potential motives in followers, seeks to satisfy higher needs, and engages in the full person" (p.4). Transforming leaders raise followers to "higher levels of motivation and morality" (p.20). He contrasted this to the transactional leader who operated on principles of exchanging one thing for another. Thus transforming leadership overlaps with notions of collaboration, fostering community, and encouraging morality which are important competencies for those working in educational settings.

Burns' (1978) conceptualization of transforming leadership, coupled with Rost's (1991) clarion call for new ways of leadership that fit the emerging globalism and interconnectedness of a knowledge era, resulted in an explosion of new ways of

understanding leadership. Emerging leadership schools of thought include: complexity and chaos theories (Allen & Cherrey, 2000; Heifetz, 1994; Wheatley, 1994); mental models and organizational learning (Lipman-Blumen, 1996; Senge, 1990; Vaill, 1991, 1996); theories of authenticity, service, and spirituality (Avolio & Gardner, 2005; Greenleaf, 1977; HERI, 2005); relational and shared leadership (Komives, Lucas, & McMahon, 1998, 2007; Pearce & Conger, 2003); leadership for social change (Astin & Leland, 1991; HERI, 1996); and leadership identity development (Komives, Owen, Longerbeam, Osteen, & Mainella, 2005). Of the emerging families of leadership theories, the social change model and relational leadership model were both designed for use with college populations and are among the most popular theories used on college campuses today (Edwards, 2006; Eich, 2003, 2005; Kezar et al., 2006).

Social Change Outcomes

This study focuses in particular on student leadership outcomes related to the social change model of leadership development (HERI, 1996). The model was developed by a 15-person "working ensemble" of leadership educators and researchers who were funded to meet over a three year period by a grant from the Eisenhower Leadership Development Program of the U.S. Department of Education. The goal of the ensemble was to create a model of leadership development focused on undergraduate college students. Ensemble members brought several key assumptions about leadership to the task: that leadership is ultimately about effecting change on behalf of others and society; that leadership is a collaborative, values-based process; that all students are potential leaders; and that service is a powerful vehicle for developing students' leadership skills (HERI, 1996). The resulting values-based model examines leadership from three different

perspectives: the individual level where students focus on the values of *consciousness of self*, *congruence*, and *commitment*; the group level where students learn to mobilize themselves and others to work *collaboratively*, with *common purpose*, and to practice *controversy with civility*; and the community/societal level that includes values such as *citizenship*. All seven iterated values are interconnected and work in concert to promote the eighth value, positive social *change*.

Though widely used for program design and delivery (Outcalt, Faris, & McMahon, 2001; Saint Norbert College, 1996) researchers are just now beginning to empirically test the values of the social change model (Dugan 2006a, 2006b; Dugan & Haber, 2007; Owen & Komives, 2007; Tyree, 1998). Outcomes of these studies are described in more detail in a previous section, but include: participation in formal leadership training significantly enhanced student leadership outcomes of establishing a common purpose and citizenship (Dugan, 2006b); the statistically significant effects of "short", "moderate", and "long-term" leadership programs on all eight social change model values (Dugan & Haber, 2007); and the surprising result that participants in leadership minors, majors, and certificates reported significantly lower values across all eight measures associated with the social change model than their uninvolved peers (Owen & Komives, 2007). This study examined the extent to which a resulting typology of institutions with leadership development programs was associated with gains across the eight values of the social change model of leadership development, as measured by the omnibus-SRLS scale.

Self-Efficacy for Leadership

There is also reason to believe that the design and delivery of student leadership programs will affect student efficacy for leadership. Defined as "beliefs in one's capacity to organize and execute the courses of action required to produce given attainments" (Bandura, 1997, p. 3), self –efficacy has been shown to play an important part in human learning, performance, and motivation (Bandura). Within the educational environment, researchers have found links between student achievement and three types of efficacy beliefs – student self-efficacy (Pajares, 1994, 1997), teachers' beliefs about their own efficacy as instructors (Tschannen-Moran, Woolfolk Hoy, & Hoy, 1998), and instructor's thoughts about the collective efficacy of their institution (Goddard, Hoy, & Woolfolk Hoy, 2000). It is important to distinguish the concept of self-efficacy from other related variables. Bandura (1997) distinguishes self-efficacy from other concepts such as self-confidence, self-concept, self-worth, and self-esteem in that the latter terms are nondescript references to strength of beliefs, but do not necessarily specify what that certainty is about. In contrast, perceived self-efficacy is domain-specific. That is, people have efficacy about their capabilities in a particular arena of action or a specific task. So, for example, students may have efficacy in their ability to lead a meeting, but not in their ability to run a marathon. A self-efficacy assessment thus includes both an affirmation of capability level and the strength of that belief, whereas self-confidence is more nondescript and generally applied. Pajares and Miller (1994) have shown individual efficacy beliefs are better predictors of individual behavior than either self-concept or self-esteem. It is also important to note that efficacy beliefs are not necessarily accurate

assessments of one's capabilities (Goddard, Hoy, & Woolfolk Hoy, 2004). Bandura (1997) cautions "a capability is only as good as its execution" (p.35).

Bandura's (1986) social cognitive theory presents leadership self-efficacy as the key variable that affects how a leader functions in a dynamic environment. He posits four sources that shape an individual's efficacious beliefs: mastery experience, vicarious experience, social persuasion, and affective state. *Mastery experiences*, or the perception that an individual has been successful, tend to raise efficacy beliefs, especially when coupled with an internal locus of control such as ability or effort (Pintrich & Schunk, 2002). *Vicarious experiences* are those modeled by someone else. When an individual identifies well with a model and that model performs well, then the efficacy beliefs of the observer are usually enhanced, and vice-versa (Schunck & Zimmerman, 1997). *Social persuasion* usually occurs when an individual receives specific performance feedback from a supervisor or colleague. The potency of persuasion depends on the credibility, trustworthiness, and expertise of the persuader (Bandura, 1986). *Affective states* refer to the level of arousal, either negative such as anxiety, or positive such as excitement. Affective states effect an individual's perception of their own competence or incompetence (Goddard, Hoy, & Woolfolk Hoy, 2004). It stands to reason that the design and delivery of leadership programs could affect each of the four elements that shape efficacious beliefs – a student's success at performing leadership tasks and processes (mastery experiences), observing relatable peers achieve leadership goals (vicarious experiences), receiving feedback and recognition about leadership performance (social persuasion), and one's personal engagement in leadership processes (affective state) would all shape student efficacy for leadership.

McCormick (2001) defined leadership self-efficacy as "one's self-perceived capability to perform the cognitive and behavioral functions necessary to regulate group process in relation to goal achievement" or more broadly "a person's confidence in his or her ability to successfully lead a group" (p. 30). He conjectures that leadership self-efficacy is critical to the leadership process because it affects the goals a leader selects, leader motivation, the development of leadership strategies, and the execution of those strategies (McCormick). This study examined the extent to which well-designed leadership programs served as antecedents to the development of leadership self-efficacy in college students.

Summary of the Literature

In order to make a case for examining the effects of the design and delivery of student leadership programs on the student outcomes of leadership for social change and self-efficacy for leadership, several key bodies of literature were reviewed. A review of extant leadership typologies and leadership program evaluation literature reveals decades worth of descriptions and prescriptions for what collegiate leadership programs should entail with little empirical foundation. Most early efforts to evaluate leadership programs suffered from attempts to apply general program evaluation guidelines, or processes adapted from management literature, to student development environments. These attempts were often atheoretical in approach. Those that attempted to examine between college effects often confounded their studies by including corporate and community leadership development programs in their design, and failed to take student or institutional inputs into account. By far the majority of leadership program evaluation

processes focus narrowly on examining the effects of a single leadership seminar, workshop, or retreat, or look only at a single campus' efforts.

However, a small number of early studies did predict the evolution of several important developments in collegiate program evaluation. Several articulated the importance of examining prior skills and experiences students bring with them to college before making assumptions about program impact. Others valued delving deeper into the processes of how particular kinds of leadership interventions might differentially enhance outcomes. Some stated the importance of having common criteria, standards, or outcomes by which to evaluate student leadership learning. Not a single study could be identified, however, that combined all of these important elements – that used a focused theoretical approach to systematically evaluate institutional and programmatic effects on targeted student leadership outcomes. The field of service-learning offers a number of useful studies that attempted to connect the design and delivery of service-learning activities to student and community impact.

This chapter explored what is known about the contribution of institutional factors such as size, type, and Carnegie classification, on the development of student leadership, and revealed few conclusive findings. Evidence suggests that the experiences students have while they are enrolled at college are more powerful predictors of leadership development than an institution's structural or organizational characteristics.
If student experiences matter, it follows that the design and delivery of those experiences can be offered in such a way that either enhance or detract from student leadership outcomes.

Five predicted dimensions related to the design of leadership development programs were explored. Several of these dimensions emerged as clustering factors in the two-step cluster analysis of institutions with leadership development programs. *Program philosophy and theoretical orientation* might have differential effects on student leadership outcomes. The literature suggests that the congruence of leadership program and institutional mission statements, presence of a clear theoretical frame, and involvement of key stakeholders in the evolution and adoption of philosophical approach are essential elements of leadership programs. More studies have attempted to show the connection between particular kinds of leadership involvement and experiences with student outcomes. However, many of these studies do not evaluate leadership outcomes from a particular theoretical stance, and others are less useful due to a single-institution or cross-sectional design. *Common program elements* such as program audience (open, targeted, positional), program function (training, education, and development), and program intensity (short, moderate, long-term) may emerge as essential to student leadership outcomes.

Numerous documents assert that collegiate leadership development programs should have embedded processes of *strategic planning and evaluation* into their leadership program design, yet no studies could be identified that showed evidence of the effect of these processes on student leadership learning. Studies from the fields of higher education administration and business management provide useful roadmaps for how these functions might enhance student gains. Institutions with collegiate leadership development programs that address the following elements of strategic planning and evaluation might cluster together and positively effect student leadership gains: clearly

stated learning outcomes; evaluation plans that include dissemination of results to all stakeholders and the use of results in planning and decision-making; and a process for strategic planning and visioning that goes beyond five years.

Emerging research reveals that institutional expenditures, particularly on areas related to student services and student leadership development, have a statistically significant, albeit modest, affect on student leadership competencies. By examining institutional differences in *fiscal and human resources*, including the nature and amount of funding, number and type of program staff, and presence of dedicated leadership facilities, this study may reveal the extent to which resources make a difference to student leadership gains. Research points to the fact that programs offered in *collaboration* across functional units have generally higher student outcomes than those offered by any one unit alone. This study observed if the effects of cross-unit collaboration; campus-wide coordination; and student, staff, and community involvement have an effect on student leadership outcomes.

After a general review of the evolution of leadership theory, this review of the literature concluded with an examination of student leadership outcomes related to the social change model of leadership development and leadership self-efficacy. Though widely used for program design and delivery, researchers are only now beginning to empirically test the values of the social change model. This study took advantage of a new national normative data set on student leadership outcomes, the Multi-Institutional Study of Leadership (MSL), and examined whether a meaningful, empirical typology of institutions with collegiate leadership development programs could be developed based on structural and programmatic characteristics of leadership development programs, and

the extent any resulting typology is associated with gains on the eight values of the social change model of leadership development. Further, the role of self-efficacy in relation to human performance, learning, and motivation has been empirically demonstrated. What are less clear are the antecedents for leadership self-efficacy. The design and delivery of leadership programs could affect each of the four elements Bandura (1986) proposes shape efficacious beliefs – a student's success at performing leadership tasks and processes, observing relatable peers achieve leadership goals, receiving feedback and recognition about leadership performance, and one's personal engagement in leadership processes would all shape student efficacy for leadership. This study examined whether the resulting typology of institutions with leadership development programs had differential effects on student self-efficacy for leadership.

The majority of research on the college student experience suggests that student engagement (Kuh, Schuh, & Whitt, 1991), involvement (Astin, 1984), or integration (Tinto, 1993) is what makes a difference to student learning. The bulk of literature on designing and delivering high quality student leadership programs rely on prescriptive advice as to what program features will be most engaging, and thus most likely to produce enhanced student leadership outcomes. Few studies attempt to connect these two streams of research (Cress at al., 2001). Of those studies that do attempt to link the actions or design or leadership programs with outcomes, many suffer from empirical constraints. This study addressed the gaps in the college leadership program evaluation literature by examining which elements of college student leadership development programs served as cluster factors in the development of a typology of institutions with

leadership programs, and what types of leadership development programs most impacted perceived student leadership outcomes.

CHAPTER III

METHODOLOGY

This study sought to address the gaps in the college leadership program evaluation literature by attempting to create a meaningful, empirical typology of institutions with collegiate leadership development programs based on structural and programmatic characteristics. It then examined the extent to which the resulting typology of leadership programs differentially influenced perceived student leadership outcomes. This chapter builds on the preceding introduction and review of the literature by presenting a research plan that addresses: research questions and hypotheses, information about participants and sampling strategy, efforts to assure informed consent, description of instrument development and use, procedures for data collection and analyses.

Because this study relied on different instruments and existing data sets to approach the two main research questions, each question was addressed separately beginning with exploring the creation of a typology of institutions with collegiate leadership development programs, followed by examining differences in the level to which institutional characteristics and potential identified clusters of institutions with leadership development programs influenced student leadership efficacy and leadership for social change. This chapter concludes with a discussion of potential study limitations related to the use of self-report data, using content-matter experts to assess institutional characteristics, the identification and labeling of factors, and addressing two theoretical outcomes of leadership programs.

Research Question One

Purpose and Hypotheses

As previously reviewed, numerous attempts have been made to define key elements of collegiate leadership development programs (Anthony-Gonzales & Fiutak, 1981; Boatman, 1999; Chambers, 1992, 1994; Cress et al., 2001; CAS, 2006; Eich, 2007; Janosik & Sina, 1988; Roberts & Ullom, 1990; Russon & Reinelt, 2004; Zimmerman-Oster & Burkhardt, 1999a). Despite the emergence of some common themes or potential defining characteristics of collegiate leadership development programs, few studies rely on an empirical methodology in the development of those themes (Anthony-Gonzales & Fiutak, 1981; Boatman, 1999; CAS, 2006; Janosik & Sina, 1988; Roberts & Ullom, 1990). Those studies that use qualitative thematizing to develop proscriptions for leadership programs were often small in scope, and thus limited in their transferability (Eich, 2007), or were atheoretically designed (Chambers, 1992). Those studies that attempted to quantify elements of leadership program design were often less useful for institutions of higher education because they drew from cross-sector samples that included business and community leadership development programs (Russon & Reinelt, 2004), or confounded leadership program involvement with general campus involvement (Kezar & Moriarty, 2000; Cress et al., 2001). This study drew on previous leadership program evaluation literature to explore the emergence of an empirical typology of institutions with leadership development programs based on a set of questions designed to assess the defining characteristics of the design and delivery of collegiate leadership development programs. The resulting research question and accompanying hypothesis were as follows:

Research Question One

Can a meaningful, empirical typology of institutions with collegiate leadership development programs be developed based on structural and programmatic characteristics?

Hypothesis One

The number and composition of clusters of institutions that may emerge in the creation of a typology of institutions with leadership development programs is hard to predict based on the exploratory nature of this study. Extant leadership program evaluation literature suggests that several theoretically meaningful groups of organizational characteristics related to the design and delivery of leadership development programs may emerge as clustering variables. Prior research suggests institutional choice patterns about the following variables may affect clustering patterns.

> *Program philosophy and theoretical orientation*. The literature suggests that the congruence of program and institutional mission statements (Boyer, 1990; Chaffee, 1998; Holland, 1999; Kezar, 2006; Kezar & Kinsey, 2006; Roberts & Ullom, 1990; Zimmerman-Oster & Burkhardt, 1999a, 1999b); presence of a clear theoretical frame (Dugan & Owen, 2007; Haber, 2006; CAS, 2006; Rost, 1993; Yukl, 2002; Zimmerman-Oster & Burkhardt, 1999a); and involvement of key stakeholders in the evolution and adoption of philosophical approach (Chambers 1992, 94; Roberts & Ullom, 1989) are essential elements of leadership programs.

Common program elements. Program design variables such as intended program audience (Haber, 2006), program function (CAS, 2006; Roberts & Ullom, 1989), and program intensity (Dugan & Haber, 2006) should emerge as a key factors of leadership development programs.

Strategic planning and evaluation. Though no studies could be identified that showed evidence of the effect of these processes on student leadership learning, studies from the fields of higher education administration and business management indicate these functions might enhance student gains (Birnbaum 1998, 2000; Bolman & Deal, 1997; Hage, 1980; Hage & Aiken, 1970; Strange, 1983). Institutions with programmatic elements such as clearly stated learning outcomes (Strayhorn, 2006); evaluation plans that include dissemination of results to all stakeholders and the use of results in planning and decision-making (Eich, 2007; Zimmerman-Oster & Burkhardt, 1999a); and a process for strategic planning and visioning that goes beyond five years (Day, 2001) should cluster together.

Fiscal and human resources. Emerging research reveals that institutional expenditures, particularly on areas related to student services and student leadership development, have a statistically significant, albeit modest, affect on student leadership competencies (Smart et al., 2002; Toutkoushian & Smart, 2001). Leadership program elements such as the nature and amount of funding,

number and type of program staff, and presence of dedicated leadership facilities, may emerge as a clustering theme (CAS, 2006).

C*ollaboration.* Educational programs that span functional units have generally higher student outcomes than those offered by any one unit alone (Inkelas, Longerbeam, Brown Leonard, & Soldner, 2005, p. 25; Magolda, 2005; Pike, 1999). A clustering factor may include institutions that practice cross-unit collaboration (Haber, 2006); have campus-wide coordination (Roberts & Ullom, 1990); and value student, staff, and community involvement (CAS, 2006) in leadership efforts.

Study Design: MSL-IS

In order to determine whether a meaningful, empirical typology of institutions with collegiate leadership development programs could be developed based on structural and programmatic characteristics, a 52 item instrument was designed to assess the salient factors of collegiate leadership development programs. The Multi-Institutional Study of Leadership-Institutional Survey (MSL-IS) is a quantitative survey designed to gather basic data about institutions participating in the Multi-Institutional Study of Leadership (MSL).

Participants and Sampling Strategy

A call was sent out over several national listservs, including those of the National Clearinghouse for Leadership Programs (NCLP) and the American College Personnel Association's (ACPA) Commission for Student Involvement, seeking institutional participants in a new national study of social change leadership outcomes, the Multi-

Institutional Study of Leadership (MSL). This request resulted in approximately 150 interested institutions. A total of 55 institutions were purposefully sampled from that group using maximum variation sampling in order to ensure a variety of institutional types, sizes, and complexity of leadership development programs. Institutional sampling criteria included the presence or absence of having a leadership development program on campus, the extent to which the social change model was used as a theoretical foundation for the program, and the type of institution (public/private; 2 year/ 4year; Carnegie classification; geographic location; serving special populations such as HBCUs, HSIs, or women's colleges). A full list of participating institutions as well as sampling criteria is attached in Appendix H. Of the 55 institutions invited to participate in the MSL, two institutions withdrew before the study began due to time constraints and one institution was unable to successfully complete the research protocol, resulting in 52 institutional participants.

Each of the 52 institutions participating in the MSL was sent a hard copy of the MSL-IS institutional survey, a separate informed consent form, a cover letter, and a postage-paid return mail envelopes. A cover letter to the MSL-IS asks that campuses identify "the person most knowledgeable about co-curricular leadership development programs on their campus" and have them complete the survey. One of the survey items also asks respondents to self-rate their own perception of their personal knowledge about existing leadership programs on their home campus on a Likert scale ranging from one, "not informed" to four, "highly informed". Further instructions encouraged respondents to seek out information they did not know the answer to in order to ensure accurate responses. Several campuses established working groups, or involved existing advisory

boards, to complete the survey. A total of 54 surveys were sent out to all initial MSL participating institutions and 53 were returned in usable format, so the full population of MSL participants, less one, comprises the sample of this study. One of the 53 returned MSL-IS survey will not be included in analyses because the corresponding student outcomes data on the MSL instrument were deemed unusable based on institutional problems applying the research protocols on that campus. Since no corresponding student outcomes data can be identified, survey data for that institution will not be included in the sample.

Human Subjects

Human subjects permission was approved on February 3, 2006, for the MSL-IS through the University of Maryland, College Park, Institutional Research Board (IRB) and covers this research project. IRB expedited renewal for this project was approved on September 21, 2007. See Appendix A for a copy of the IRB approval for this study and Appendix B for the MSL-IS IRB renewal notification. A copy of the participant informed consent form is available in Appendix E.

Measures

The MSL-IS is a 52-item instrument was created expressly for the purpose of this study by the MSL research team and asks for basic institutional data (demographics) as well as descriptions of leadership program elements including: structure, staffing, funding, facilities, goals, collaborations with stakeholders, and leadership program content. Responses vary from categorical/multiple choice formats, open-ended responses, to four-point Likert scales ranging from strongly disagree (1) to strongly agree (4). Though questions were theoretically derived by the research team from a thorough

review of the leadership evaluation literature, comply with Berdie, Anderson, and Niebuhr's (1986) guidelines for designing a questionnaire, and were reduced according to Cronbach's (1982) divergent and convergent evaluation question process as outlined in Gall, Gall, and Borg (2003), item reliability and validity measures for the MSL-IS have not been established. Most items were information-gathering or behavioral in nature. Of the items that assess attitudes, one question set examined the extent to which respondents believed their campus's leadership programs reflected each of the eight values and three levels of the social change model, and the other question set was derived from a set of leadership program evaluation criteria developed by Chambers (1994) through a Delphi approach with the following Cronbach alpha reliability estimates on the initial survey: program structure questions (α=.8406); program method (α=.8464); program administration (α=.8705); and program consequence measures (α=.9190). Appendix F contains the full version of the MSL-IS instrument.

Pilot Test

A pilot test of the MSL-IS was conducted at University of Maryland, College Park. Three content-experts in co-curricular leadership development were identified and approached via email about piloting the instrument. Two of the three completed a MS Word version of the survey. Respondent feedback led to clarification of the language of the questions, an increase in the number of questions that allow for multiple response options, and a change in the organization of the survey.

Data Collection

Data collection occurred between January and April, 2006, concurrent with the MSL data-gathering process. Each institution participating in the MSL first received an email from their campus liaison informing them about the MSL-IS concurrent survey process and timeline (Appendix C). After receiving the email alert, each MSL institutional contact was sent a packet that contained a hard copy of the MSL-IS, a cover letter signed by the MSL principal investigators, a separate informed consent form, and two postage-paid return mail envelopes. The cover letter (Appendix D) to the MSL-IS asked campuses to identify "the person most knowledgeable about co-curricular leadership development programs on campus" and have that individual complete the survey, as well as gather any printed materials (brochures, flyers, web pages) that describe their campuses leadership development efforts. Respondents were asked to sign the enclosed consent form that was pre-stamped with an institutional code so that institutional returns could be monitored. Completed surveys were pre-stamped with the same institutional code and did not ask for further identifying respondent information, and were returned in a separate envelope to protect confidentiality. Once returned, signed consent forms were kept in a separate location from the MSL-IS data. Returned data was reviewed and any institutional identification (especially on the submitted printed materials) was blacked out before surveys and materials were filed under lock and key according to IRB protocols.

Data Analysis Plan

Data Preparation

Because respondents were already invested in the larger MSL study and were committed to participating in the MSL-IS companion study, submitted data sets appeared complete and accurate when reviewed. There were no apparent outliers, duplicate submissions, or evidently falsified data. Missing data was minimal and as such were left in the sample. More common were hand-written comments adding extra information to provocative question items. For example, respondents wanted researchers to know about their future plans for leadership development on their campuses, often including information about new programs, websites, or centers. They include more detailed information about grants, sources or revenue, and staffing patterns. A few wrote in questions inquiring about where they could find additional information on particular leadership theories or models. Research team members who entered data into SPSS kept a separate Excel record of any additional narratives included by respondents. A four person graduate student research team coded the MSL-IS instrument, created variable labels using SPSS data labeling protocols (Pallant, 2005), and entered the data into SPSS statistical package version 15.0 for ensuing analyses.

Two-Step Cluster Analysis

In order to examine whether a meaningful, empirical typology of leadership development programs at 52 institutions would emerge from MSL-IS data, cluster analysis was be used. Cluster analysis is an exploratory tool designed to reveal natural groupings, or clusters, within a dataset that might not otherwise be apparent (Hair, Anderson, Tatham, & Black, 1998). Because of its partitioning ability, cluster analysis is

especially useful in developing taxonomic (exploratory) or typologic (theoretically-based) classification of objects (Hair & Black, 2000). Two-step cluster analysis, a relatively new analytic procedure, was designed for use with either very large datasets or datasets that make use of both categorical and continuous variables (Norusis, 2007). This study does not make use of a large dataset, but does require an analytical procedure capable of handling categorical and continuous data.

Cluster analysis relies on distance measures between observations based on the weighted sum of continuous variable distances and categorical variable distances (Hair et al., 1998). When trying to apply traditional cluster analysis to data that involves both categorical and continuous responses, any choice of how researchers weight the sum of the distances may bias the treatment of different variable types (SPSS, 2007). With two-step cluster analysis, observations are grouped into clusters based on a nearness criterion. This process will use the Bayesian Information Criterion (BIC) algorithm, a statistical criterion for model selection, to determine the number of clusters (Schwartz, 1978). Unexplained variation in the dependent variable and the number of explanatory variables increase the value of BIC, so a lower BIC implies either fewer explanatory variables, better fit, or both (Schwartz).

Because two-step cluster analysis does not involve formal hypothesis testing or calculation of significance testing, it is less important that data be normally (continuous) or multinomially (categorical) distributed, or that assumptions of independence are met (Hair et al., 1998; Norusis, 2007). Instead, the focus is on the representativeness of the sample and issues of multicollinearity. Because the MSL-IS sample represents the full population of all institutions that completed the MSL data collection process,

representativeness is assured, but care must be taken when trying to generalize this typology of MSL institutional participants to all institutions across the country or globe. Because variables that are multicollinear are weighted more heavily in cluster analysis (Hair et al.) care must be taken not to either include variables that co-vary too much, or to use distance measures that compensate for the correlation. Norusis recommends using BIC as distance measures when both categorical and continuous variables are involved. Should extreme outliers arise, Norusis recommends creating a distinct outlier cluster that includes all cases that do not fit well with the rest. Hair and Black call this an "entropy group" (p. 157). This decreases the likelihood of having numerous smaller, and often less theoretically meaningful, clusters, and increases the homogeneity of the remaining clusters. All data are automatically standardized to account for differences in variable metrics.

The first step in two-step cluster analysis is the formation of pre-clusters, or clusters of the original data, based on matrices of distance measures of all possible pairs of cases in the original data set. This pre-clustering process involved one pass through the data that finds cluster centers and assigns cluster membership (SPSS, 2007). The result is a Cluster Feature (CF) tree that contains the cluster centers. This process uses the Bayesian Information Criterion (BIC) algorithm to determine the number of clusters. The algorithm calculates a BIC for each number of clusters within a specified range which is used to find the initial, or pre-cluster, estimate of the number of clusters (SPSS, 2007).

In the second step, SPSS uses the standard hierarchical clustering algorithm on the pre-clusters to add 'leaves' to the CF tree. The second step refines the initial cluster estimate by finding the greatest change in distance between the two closest clusters in

each hierarchical clustering stage (SPSS, 2007), so sub-clusters from the pre-clustering stage are grouped into the desired number of clusters.

Forming clusters hierarchically allows the researcher to examine a range of solutions, each containing a different number of clusters, and apply theoretical constructs to the interpretation of the clusters (Norusis, 2007). SPSS produces numerous tables and displays to aid with the interpretation of clusters. For categorical variables, crosstabs and associated Chi-Square tests help with cluster interpretation. For continuous variables, mean plots and associated confidence intervals for the mean plots are produced. To determine the number of clusters in the final solution, "the researcher must view each cluster solution for its description of structure balanced against the homogeneity of the clusters" (Hair & Black, 2000, p.155). The goal is to select the simplest structure that represents the most homogenous groupings. Cluster variables from resulting clusters will be analyzed based on the aforementioned hypothesized structural and program elements that prior literature had identified as possibly important, including: program philosophy and theoretical orientation, common program elements, strategic planning and evaluation, fiscal and human resources, and collaboration. From this evaluation of cluster variates, it is hoped that a meaningful typology of leadership development programs emerge. If interpretation is difficult or atheoretical, or if meaningful clusters do not emerge, secondary content analyses on documents submitted as part of the MSL-IS study will be used to aid interpretation or form a heuristic of institutions so that research question number two can still be explored. If meaningful clusters do emerge, secondary content analyses will be used to add to the face validity of the cluster solution. Resulting cluster solutions will be validated using methods recommended by Hair and Black (2000).

Discriminant validity will be determined by examining differential effects of clusters on selected outcomes variables external to the cluster analysis in research question two. Face validity will be supported by profiling clusters with narrative descriptions of members of each cluster (Hair & Black).

Table 3.1 presents the specific items from the MSL-IS that will be used as clustering variables, as well as items that will be examined in external analysis after clusters are formed. Because of the small sample size of 52 campuses, experts recommend no more than five variables be selected (Borg & Gall, 1989), so one indicator was selected for each of the five dimensions of interest indicated in the literature. Because co-curricular leadership programs are the main focus of interest, analyzing programs based only on the total number of open, targeted, and positional programs produced was considered, but because these three items co-vary so much they added too much multi-collinearity to the findings and inflated BIC scores, so only one measure of quantity of programs (total number of open, targeted, and positional programs offered) was included as a clustering variable. Additional variables will be considered via external analysis after clusters are formed to further examine cluster discrimination.

Table 3.1 Clustering Variables and Additional Indictors from the MSL-IS

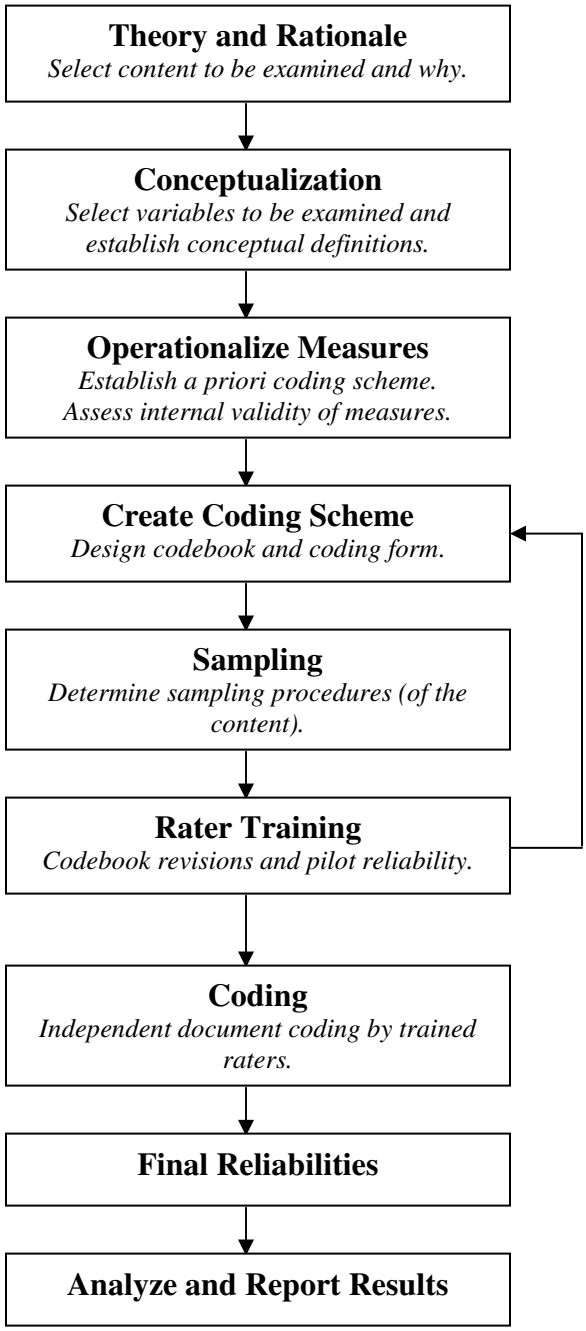
	Selected clustering variable	*Additional indictors for external analysis*
Program philosophy and theoretical orientation	Q23a LDSPDEF (categorical) Presence of a clear definition of leadership that informs program/office	Q9 INSTGOAL Leadership recognized as an essential goal for campus by institutional policy groups Q24f THE_SCM Social Change Model used in primary co-curricular leadership program
Common program elements	TOTPRGS (continuous) Sum of total number of co-curricular leadership development programs that address open,	TOTOPENPRGS Sum of total number of programs that address *open* audiences

	targeted, and positional audiences	TOTTARGETPRGS Sum of total number of programs that address *targeted* audiences TOTPOSITPRGS Sum of total number of programs that address *positional* audiences
Strategic planning and evaluation	Q26a PRSTRPLN (categorical) Presence of program strategic plan	Q28b PROGSTAGES Stage of development of primary co-curricular leadership program Q39 PRLRNOB Primary co-curricular leadership program has stated learning objectives Q42b DATA_CHG Program data is used to make changes/improvements to existing programs
Fiscal and human resources	Q32 ANNLBUD (continuous) Approximate annual budget in dollars, excluding salaries	LSCTR Presence of a leadership center on campus TOTAL_SOLESTF Total number of solely focused staff members TOTAL_AFFSTF Total number of affiliated staff members
Collaboration	AVG_TOTAL_COLLAB (continuous) Average frequency of collaboration with fifteen different campus units	CORENTIT Is there a campus-wide coordinating entity devoted to leadership programs

Secondary Content Analyses

In order to further examine the face validity of the cluster solution, secondary content analyses were also conducted on websites submitted as part of the MSL-IS document submission process. A four person research team followed protocols for an integrative model of content analysis as enumerated by Nuendorf (2002). Nuendorf proposes nine essential steps in the content analysis process. These are described below, and represented in Figure 3.1, with a focus on how the MSL-IS content analysis team addressed each of these steps.

Figure 3.2 *Content Analysis Flowchart*
(Adapted from Neuendorf, 2002)



Step one, *theory and rationale*, involved determining what content will be examined and what theories or perspectives inform this decision (Nuendorf, 2002). Given the wide variety of documents submitted by MSL-IS respondents, which ranged from nine respondents submitting no additional documents to ten institutions submitting more than twenty documents each, the MSL-IS coding team decided to focus on the most commonly submitted material. This included documents and websites that provided program descriptions, including statements of mission, vision, values, and guiding philosophy. As outlined in chapter two, there are a plethora of prescriptive resources that proclaim the essential role of program mission statements to the success of leadership development programs (Kezar, 2006; Roberts & Ullom, 1990; Zimmerman-Oster & Burkhardt, 1999a). Another group of articles emphasize the importance of clear definitions of leadership and program theoretical orientation ((Dugan & Owen, 2007; Haber, 2006; CAS, 2006; Rost, 1993; Yukl, 2002; Zimmerman-Oster & Burkhardt, 1999a). The MSL-IS team did a thorough review of this literature in deciding to code co-curricular program mission statements, as well as to examine the strength of the connection between program and institutional mission statements, as documents that might speak to the intentionality and theoretical orientation of co-curricular leadership programs.

Step two, *conceptualization*, involved deciding what variables will be examined in the study and how they will be defined (Nuendorf, 2002). Based on the aforementioned literature review, it was decided the following variables would be examined in the content analysis of leadership program statement of purpose documents: presence of a theoretical frame; expression of leadership-related values; expression of leadership-

related assumptions; presence of a clearly stated definition of leadership; and strength of connection between program mission and institutional mission.

Step three, *operationalizations (measures)*, involved determining what unit of data collection will be assessed (Nuendorf, 2002). Again, the decision was made to code documents and websites that provided program descriptions, including statements of mission, vision, values, and guiding philosophy. There was some discussion about whether only to examine submitted materials, or to conduct an online search for materials for all MSL-IS participating institutions. Because the MSL-IS did request a URL for each participating institutions' leadership program website, and because most respondents submitted material from their website, it was decided that online searches would be conducted to obtain as complete a dataset as possible. Institutional mission statements were also obtained from the web. The team also decided that if the documents were not easily locatable using search parameters such as "mission of the institution" and "leadership program" they would not be included in the search. No institution was contacted and asked to submit additional materials. Research team members noted the source of the document (MSL-IS submission, website search, etc.) as part of their coding process. All obtained documents were converted to plain text and stripped of identifying words or locations so as not to bias coders.

Step four, *coding schemes*, involved developing a codebook that explains all variable measures and coding choices, and a coding form to record observations (Nuendorf, 2002). These are based on the review of literature related to leadership program frameworks and can be found in Appendix G. Step five, *sampling*, involves

choosing if and how to randomly sample a subset of the population (Nuendorf, 2002). Because the *n*=52 the full population sample was coded.

Step six, *training and pilot reliability*, involved holding a training session in which coders work together to determine whether they can agree on the coding of variables. Much of the success of human-based content analysis is dependent on the knowledge and skills of raters. Kivlighan and Miles (2007) note that the content analytic approach assumes that raters can inductively and deductively recognize the important thematic material from selected documents and can correctly classify information. All selected raters were familiar with collegiate leadership development programs and current literature on college student leadership development. The codebook and coding form may be revised numerous times at this stage. Then, in an independent coding test, reliability coefficients are determined (Nuendorf, 2002). Four separate coding training sessions were conducted for research team members over a two month period in fall 2007. Training involved applying the codebook to program and institutional mission statements of schools who were not MSL-IS participants, comparing coding results, and altering the codebook to reflect the emerging consensus about definitions of variables. The last training session involved coding program and institutional mission/philosophy statements from four diverse, non MSL participating institutions. These coded documents were used to calculate initial variable and inter-rater reliabilities.

Step seven, *coding*, involved the independent coding of documents by two or more individuals (Nuendorf, 2002). All three research team members coded all 52 MSL-IS plaintext program and institutional mission statements. At the conclusion of coding, *final reliabilities* were established as detailed in step eight (Nuendorf, 2002).

Finally, results from codebooks were *tabulated and reported* in step nine (Nuendorf, 2002). Again, following the model of integrative cluster analysis, these results were used in conjunction with another dataset, the resulting clusters from the two-step cluster analysis, in order to aid with cluster interpretation.

Resulting clusters of institutions, along with external analysis of secondary characteristics, were augmented with scores from the content analysis to aid in cluster description. In addition, content analysis results as to presence or absence of a theoretical frame, presence of a clearly stated definition of leadership, and strength of connection between program mission and institutional mission were entered into the SPSS database for each institution.

Research Question Two

Purpose and Hypotheses

As previously described, there are few studies of collegiate leadership development programs that attempt to empirically examine whether students who participate in programs with divergent structures and characteristics actually achieve different outcomes. Though the social change model is one of the most widely theoretical frames for the design and delivery of collegiate leadership programs (Outcalt, Faris, & McMahon, 2001; Saint Norbert College, 1996), researchers have been hampered in their ability to quantitatively measure the values of the model until the creation of the SRLS (Tyree, 1998) and the subsequent development of a national normative database of student leadership outcomes through the MSL (Komives & Dugan, 2006). This study examined the extent to which the resulting typology of leadership development programs

influenced the eight values of the social change model of leadership development, as measured by the omnibus-SRLS scale.

It also stands to reason that different types of leadership development programs could differentially affect each of the four elements that shape efficacious beliefs – a student's success at performing leadership tasks and processes, observing relatable peers achieve leadership goals, receiving feedback and recognition about leadership performance, and one's personal engagement in leadership processes (McCormick , 2001). This study examined the extent to which different types of leadership programs influenced leadership self-efficacy in college students.

Research Question Two

Are there differences in the extent to which divergent classifications of leadership programs influence perceived college student leadership efficacy and leadership learning outcomes?

Hypothesis Two

There is little empirical research to support directional hypotheses about the extent to which categories of any emergent typology of leadership programs predict perceived student leadership and efficacy outcomes. If the theoretical foundations of a leadership program are as important as proscriptive literature says they are (Dugan & Owen, 2007; Haber, 2006; CAS, 2006; Rost, 1993; Yukl, 2002; Zimmerman-Oster & Burkhardt, 1999a), one could hypothesize that students on campuses that use the social change model of leadership to guide their leadership program should have higher scores on the omnibus-SRLS scale. Taking into account Cress et al.'s (2001) finding that even uninvolved students at schools that had a leadership development program indicated

higher leadership outcomes than peers at campuses that did not have formal leadership programs, the mere presence of a leadership program should have a "halo effect" on perceived student leadership outcomes. If institutional expenditures really do affect student gains (Smart et al., 2002; Toutkoushian & Smart, 2001), campuses with well-funded programs should produce students who score higher on leadership and efficacy measures. If programs that span functional units have generally higher student outcomes than those offered by any one unit alone (Inkelas, Longerbeam, Brown Leonard, & Soldner, 2005; Magolda, 2005; Pike, 1999), campuses with collaborative approaches to leadership development should have students with higher gains. To summarize, clusters of institutions in the emerging typology of leadership development programs from the MSL-IS will influence student self-reported outcomes of leadership and leadership efficacy on the MSL to varying degrees.

Study Design

The conceptual frame for research question two is Astin's (1993) college impact model. This model, also known as the inputs-environment-outcomes or IEO model, attempts to account for the extent the environment influences student growth or change, while taking relevant pre-college influences into account. This study used hierarchical linear modeling to assess the environmental/college experience variable of institutions with different types of leadership development programs on the dependent variables of leadership for social change and student self-efficacy for leadership, while accounting for pre-college factors such as demographic variables and pre-college involvement. Institutional characteristics including enrollment size, public or private control, and Carnegie classification were also examined. Outcomes data were gathered as part of the

Multi-Institutional Study of Leadership (MSL), a 52 campus study designed to examine the influence of the college environment on theoretically grounded leadership development and to explore the leadership development needs of college student (Komives & Dugan, 2006).

Participants and Sampling Strategy

The institutional sampling strategy was described previously with research question one. To briefly reiterate, a total of 55 institutions were purposefully sampled from that group using maximum variation sampling in order to ensure a variety of institutional types, sizes, and complexity of leadership development programs. Institutional sampling criteria included the presence or absence of having a leadership development program on campus, the extent to which the social change model was used as a theoretical foundation for the program, and the type of institution (public/private; 2 year/ 4year; Carnegie classification; geographic location; serving special populations such as HBCUs, HSIs, or women's colleges). A full list of participating institutions as well as sampling criteria is attached in Appendix I.

Students at each participating institution were sampled as follows. Following study protocols, full population samples were drawn for institutions with fewer than 4,000 students. All other participating schools drew a simple random sample of undergraduate students from the general student population at their institution. Institutional samples were standardized at a 95% confidence level with a $\pm$3 confidence interval. Over-sampling at a rate of 70% was then used to capture the desired 30% return rate typical for web survey research (Crawford, Couper, & Lamias, 2001). Institutions were also able to draw a comparison sample of up to 500 cases based on criteria they set

themselves, but these cases are not used as data in this proposed study. The total original sample was 155,716 cases. When the data was cleaned to account for partial responses (cases with less than 90% of the core survey questions completed were removed) and ineligible participants (e.g. graduate students), the final sample was 50,378 students. A non-respondent analysis was conducted to ensure sampled students accurately represented institutional demographics such as race, socioeconomic status, and gender, and was found to be representative as is true of most large data sets.

This study further narrowed the 50,378 student sample to exclude community college respondents and part-time students who were a significantly smaller sample than their four-year college and full-time student counterparts. It also examined only seniors who have had more time to experience the programmatic efforts of their institutions. The resulting sample used in this study was 6,759. A detailed explanation of this data reduction is offered in Chapter Four.

Human Subjects

Human subjects permission was approved on October 21, 2005 for the MSL through the University of Maryland, College Park, Institutional Research Board (IRB) and covers this research project. IRB expedited renewal for this project was approved on September 28, 2007. See Appendix J for a copy of the IRB approval for this study and Appendix K for the MSL-IS IRB renewal notification. Each of the 52 institutions participating in the MSL also had to obtain approval of the institutional research or human subjects boards on their home campus, or in absence of such a group, produce a letter of support from the head of institutional research or the senior student affairs officer. Given the various protocols at each campus, participant informed consent forms

varied from campus to campus. A copy of the basic template of the participant informed consent form is available in Appendix O.

Measures

The MSL instrument was created from existing and newly developed scales to assess student leadership outcomes at institutions of higher education. Designed to follow the Astin's (1993) IEO model, the instrument assesses student inputs such as demographics and pre-college characteristics, environmental variables related to college experiences, and outcomes measures of student leadership, efficacy, appreciation of diversity, and cognitive development among others. Measures of appreciation of diversity and cognitive development were developed from composite scales used with permission from the National Study of Living Learning Programs (Inkelas & Associates, 2004; Inkelas, Vogt, Longerbeam, Owen, & Johnson, 2006). Participating institutions were also allowed to add up to ten custom questions based on their own institutional interests, but these questions are not used in this proposed study. This study proposes to focus on the outcome measures for socially responsible leadership and leadership self-efficacy.

The core outcomes questions on the instrument are based on the Socially Responsible Leadership Scale (SRLS), a 103-item instrument designed to measure eight outcomes associated with socially responsible leadership – consciousness of self, congruence, commitment, common purpose, collaboration, controversy with civility, citizenship, and change (Tyree, 1998). When the original dataset for the SRLS could not be retrieved, data from an institution that had utilized the original 103-item instrument was used to reduce the scale to an 83-item version of the SRLS, which was used for the pilot test (Appel-Silbaugh, 2005). When pilot tests revealed that the 83-item measure was

still too lengthy, the research team returned to the 103-item version, did further scale analyses and reduction based on item loadings which resulted in the final revised 68-item instrument, the SRLS-2 (Dugan, 2006). The SRLS-2 was used as the basis for the MSL. Each construct on the SRLS-2 is comprised of between 6 and 11 items. Participants self report using a 5-point Likert scale response continuum ranging from strongly disagree (1) to strongly agree (5). Internal reliability for the 68-item instrument ranged from .77 for controversy with civility and citizenship to .83 for commitment. Reliability coefficients for each of the MSL scales can be found in Table 3.2 below. High rates of intercorrelation among the eight measures SRLS-2 led researchers to conduct a principal components analysis with Oblimin rotation in order to examine the factor structure underlying the scale (Komives & Dugan, 2006). The resulting single factor scale, labeled the omnibus-SRLS explains over 70% of the variance in the eight measures and has a Cronbach alpha of .96.

Table 3.3 Reliability Estimates for Socially Responsible Leadership Scale

Reliability Levels for All Scales	Tyree SRLS 1998	MSL Pilot 2005	REVISED SRLS-2 2006	**MSL 2006**
Consciousness of Self	.82	.83	.78	**.79**
Congruence	.82	.85	.79	**.80**
Commitment	.83	.87	.83	**.83**
Collaboration	.77	.83	.80	**.82**
Common Purpose	.83	.87	.81	**.82**
Controversy with Civility	.69	.77	.72	**.77**
Citizenship	.92	.92	.89	**.77**
Change	.78	.83	.82	**.81**

The leadership efficacy quasi-pretest scale and outcomes scale were created by the MSL research team based on a thorough literature review of concepts developed by Bandura (1997) and in consultation with leadership professionals drawn from MSL

campus liaisons in order to establish face and expert validity. The leadership efficacy scales were piloted as part of the MSL pilot where reliability was .81 for the leadership efficacy quasi pre-test items and .88 for the leadership efficacy outcome measure. Significant differences between students who had held a positional leader role and those that never had were found on the leadership efficacy scale outcomes from the MSL pilot data and help establish the scales' discriminant validity. The scale is comprised of four items scored on a four-point Likert response scale ranging from (1) not at all confident, to (4) very confident. Means for each item on the leadership efficacy scale from the MSL are found in Table 3.3 below. The Cronbach alpha for the overall leadership efficacy outcomes scale was .89.

Table 3.4 Item Means and Scale Reliability Estimates for Leadership Efficacy.

Leadership Efficacy item *How confident you could be successful at…*	**Pre-test** Alpha .85	**Post-test** Alpha .89
Leading others	2.75	3.06
Organizing a group's tasks to accomplish a goal	2.85	3.13
Taking initiative to improve something	2.90	3.13
Working with a team on a group project	3.08	3.30

Pilot Test

Two pilot tests of the MSL were conducted at University of Maryland, College Park, during fall 2005. During the first pilot, approximately fifteen undergraduate students representing a wide range of involvement levels and types were selected to participate. The purpose of this pilot was to clarify the language of proposed MSL items and to establish a baseline of time it took to complete the survey. The pilot study utilized a paper version of the MSL and took between 20 and 55 minutes for respondents to

complete based on the number of things they were involved in and their reading skill level. Information obtained during debriefing interviews with students who took the pilot test resulted in a need to reduce the time burden of the survey.

A second pilot of the web-based version of the MSL was conducted during December 2005 on 3,000 randomly selected undergraduate students at the University of Maryland, College Park. A total of 782 participants responded to the pilot test resulting in a return rate of 23%. The web pilot showed a 12% drop off rate so other reductions in amount of survey items were warranted. The average response time for this version was 25-30 minutes. Researchers further reduced the SRLS item block, as well as randomized both the question order and the 8 SRLS item blocks so that any drop-off in survey completion would be shared across the entire set of SRLS questions. These changes reduced the average survey completion time to approximately 20 minutes.

Data Collection

The MSL was administered between January 20th and March 8th, 2006, in three week blocks selected by each participating institution based on their academic calendar. The survey was administered over the internet by a research design firm, Survey Sciences Group, contracted to do data management and cleaning for the MSL. Students sampled to participate received up to four email invitations, sent at regular intervals, describing the study and national and institutional incentives for participation (Appendices L, M, & N). National incentives included 5 iPod Nanos, a $50 gift certificate for Old Navy, and free registration for a national LeaderShape Conference. Institutional incentives varied by school, were chosen to appeal to the unique student population at each participating institution, and included everything from free ipods, tickets to sporting events, to coupons

for food items from a popular eatery. The subject line of the survey email varied from three options: blank; "*name of school* campus study"; or "*name of school mascot* campus study". The word "leadership" was purposefully omitted from the subject line so as not to dissuade students who might not consider themselves leaders from participating in the study. The email directed students to a website that assigned them a unique, randomly assigned identification number.

Once students entered the web site, they were prompted to provide their unique identification number. Identification numbers were then separated from each participant's email address in order to protect subject confidentiality. The first page of the survey requested student consent to participate in the study (Appendix O). As previously described, SRLS survey items were randomized to ensure that a certain percentage of all subjects completed each outcome question. Further, skip logic was used so that if participants entered a certain response (e.g. "did not participate in governance organization") then relevant sub-question sets were omitted. This served to reduce the burden to respondents. All students were asked to complete demographic questions and all of the diversity, involvement, and leadership outcomes measures. The average completion time was 20 minutes.

Data Analysis Plan

Data Preparation

Standard data cleaning procedures were used to ensure the quality and accuracy of responses including the removal of outliers, duplicate cases, and potentially falsified data. Any graduate student respondents were removed from the dataset since they were not the focus of the study. Researchers removed outliers in the data set that were identified using

the 5% trim function in SPSS (Dugan & Komives, 2006). Missing data were minimal and as such were left in the sample. Any cases in which the respondent failed to complete at least 90% of the 68 items of the SRLS2 were eliminated (n=6,476). Further data reduction efforts for this particular study are presented in Chapter Four.

Hierarchical Linear Modeling

To explore research question two about whether there are differences in the extent to which divergent classifications of leadership programs influence perceived college student leadership efficacy and leadership learning outcomes, hierarchical linear modeling (HLM) was used. Given the inherent hierarchical or multi-level structure of most organizations observed in leadership research, HLM is frequently used to address issues of nested or cross-level data (Dansereau & Yammarino, 1998a, 1998b; Dansereau, Yammarino, & Markham, 1995; Dyer, Hanges, & Hall, 2005; House, Hanges, Javidan, Dorfman, & Gupta, 2004; Yammarino & Bass, 1991). Since this study involved both individual student outcome data, as well as information about the practices and characteristics of the institutions those students attended, HLM is an appropriate method. HLM allows researchers to address multiple levels of analysis (individual and organizational) simultaneously without violating assumptions of independence (as would happen if data were only analyzed at the individual level) or with-in group differences (as would occur if data were only analyzed at the group level). A two-level HLM involves the creation of three models: 1) a fully unconditional model in which no student or institutional predictors are specified that partitions within and between effects; 2) an unconditional model that examines the effects of individual level predictors; and 3) a

completely conditional model that takes both individual and group level predictors into account (Raudenbush & Bryk, 2002).

This study ran two separate sets of HLM analyses, one using student scores on the omnibus SRLS as the dependent variable, and one using the self-efficacy scale as the dependent variable. Results were interpreted to examine significant predictors of the leadership outcomes with specific attention paid to relationships with the various categories of the emergent typology. Table 3.5 depicts a list of the variables that were entered into the HLM models. The categorical variables of race and emergent typologic classification were dummy coded for entry into the HLM equations. Dichotomous categorical variables (gender, institutional control) and categorical variable that approximate ordinal variables (Carnegie classification and enrollment size) were entered directly.

Table 3.5 Variables for Entry into Hierarchical Linear Models

Variable	**Variable Labels**	**Data Type**	**Type**	**Predictor Level**
Gender	Female (1) Male (2)	Nominal	Input	Individual
Race	White (1) African American/ Black (2) Native American/ Alaskan Native (3) Asian American/ Pacific Islander (4) Latino (5) Multiracial (6) Race/Ethnicity Not Included (7)	Nominal (dummy coded for entry into HLM)	Input	Individual
Pre-college Involvement: Clubs and groups	Never (1) Sometimes (2) Often (3) Very Often (4)	Ordinal	Input	Individual
Pre-college Involvement: Positional leadership roles	Never (1) Sometimes (2) Often (3) Very Often (4)	Ordinal	Input	Individual
Carnegie Classification	Baccalaureate (1) Masters (2) Research Intensive (3) Research Extensive (4)	Nominal	Environment	Organizational

Institutional Control	Public (0) Private (1)	Nominal	Environment	Organizational
Enrollment Size	Small (1=< 3,000) Medium (2=3,001-10,000) Large (3=10,001 >)	Ordinal	Environment	Organizational
Emergent Typological Classifications	Dummy coded for the type of institutional program (as determined by cluster analysis) each student participated in.	Nominal (dummy coded)	Environment	Cross-level

The following provides rationale for inclusion of each of the variables.

Inputs

Knowing that students' pre-college characteristics account for most of their variance on outcome scores it is essential to carefully select input variables that are theoretically linked to the outcomes of interest (Astin, 1993). In this study, gender and race variables were entered as individual level predictors. Gender differences should be accounted for in this study since extant literature reveals how women may understand leadership differently than men, and thus may be more receptive to collaborative leadership models such as the social change model of leadership (Astin & Leland, 1991; Eagly & Carli, 2003). Research suggests that women's leadership style may be associated with more participatory, relational, and reciprocal strategies than their male counterparts (Astin & Leland, 1991; Kezar et al., 2006; Kezar & Moriary, 2000; Whitt, 2004). Studies also suggest that students of color may hold different conceptualizations of and have different experiences with leadership as well (Balon, 2003; Kezar & Moriarty, 2000; Renn & Bilodeau, 2005; Rhode, 2003). In a phenomenological study of students of color and leadership, even the label of "leader" was unwelcome to some students who preferred terms such as "change agent" (Arminio, Carter, Jones, Kruger, Lucas, Washington, Young, & Scott, 2000). Though it is important to account for differences, Kezar et al. (2006) encourage the view that "cultural and social differences [in leadership] are

described as emerging from the specific experience of being a woman or a minority, not something essential about being a woman or minority" (p. 54).

Another set of input variables were entered as individual-level predictors. These included two variables designed to identify students' level of pre-college involvement in student clubs and organizations and/or positional leadership roles prior to college. Bandura describes how meaningful experiences often serve as antecedents to efficacy (1995, 1997). Thus, it follows that students with pre-college leadership experiences may have higher leadership and efficacy scores than their non-involved peers.

Environment

Through Pascarella and Terenzini (2005) found few, if any, independent effects on freshmen- to senior-year changes in leadership outcomes linked to institutional type, control, or size after adjusting for students' pre-college traits, this study examined these organization-level predictors in order to evaluate this claim. In their study of pre- and post-college CIRP outcomes of 2,269 students attending 315 difference institutions, Toutkoushian and Smart (2001) found that students enrolled in larger institutions reported lower gains than other students in interpersonal skills, tolerance/awareness, and preparation for graduate school. Although they did not directly assess leadership gains, one could argue the overlap between interpersonal skills and leadership outcomes. Institutional characteristics such as Carnegie classification, institutional control (public/private), and enrollment size were used as organization level predictors in this study.

Since the majority of research on the college student experience suggests that student engagement (Kuh, Schuh, & Whitt, 1991), involvement (Astin, 1984), or

integration (Tinto, 1993) is what makes a difference to student learning, it follows that institutional structural and programmatic features that enhance engagement and involvement may effect student leadership and efficacy outcomes. Cress et al. (2001) found this to be the case as well. Effects of student membership in typologic groupings of leadership programs that emerged from the MSL-IS data were examined.

Outcomes

The dependent variables of this study included student scores on the omnibus SRLS and the self-efficacy scale which was a composite measure of the four self-efficacy outcome measures. As described previously, researchers are just now beginning to empirically test the values of the social change model (Dugan 2006a, 2006b; Dugan & Haber, 2007; Owen & Komives, 2007; Tyree, 1998) and individual efficacy beliefs have been shown to be better predictors of individual behavior than either self-concept or self-esteem (Pajares & Miller, 1994).This study has added needed empirical evidence to the study of social change and self-efficacy leadership outcomes.

Limitations

There were several potential limitations to this study. Both the MSL and MSL-IS relied on self-report data which has come under increasing scrutiny in recent years. Although most national studies use a self-report format, the reality is that "student affairs scholarship and practice depend on the largely unexamined assumption that students' self-reports are both honest and accurate" (Turrentine, C., 2001, p. 361). This is especially true when asking individuals to report on complex phenomena such as leadership and self-efficacy. Recently, education researchers have begun to defend the use of self-report data assuming five criteria are met (Gonyea, 2005; Kuh, Hayek, Carini,

Ouimet, Gonyea, & Kennedy, 2001). These criteria include: requested information is known to the respondent; questions are phrased clearly and unambiguously; questions refer to recent activities; respondents think questions merit a thoughtful response; and questions do not encourage the respondent to answer in socially desirable ways (Kuh et al., 2001). Though strong efforts were made to address the above criteria in the MSL and MSL-IS measures, they are still vulnerable to examination.

Another potential shortfall of the MSL-IS instrument was that it relied on one self-appointed "content-matter expert" to describe both the breadth and depth of leadership programs on each particular campus. In this way, individual perception was used as a proxy for organizational level characteristics. Though several campuses relied on groups or advisory boards to determine institutional information, this could potentially lead to levels of analysis issues. Yammarino and Spangler (1998) recently concluded that most organizational studies of leadership were subject to methodological flaws including a lack of intentional theorizing about levels of analysis issues, and same-source data bias. Although this study controlled for the latter by gathering input and outcome data from diverse subjects using different instruments, and relied on secondary qualitative measures to reinforce reported institutional characteristics, it did extrapolate individual perception data about organizational level phenomena.

A third area of potential bias was in the use of cluster analysis to establish groupings of institutions based on structural and programmatic characteristics of leadership development programs. Ideally, theoretically meaningful clusters of institutions emerged, that is, they had excellent face validity and appeared to be measuring similar underlying constructs. However, the selection and labeling of clusters

is always open to researcher interpretation, a problem often labeled as indeterminancy, and are thus subject to question (Steiger, 1979).

Finally, this study only sought to measure one particular theoretical definition of leadership, leadership for social change. Care must be taken in interpreting results especially for campuses that seek to develop different approaches to leadership.

Summary

This chapter presents two proposed research questions and accompanying hypotheses. This first question used the MSL-IS dataset to examine whether a meaningful, empirical typology of institutions with collegiate leadership development programs could be developed based on structural and programmatic characteristics. Information about MSL-IS participants, sampling strategy, efforts to assure informed consent, description of instrument development and use, data collection procedures, and proposed plans for two-step cluster analysis and integrative content analysis of MSL-IS submitted documents are presented.

The second research question examined whether there were differences in the level to which institutional characteristics and identified clusters of leadership development programs effected student leadership efficacy and leadership for social change outcomes. Information about MSL participants, sampling strategy, efforts to assure informed consent, description of instrument development and use, data collection procedures, and proposed plans for hierarchical linear modeling are presented.

This chapter concludes with a discussion of potential study limitations related to the use of self-report data, using content-matter experts to assess institutional

characteristics, the identification and labeling of factors, and addressing only two theoretical outcomes of leadership programs.

CHAPTER IV
SUMMARY OF RESULTS

The purpose of this study was to determine whether a meaningful empirical typology of institutions with co-curricular leadership development programs could be developed based on structural elements and programmatic characteristics, and then examine any effects of different classifications of leadership programs on perceived student leadership outcomes. This chapter presents findings from a two-step cluster analysis and integrative content analysis that indicate an emergent typology of leadership programs, as well as results from two hierarchical linear models that present the limited effects of leadership program typology on perceived student leadership outcomes related to social change and self-efficacy for leadership.

Research Question One

MSL-IS Respondents

As outlined in chapter three, in order to determine whether a meaningful, empirical typology of institutions with collegiate leadership development programs can be developed based on structural and programmatic characteristics, participants from the full population of MSL participants on 54 campuses were sent a 52-item survey instrument designed to assess the salient factors of collegiate leadership development programs, the Multi-Institutional Study of Leadership-Institutional Survey (MSL-IS). A total of 53 surveys were returned in usable format, and one survey was eliminated from analysis because the corresponding student outcomes data on the MSL instrument were deemed unusable based on institutional problems applying the research protocols on that campus, resulting in an N of 52.

A cover letter to the MSL-IS asks that campuses identify "the person most knowledgeable about co-curricular leadership development programs on their campus" and have them complete the survey. Of the 52 useable MSL-IS respondents, 94.2% (*n*=49) rate their personal knowledge about existing leadership programs on their home campus as "informed" or "highly informed". Respondents held a variety of positions as indicated in table 4.1. Several campuses wrote a margin note that they established working groups, or involved existing advisory boards, to complete the survey in a collaborative format.

Table 4.1 Reported Position Level of MSL-IS Respondents

Position level/title	Frequency	Percent
Coordinator of leadership programs	10	19.2
Assistant or associate director of leadership programs	10	19.2
Director of leadership center/ program	9	17.3
Director of campus activities and/or student union	5	9.6
Dean of Students/ Director of Student Life/ Vice-President for Student Affairs	13	25.0
Director of Assessment/ Testing	3	5.7
Chair of Leadership Advisory Board or Steering Committee	2	3.8
Total	52	100%

Two-Step Cluster Analysis

In order to address research question one, a two-step cluster analysis was conducted to create statistical groupings based on institutional and programmatic elements deemed essential in the literature. Cluster analysis is an exploratory tool designed to reveal natural groupings, or clusters, within a dataset that might not otherwise be apparent (Hair et al., 1998). Because of its partitioning ability, cluster analysis is especially useful in developing taxonomic (exploratory) or typologic (theoretically-based) classification of objects (Hair & Black, 2000). Because data from the MSL-IS

were both categorical and continuous in nature, a two-step method of cluster analysis was used (Norusis, 2007). Because there were very few cases of missing data, missing data were excluded listwise, such that missing data are essentially ignored in the search for the best cluster. When a cluster is formed, the proximity between it and other clusters are estimated from observed proximities, again bypassing any missing values (Romesberg, 2004).

Because of the extensive literature indicating which elements are essential to the design and delivery of collegiate co-curricular leadership programs, clustering variables were chosen based on previous research that established a relationship between these variables and the essential elements of leadership program design. Selected clustering variables are presented in Chapter 3 and in Table 4.2. Moreover, because sample size was relatively small, a decision was made to limit the number of variables included in the analysis. Care was taken not to select variables that are too highly inter-correlated that might distort resulting cluster solutions (Hair & Black, 2000). Pearson product-moment coefficients among the continuous clustering variables (total number of programs, total annual budget, and total collaborators) and dichotomous clustering variables (presence of a clear definition of leadership, presence of a strategic plan) are presented in Table 4.3. Krathwohl (1998) offers "although designed for use with interval data, correlations are often computed on categorical data or ordinal data to show relationships between variables of interest in sample surveys" (p.408). The only Pearson correlations significant at the .01 level were the relationships between average level of collaboration with other units and both presence of a clear definition of leadership (r=.35, n=52, p<.01) and presence of a program strategic plan (r=.58, n=52, p<.01). The use of other MSL-IS

variables that measure collaboration were explored and each had similar issues with multicollinearity. It was decided to maintain the collaboration measure based on its theoretical importance.

In addition, a Chi-Square test between the two dichotomous variables was calculated in ordered to test their independence of each other. Results revealed a significant relationship between programs having a definition of leadership and engaging in strategic planning [$\chi^2(6) = 13.97$, $p < .05$]. To approximate the size of this effect, Phi is often used as a measure of association with chi-square tests of independence among dichotomous variables (Pallant, 2005). Phi for the two categorical clustering variables was also significant ($p < .05$) and the value was .51 indicating a weak positive association between the two variables (Field, 2005). Thus, these variables are associated, but weakly, so they were retained as selection variables.

Table 4.2 MSL-IS Variables Selected as Clustering Variables

	Selected clustering variable
Program philosophy and theoretical orientation	Q23a LDSPDEF (categorical) Presence of a clear definition of leadership that informs program/office
Common program elements	TOTPRGS (continuous) Summary of total number of co-curricular leadership development programs that address open, targeted, and positional audiences
Strategic planning and evaluation	Q26a PRSTRPLN (categorical) Presence of program strategic plan
Fiscal and human resources	Q32 ANNLBUD (continuous) Approximate annual budget in dollars, excluding salaries
Collaboration	AVG_TOTAL_COLLAB (continuous) Average frequency of collaboration with fifteen different campus units

Table 4.3 Correlations Among MSL-IS Clustering Variables

Measures	1	2	3	4	5
1-presence of a definition of leadership	1				
2-presence of a strategic plan	n/a	1			
3-annual budget, excluding salaries	-.152	-.111	1		
4-total number of co-curricular leadership programs	-.006	.076	.090	1	
5-average frequency of collaboration	.359**	.588**	.252	.067	1

N=52, *p<.05 (2-tailed), **p<.001 (2-tailed)

Two-step cluster analysis was run using SPSS version 15. Two-step cluster analysis automatically standardizes data to account for differences measurement of continuous and categorical data.

Determining the number of clusters to select

In two-step cluster analysis, SPSS automatically runs Bayesian Information Criterion (BIC) for many different numbers of clusters, rather than the researcher determining the number of clusters *a priori*. The BIC is an algorithm used as the statistical criterion for model selection (Schwartz, 1978). Unexplained variation in the dependent variable and the number of explanatory variables increases the value of BIC, so a lower BIC implies either fewer explanatory variables, better fit, or both (Schwartz). In order to select the appropriate number of clusters, the researcher looks for places where the BIC becomes small and the change in BIC of adjacent clusters is small (Norusis, 2007). In this data, there is a substantial change in BIC between the third and

fourth cluster, indicating a three cluster solution. Table 4.4 presents the autoclustering statistics.

Table 4.4 Bayesian Information Criterion for Two-Step Cluster Analysis of MSL-IS Data

Auto-Clustering

Number of Clusters	Schwarz's Bayesian Criterion (BIC)	BIC Change(a)	Ratio of BIC Changes(b)	Ratio of Distance Measures(c)
1	297.427			
2	263.118	-34.309	1.000	1.577
3	256.671	-6.446	.188	2.024
4	274.667	17.995	-.525	1.035
5	293.467	18.800	-.548	1.255
6	316.958	23.491	-.685	1.685
7	347.922	30.964	-.903	1.030
8	379.200	31.279	-.912	1.807
9	415.210	36.010	-1.050	1.116
10	451.831	36.621	-1.067	1.237
11	489.459	37.628	-1.097	1.198
12	527.789	38.329	-1.117	1.004
13	566.130	38.342	-1.118	1.281
14	605.246	39.115	-1.140	1.349
15	645.075	39.829	-1.161	1.356

a The changes are from the previous number of clusters in the table.
b The ratios of changes are relative to the change for the two cluster solution.
c The ratios of distance measures are based on the current number of clusters against the previous number of clusters.

The next step is to analyze the number of cases that fall within each cluster to ensure each cluster is robust and contains a sufficient number of cases to make theoretically meaningful interpretations of the data. From Table 4.5 it is evident that cluster one contains 28.9% (*n*=13) of cases, cluster two contains 28.9% of cases (*n*=13), and cluster three contains 42.2% (*n*=19) of cases, resulting in 45 combined cases being clustered successfully. Seven cases were excluded from this cluster solution. Cases may be excluded by SPSS when they are very different from other cases and not necessarily similar to each other (Norusis, 2007). Excluded cases will be analyzed later in this chapter.

Table 4.5 Distribution of MSL-IS Institutions Across Clusters (3-Cluster Solution)

Cluster Distribution

		N	% of Combined	% of Total
Cluster	1	13	28.9%	25.0%
	2	13	28.9%	25.0%
	3	19	42.2%	36.5%
	Combined	45	100.0%	86.5%
Excluded Cases		7		13.5%
Total		52		100.0%

In order to assign meaning to clusters, it is essential to analyze their composition. For categorical variables, SPSS provides frequency tables of the distribution of the variable within each cluster. Tables 4.6 and 4.7 present the frequency tables of with-in cluster membership on the categorical grouping variables of presence of a clear definition of leadership, and presence of a strategic plan.

Table 4.6 Presence of a Clear Definition of Leadership by Cluster

		yes		no		don't know		no response	
		Freq	Percent	Freq	Percent	Freq	Percent	Freq	Percent
Cluster	1	13	72.2%	0	.0%	0	.0%	0	.0%
	2	0	.0%	9	39.1%	3	100.0%	1	100.0%
	3	5	27.8%	14	60.9%	0	.0%	0	.0%
	Combine	18	100.0%	23	100.0%	3	100.0%	1	100.0%

MSL-IS institutions in cluster one all report that they have a clear definition of leadership that informs their office or program. About one fourth (27.8%) of institutions in cluster three have such a definition, and no institutions in cluster two have a clear definition of leadership (or they do not know of it).

Table 4.7 Presence of a Strategic Plan by Cluster

		yes		no		no response	
		Frequency	Percent	Frequency	Percent	Frequency	Percent
Cluster	1	13	56.5%	0	.0%	0	.0%
	2	10	43.5%	1	5.0%	2	100.0%
	3	0	.0%	19	95.0%	0	.0%
	Combined	23	100.0%	20	100.0%	2	100.0%

All institutions in cluster one, and most of the institutions in cluster two have a strategic plan for their leadership program. No institutions in cluster three have such a plan.

For continuous variables, SPSS provides a plot of the means for each group. Table 4.8 shows the means and standard deviation of each continuous variable for each cluster. The overall mean for all three clusters is 13.36 total co-curricular leadership programs offered. Institutions in cluster one have the highest mean number of programs offered (*M*=19.15), but there is wide range of numbers of programs within cluster one (*SD*=20.25). Clusters two and three offer a mean of 10.3 (*SD*=6.91) and 11.4 (*SD*=6.64) leadership programs respectively. Table 4.8 shows the different means for each of the three clusters for total annual budget, excluding staff salaries. The overall mean for all three clusters is $53,337.78, and again cluster one has great dispersion. Programs in cluster three have a mean funding level of $46,100 for co-curricular leadership programs, while programs in cluster two have a mean funding level of $30,946. Table 4.8 also presents the different means for each of the three clusters for total number of groups collaborated with. The overall mean for all three clusters is 2.47 groups collaborated with (*SD*=.52).

Table 4.8 Means and Standard Deviations of Continuous Clustering Variables

		totprgs		approximate annual budget, excluding salaries		avg_total_collab	
		Mean	Std. Deviation	Mean	Std. Deviation	Mean	Std. Deviation
Cluster	1	19.15	20.25	86307.69	126072.98	2.87	.49
	2	10.30	6.91	30946.15	27891.80	2.35	.51
	3	11.47	6.64	46100.00	38879.03	2.27	.40
	Combined	13.35	12.534	53337.77	75215.02	2.47	.52

Thus, based on between-group differences, it appears that a meaningful three-cluster solution has emerged. Table 4.9 summarizes between-group differences on the selected clustering variables. Cluster one consists of institutions with well funded, highly productive co-curricular leadership programs that value strategic planning and have a clear definition of leadership **("highly resourced, highly productive, highly intentional" programs**). Here, intentionality refers to evidence of both strategic planning and the presence of a clear definition of leadership. Cluster two consists of programs that receive the least funding and offer the lowest amount of co-curricular programming, but do engage in strategic planning **("limited resources, moderately productive, moderately intentional" programs).** Cluster three consists of programs with moderate amounts of funding and programming, but who don't particularly engage planning or adopt a clear definition of leadership **("moderately resourced, moderately productive, less intentional" programs**). There was little variation among the three clusters in average total number of collaborators.

The outlier cluster consists of seven institutions with wide ranges of responses, often far above or below the means of institutions in the other clusters. None of these schools submitted information on their budgets, which may have prevented SPSS from clustering them in a meaningful way.

Table 4.9 Summary of Characteristics by Cluster on Clustering Variables

Clustering Variable	Cluster One (*n*=13)		Cluster Two (*n*=13)		Cluster Three (*n*=19)		Outlier Cluster (*n*=7)	
	Value/ # of progs.	% within cluster	Value/ # of progs.	% within cluster	Value/ # of progs.	% within cluster	Value/ # of progs.	% within cluster
Clear definition Of leadership	Y= 13 N=0 DK/NR=0	100	Y=0 N=9 DK/NR=4	69.2 30.7	Y=5 N=14 DK/NR=0	26.3 73.6	Y=4 N=2 DK/NR=1	57.1 28.5 14.2
Presence of a program strategic plan	Y=13 N=0 DK/NR=0	100	Y=10 N=1 DK/NR=2	76.9 7.6 15.3	Y=0 N=19 DK/NR=0	100	Y=4 N=1 DK/NR=2	57.1 14.2 28.5
Mean number of co-curricular leadership programs offered	Highest (*M*=19; *SD*=20.25)		Lowest (*M*=10; *SD*=6.91)		Middle (*M*=11; *SD*=6.64)		Range from 4 to 40 (*M*=14; *SD*=13.83)	
Mean total average budget, excluding salaries	Highest (*M*=$86,307; *SD*=126,072.98)		Lowest (*M*=$30,946; *SD*=27,891.80)		Middle (*M*=46,100; *SD*=38,879.02)		Did not answer	
Mean total number of groups collaborated with	Highest (*M*=2.8;*SD*=0.49)		Middle (*M*=2.3; *SD*=0.51)		Lowest (*M*=2.2; *SD*=0.41)		Range 2 to 10 (*M*=4.1; *SD*=3.22)	

Hair and Black (2000) recommend the profiling of clusters by comparing the groups on variables external to the cluster analysis. Moreover, they also recommend choosing secondary variables of interest that would be expected to differ across the clusters. Table 4.10 presents additional variables the literature indicates may be useful for external analysis, and Table 4.11 presents between-cluster differences on secondary characteristics.

Table 4.10 Secondary Variables of Interest in Two-Step Cluster Analysis of MSL-IS Institutions

	Additional indictors for external analysis
Program philosophy and theoretical orientation	Q9 INSTGOAL Leadership recognized as an essential goal for campus by institutional policy groups Q24f THE_SCM Social Change Model used in primary co-curricular leadership program
Common program elements	TOTOPENPRGS Summary of total number of programs that address *open* audiences TOTTARGETPRGS Summary of total number of programs that address *targeted* audiences TOTPOSITPRGS Summary of total number of programs that address *positional* audiences
Strategic planning and evaluation	Q28b PROGSTAGES Stage of development of primary co-curricular leadership program Q39 PRLRNOB Primary co-curricular leadership program has stated learning objectives Q42b DATA_CHG Program data is used to make changes/improvements to existing programs
Fiscal and human resources	Q10a LSCTR Presence of a leadership center on campus TOTAL_SOLESTF Total number of solely focused staff members TOTAL_AFFSTF Total number of affiliated staff members
Collaboration	Q7 CORENTIT Is there a campus-wide coordinating entity devoted to leadership programs

Table 4.11 Between Cluster Differences on Secondary Variables of Interest

	Cluster One (*n*=13)		Cluster Two (*n*=13)		Cluster Three (*n*=19)		Outlier Cluster (*n*=7)	
	Value/ # of progs.	**% within cluster**	**Value/ # of progs.**	**% within cluster**	**Value/ # of progs.**	**% within cluster**	**Value/ # of progs.**	**% within cluster**
Leadership recognized as an essential goal for campus	None=0 Some=4 Great=5 Essential=3	 33.3 38.4 23.1	None=0 Some=7 Great=6 Essential=0	 53.8 46.1	None=1 Some=12 Great=6 Essential=0	5.2 63.2 31.5	None=0 Some=2 Great=4 Essential=1	 28.5 57.1 14.3
Social Change Model used in primary co-curricular leadership program	Yes=13 No=0	100	Yes=8 No=5	61.5 38.5	Yes=12 No=7	63.1 36.8	Yes=2 No=5	28.5 71.4
Summary of total number of programs that address *open* audiences	*M*=8.61 *SD*=6.13		*M*=3.38 *SD*=2.21		*M*=4.94 *SD*=3.73		*M*=4.71 *SD*=3.98	
Summary of total number of programs that address *targeted* audiences	*M*=6.38 *SD*=8.13		*M*=3.00 *SD*=1.91		*M*=3.57 *SD*=2.85		*M*=5.28 *SD*=6.21	
Summary of total number of programs that address *positional* audiences	*M*=4.15 *SD*=7.41		*M*=3.92 *SD*=5.80		*M*=2.94 *SD*=2.71		*M*=4.42 *SD*=5.65	
Stage of development of primary co-curricular leadership program	Enhancing quality/sustained Institutionalization (*n*=13, 100%)		Building critical mass/emerging (*n*=9, 69%)		Building critical mass/emerging (*n*=16, 84%)		One institution at each stage	
Primary co-curricular leadership program has stated learning objectives	Yes=12 No=1	92.3 7.7	Yes=7 No=6	53.8 46.1	Yes=7 No=12	36.8 63.1	Yes=4 No=3	57.1 42.8
Program data is used to make changes/improvements to existing programs	Yes=13 No=0	100	Yes=10 No=3	76.9 23.1	Yes=17 No=2	89.5 10.5	Yes=6 No=1	85.7 14.3
Presence of a leadership center on campus	Yes=11 No=2	84.5 15.4	Yes=5 No=8	38.5 61.5	Yes=5 No=14	26.3 73.7	Yes=3 No=4	42.8 57.1
Total number of solely focused staff members	*M*=5.96 *SD*=5.06		*M*=3.15 *SD*=3.26		*M*=2.26 *SD*=2.55		*M*=7.21 *SD*=12.47	
Total number of affiliated staff members	*M*=22.65 *SD*=24.48		*M*=10.07 *SD*=9.77		*M*=10.78 *SD*=16.76		*M*=8.78 *SD*=12.68	
Is there a campus-wide coordinating entity devoted to leadership programs	Yes=10 No=3	76.9 23.1	Yes=4 No=9	30.1 69.2	Yes=5 No=14	26.3 73.7	Yes=3 No=4	42.8 57.1

In comparing the data in Table 4.11 to already defined cluster labels, cluster one still fits the ***"highly resourced, highly productive, highly intentional***" programs moniker. These institutions are more likely to be at the more advanced stages of enhancing quality or sustained institutionalization of leadership programs, are more likely to have a leadership center on campus, and have high numbers of staff solely-dedicated and affiliated with leadership programming. Every institution in cluster one uses the Social Change Model as its theoretical frame and they have the highest amounts of programming, regardless of audience.

The portrayal of cluster two as ***"limited resources, moderately productive, moderately intentional"*** programs and cluster three as ***"moderately resourced, moderately productive, less intentional"*** programs also still holds, with some additional distinctions made between the two. Though they have similar average numbers of staff affiliated with leadership programs, programs in cluster two have a higher average number of full time staff devoted to programs. This may indicate that while institutions in cluster three fund their programs at higher levels, institutions in cluster two devote a greater percentage of resources to funding staff positions, a figure that was not taken into account in the expenditures question. While both clusters of institutions offer similar average number of programs, institutions in cluster two offer higher numbers of programs for positional leaders, while institutional in cluster three have higher mean numbers of open programs or programs targeted at specific leadership sub-groups.

The outlier cluster continues to be widely varied and difficult to characterize. Although five of the seven institutions in that cluster claim that leadership is recognized as an essential goal for their campus and their mean number of programs is most similar

to the highly productive institutions, they report being at all levels of program institutionalization from brand-new programs to sustained campus commitment. They have a much higher mean number of staff dedicated to leadership, but report much lower levels of affiliated staff involvement than institutions in the other clusters. Only two institutions in the outlier cluster report using the social change model.

In order to continue to add to the face validity of the cluster solution, secondary content analyses were also conducted on websites submitted as part of the MSL-IS document submission process. These results are presented in the next section. Discriminant validity of the clusters was assessed as part of research question two, and results are presented later in this chapter.

Integrative Content Analysis

An integrative model of content analysis as enumerated by Nuendorf (2002) was conducted to assist in the description and validation of the resulting typology. Nuendorf proposed nine essential steps in the content analysis process. Steps one through five related to the design of the study and were thoroughly presented in Chapter Three, and are briefly summarized here. Step one involved determining what content was to be examined and what theories or perspectives informed this decision (Nuendorf, 2002). Given the wide array of materials submitted as part of the MSL-IS process, the researcher elected to focus on the most commonly submitted documents, co-curricular leadership program mission statements, and to examine variables related to the intentionality and institutionalization of leadership programs, such as the strength of the connection between program and institutional mission statements. Of the 52 institutions included in this study, only thirty had published mission statements for their co-curricular leadership

programs, and thus only 30 institutions are included in this part of the study, which affects the usefulness of the results in adding further validity to cluster descriptions.

Step two, *conceptualization*, involved deciding what variables will be examined in the study (Nuendorf, 2002). Based on a thorough review of the literature, and related to the study goal of examining intentionality and institutionalization, variables included in analysis were: presence of a theoretical frame; expression of leadership-related values; expression of leadership-related assumptions; presence of a clearly stated definition of leadership; and strength of connection between program mission and institutional mission.

Steps three and four, *operationalization* and developing *coding schemes*, involved deciding to conduct online searches for leadership and institutional mission statements in order to obtain as complete a dataset as possible, converting documents to plain text and stripping them of identifying words or locations so as not to bias coders, and using an iterative process to develop a codebook that explains all variable measures and coding choices, and a coding form to record observations. These documents can be found in Appendix G. Step five, *sampling*, involved choosing if and how to randomly sample a subset of the population (Nuendorf, 2002). Because the n=52 researchers coded the full population sample.

Because steps six through nine involved calculation of reliabilities, document coding, and reporting results, they are presented here in more depth. In order to address step six, *training and pilot reliability*, four separate coding training sessions were conducted for research team members over a two month period in fall 2007. Training involved applying the codebook to program and institutional mission statements of

schools who were not MSL-IS participants, comparing coding results, and altering the codebook to reflect the emerging consensus about definitions of variables. Changes to the codebook included: adding more specificity to the description of the type of document one was coding (mission, vision, values, general program description); collapsing several categories of values and assumptions that represented overlapping or hard to distinguish constructs (for example, "diversity, multiculturalism, and inclusion" were collapsed into one category, as were "civic engagement, service-learning, and social change"; and deciding to only count something as a theoretical frame if it is explicitly stated in the document (for example, an institution may assert that they value "student personal exploration", but researchers were not to extrapolate this as "consciousness of self" and view it as evidence of use of the Social Change Model of leadership). The last training session involved coding program and institutional mission/philosophy statements from four diverse institutions who were not MSL or MSL-IS participants. These coded documents were used to calculate initial inter-rater and variable reliabilities and are presented in Table 4.12 and Table 4.13.

If reliability is the extent to which a measuring procedure yields the same results on repeated trials, Neundorf (2002) argues that in content analysis with human coders this translates to inter-coder reliability. The most common form of inter-rater reliability is based on percent agreement and is calculated by the number of agreements between two coders divided by the total number of units coded (Neundorf). Statistics range from .00 (no agreement) to 1.00 (perfect agreement). This study uses percent agreement as a more stringent form of reliability than rater covariation. There is little consensus as to what constitutes an acceptable level of inter-coder reliability, but Ellis (1994) offers a

guideline that coefficients exceeding .75 are indicative of high reliability. Neundorf also clarifies that "objectivity is a much tougher criterion to achieve with latent than with manifest variables, and for this reason, we expect variables measuring latent content to receive generally lower reliability scores" (p. 146). While all inter-rater reliability measures across all variables fall at .75 or above, raters had a lower percent agreement (.58) on the variable of "expresses leadership related values". Reliability for each variable was determined overall percent agreement by all raters for the variable measured. Reporting inter-rater agreement both by rater pair, and by variable, allow a clearer picture of where variation occurs.

Table 4.12 MSL-IS Content Analysis Pilot Test Inter-Rater Reliabilities

Rater Pair	Percent agreement by rater pair across all 5 variables for 4 pilot test institutions
1&2	.90
1&3	.80
2&3	.75
OVERALL	.82

Table 4.13 MSL-IS Content Analysis Pilot Test Reliabilities by Variable

Variable Coded	Percent agreement by three raters across 4 pilot test institutions
Presence of a theoretical frame (0=none, 1=one, 2=multiple)	1.0
Expresses leadership related values (0=none, 1=one, 2=multiple)	.58
Expresses leadership related assumptions (0=none, 1=one, 2=multiple)	.83
Clearly stated definition of leadership (0=no, 1=yes)	.83
Strength of connection between leadership program mission and institutional mission (0=no connection, 1=some connection, 2=strong connection)	.83
OVERALL	.81

Step seven, *coding*, involved the independent coding of documents by two or more individuals (Nuendorf, 2002). All three research team members coded all 52 MSL-IS plaintext program and institutional mission statements and entered results into an Excel spreadsheet with their assigned rater number at the top. The rater form also contained a space for raters to add notes or rationale about any entered code. For example, in examining one institution's theoretical orientation, one rater wrote "they state that they use the Relational Leadership Model in their mission statement, but they appear to have mis-identified/ mis-labeled the elements of that model". After all coding sheets were finished they were submitted and *final reliabilities* were established as detailed in step eight. These are presented in Table 4.14 and Table 4.15 below.

Table 4.14 MSL-IS Content Analysis Final Reliabilities by Variable

Variable Coded	Percent agreement by three raters across 30 MSL institutions with published mission statements
Presence of a theoretical frame (0=none, 1=one, 2=multiple)	.88
Expresses leadership related values (0=none, 1=one, 2=multiple)	.79
Expresses leadership related assumptions (0=none, 1=one, 2=multiple)	.65
Clearly stated definition of leadership (0=no, 1=yes)	.92
Strength of connection between leadership program mission and institutional mission (0=no connection, 1=some connection, 2=strong connection)	.58
OVERALL	.76

Table 4.15 MSL-IS Content Analysis Final Inter-Rater Reliabilities

Rater Pair	Percent agreement by rater pair across all 5 variables for across 30 MSL institutions with published mission statements
1&2	.81
1&3	.76
2&3	.73
OVERALL	.77

Step nine of integrative content analysis involves *tabulating and reporting* results (Nuendorf, 2002). Table 4.16 presents content analysis results by cluster. Frequencies were determined by examining ratings from all three raters on each variable and using the dominant response to profile the variable. The labels "None", "One" and "Multi" refer to levels of the variable, while the counts refer to the number of programs falling in that category. For example, in Cluster One, seven programs were rated as having no theoretical frames, two programs had one frame, and zero programs had multiple frames. Again, care must be taken with interpreting these results, since only a portion of institutions in each cluster had published leadership program mission statements that could be analyzed. The implications of few programs having such public statements, and how that connects to self-ratings of intentionality will be discussed in Chapter Five.

Table 4.16 Content Analysis Results by Cluster

Variable Coded	Cluster One (*n*=9/13)		Cluster Two (*n*=6/13)		Cluster Three (*n*=11/19)		Outlier Cluster (*n*=4/7)	
	Value/ # of progs.	**% within cluster**	**Value/ # of progs.**	**% within cluster**	**Value/ # of progs.**	**% within cluster**	**Value/ # of progs.**	**% within Cluster**
Presence of a theoretical frame	None=7 One=2 Mult.=0	77.7 22.2	None=6 One=0 Mult.=0	100	None=9 One=1 Mult.=1	81.8 9.1 9.1	None=3 One=1 Mult.=0	75.0 25.0
Expresses leadership related values	None=2 One=0 Mult.=7	22.2 77.7	None=1 One=0 Mult.=5	16.6 83.3	None=1 One=0 Mult.=10	9.1 90.9	None=0 One=0 Mult.=4	 100.0
Expresses leadership related assumptions	None=3 One=2 Mult.=4	33.3 22.2 44.4	None=1 One=0 Mult.=5	16.6 83.3	None=2 One=4 Mult.=5	18.2 36.3 45.5	None=2 One=0 Mult.=2	50.0 50.0
Clearly stated definition of leadership	No=8 Yes=1	88.8 11.1	No=5 Yes=1	83.3 16.6	No=10 Yes=1	90.9 9.1	No=2 Yes=2	50.0 50.0
Strength of connection between leadership program mission and institutional mission	None=5 Some=3 Strong=1	55.5 33.3 11.1	None=3 Some=2 Strong=1	50.0 33.3 16.7	None=7 Some=3 Strong=1	63.6 27.2 9.1	None=1 Some=2 Strong=1	25.0 50.0 25.0

It should be noted that only five of all 52 institutions participating in the MSL and MSL-IS had any clearly stated definition of leadership and/or clearly articulated theoretical frame published on their websites, according to coders. Only four institutions had what coders considered to be strong connections between their institutions mission and that of their leadership program. Of those institutions who expressed leadership related values or assumptions in their mission statements, most expressed multiple values and assumptions. Given the overall low levels of variables related to intentionality of program design and delivery, there was not a clear reinforcement of cluster descriptions as presented in the cluster analysis.

Research Question One Summary

Research question one examined whether a meaningful, empirical typology of institutions with collegiate leadership development programs could be developed based on structural and programmatic characteristics. Using two-step cluster analysis, a three-cluster solution was derived that does seem to have some typologic characteristics.

Cluster one consists of institutions with well funded, highly productive co-curricular leadership programs that value planning and a clear theoretical approach. Cluster two consists of programs that receive the least funding and offer the lowest amount of co-curricular programming, but do engage in intentional planning**.** Cluster three consists of programs with moderate amounts of funding and programming, but who don't particularly engage planning or adopt a clear theoretical approach. A content analysis of program and institutional mission statements was conducted to augment the face validity of the resulting cluster solutions. Because of the low rate of institutions addressing issues of program intentionality, theoretical orientation, and design in their published mission and vision statements, there was not enough evidence to make strong assertions about the resulting cluster solutions. Research question two will examine the discriminant validity of the derived clusters by examining if they differentially predict student outcomes.

Research Question Two

Hierarchical linear modeling (HLM) was used to examine the relationship between the resulting three clusters of institutions with diverse types of leadership programs and the outcomes of perceived student leadership efficacy and leadership for social change. As reviewed in Chapter Three, this research question involves both individual student outcomes data (MSL), as well as information about the practices and characteristics of the institutions those students attended (MSL-IS), and is thus well-suited for HLM, a technique that takes multiple levels of analysis into account. This study made use of a two-level HLM in that it examined both individual and institutional effects, and resulted in the creation of three models for each of the dependent variables of leadership efficacy and leadership for social change: 1) a fully unconditional model in

which no student or institutional predictors are specified; 2) an unconditional model that examines the effects of individual level predictors; and 3) a completely conditional model that takes both individual and group level predictors into account (Raudenbush & Bryk, 2002).

Sample and Data Preparation

This study made use of the full MSL-IS sample, less the one institution that did not have corresponding student outcomes data (*n*=52). Three community colleges were also removed from the MSL-IS dataset (two from cluster two and one from cluster three), resulting in a sample of 49 institutions. The MSL student data, cleaned of partial responses and ineligible participants, resulted in 50, 378 cases. The MSL data were further reduced to exclude community college respondents (*n*=974) whose experiences with leadership programs were not reflected in the literature that formed the foundation of this study resulting in 49,404 cases. Part-time students (*n*=451) who were a significantly smaller sample than their four-year college and full-time student counterparts, as well as any non-seniors (*n*=38,294) and transfer students (*n*=3,822) who have had less time to experience the programmatic efforts of their institutions, resulting in an N of 6,837. Because HLM 6.0 is especially sensitive to missing data, the sample was further reduced to exclude any case that had any missing data on any of the categorical variables of interest (*n*=44), resulting in a final N of 6,759 cases. Mean substitution was used for missing continuous data such that 31 cases were replaced for the omnibus SRLS outcomes score and 1,203 cases for the self-efficacy outcome score. Care will need to be taken when interpreting the self-efficacy outcome measures in particular since more than 15 percent of the data was missing (George & Mallery, 2001).

Additional data from the Integrated Postsecondary Education Data System (IPEDS) was imported into the MSL-IS data set and included variables on institutional control (public/private), size, and Carnegie classification. Because Carnegie classification and institutional size were so highly intercorrelated (r=.802, n=49, p<.01) it was decided to only use Carnegie classification and institutional control as the institution level predictors. A dummy-coded variable that included cluster affiliations was also added.

Additions to the MSL dataset included computation of the omnibus SRLS for each respondent, and dummy-coding the race variable. All variables not included in the study were deleted from the two datasets for ease of use. The MSL dataset was labeled as the with-in group data and the MSL-IS dataset was labeled as the between-group data. Both datasets were imported into HLM 6.0 for analysis. Table 4.17 contains the descriptive statistics for each variable included in the analysis.

Table 4.17 Descriptive Statistics for Variables Included in the HLM Analysis

Variable	Level	N	Mean	SD	Minimum	Maximum
Self-efficacy for leadership	Outcome	6726	13.05	2.15	4	16
Omnibus SRLS score	Outcome	6726	4.00	0.36	1.49	5.0
Gender (f=1, m=2)	I	6726	1.39	0.49	1	2
Racecat2 (African American/ Black)	I	6726	0.04 0.00	0.19 0.05	0	1
Racecat3 (American Indian)			0.07	0.26		
Racecat4 (Asian American)			0.03	0.17		
Racecat5 (Latino/a)			0.07	0.25		
Racecat6 (Multiracial)			0.02	0.13		
Racecat7 (Not included)						

Pre-college Involvement: Clubs and groups	I	6726	3.01	0.94	1	4
Pre-college Involvement: Positional leadership roles	I	6726	2.68	1.09	1	4
Carnegie Classification	II	49	2.74	1.18	1	4
Emergent Typologic Classification (cluster)						
Cluster 1	II	49	0.26	0.45	0	1
Cluster 2			0.13	0.34		
Cluster 3			0.45	0.50		

Results for Student Self-Efficacy for Leadership

Because students were nested within institutions, a two-level hierarchical linear model was used to examine the relationship between institutional factors such as institutional control, Carnegie classification, and emergent cluster at level two and student self-perceived levels of leadership efficacy (Y) at level one. An individual's gender and ethnicity (dummy coded) and high school leadership involvement were included as control variables at level one. The form of this model was as follows:

Level-1 Model

Y = B0 + B1*(PRE3B) + B2*(PRE3D) + B3*(RACECAT2) + B4*(RACECAT3) + B5*(RACECAT4) + B6*(RACECAT5) + B7*(RACECAT6) + B8*(RACECAT7) + B9*(DEM8.1) + R

Level-2 Model

B0 = G00 + G01*(CARNEGIE) + G02*(PUBPRIV) + G03*(CLUSTER) + G04*(CLUSTER2) + G05*(CLUSTER3) + U0

B1 = G10 + G11*(CARNEGIE) + G12*(PUBPRIV) + G13*(CLUSTER) + G14*(CLUSTER2) + G15*(CLUSTER3)

B2 = G20 + G21*(CARNEGIE) + G22*(PUBPRIV) + G23*(CLUSTER) + G24*(CLUSTER2) + G25*(CLUSTER3)

B3 = G30 + G31*(CARNEGIE) + G32*(PUBPRIV) + G33*(CLUSTER) + G34*(CLUSTER2) + G35*(CLUSTER3)

B4 = G40 + G41*(CARNEGIE) + G42*(PUBPRIV) + G43*(CLUSTER) + G44*(CLUSTER2) + G45*(CLUSTER3)
B5 = G50 + G51*(CARNEGIE) + G52*(PUBPRIV) + G53*(CLUSTER) + G54*(CLUSTER2) + G55*(CLUSTER3)
B6 = G60 + G61*(CARNEGIE) + G62*(PUBPRIV) + G63*(CLUSTER) + G64*(CLUSTER2) + G65*(CLUSTER3)
B7 = G70 + G71*(CARNEGIE) + G72*(PUBPRIV) + G73*(CLUSTER) + G74*(CLUSTER2) + G75*(CLUSTER3)
B8 = G80 + G81*(CARNEGIE) + G82*(PUBPRIV) + G83*(CLUSTER) + G84*(CLUSTER2) + G85*(CLUSTER3)
B9 = G90 + G91*(CARNEGIE) + G92*(PUBPRIV) + G93*(CLUSTER) + G94*(CLUSTER2) + G95*(CLUSTER3)

A preliminary completely unconditional HLM model was run to examine the variance partitioning for perceived self-efficacy for leadership. The Σ^2 representing within individual level variance in self-efficacy was 4.53. The Tau representing between institution variance was 0.09. The significant χ^2 (153.36, *p*=.000) indicates that the variance between institutions is significantly different from zero, and thus level matters. The Inter-class Correlation Coefficient (or ICC) was 0.72 indicating that 98.13% of the variance in the student self-perception of efficacy for leadership is based on within individual differences while 1.87% of the variance in perceived leadership efficacy was based on differences between institutions.

The results of the conditional HLM analysis are displayed in Table 4.18. As seen in the table, the γ_{00} intercept from the estimated model is 13.04. The significant *t*-test associated with this effect means that individual predictors do make a difference to the model. Prior leadership involvement, both group membership (γ_{10}=0.12, p=.000) and positional leadership (γ_{20}=0.47, p=.000), were significantly positively associated with student self-efficacy scores. Gender (γ_{90}=0.26, p=.000) was also significantly related to self-efficacy, indicating men having higher scores of self-perceived efficacy for leadership than women. Being Asian American was significantly negatively associated

with self-efficacy for leadership (γ_{50}=-0.43, p=0.002). Adding the individual level predictors to the model accounted for 7.44% of the between-individual variance in self-efficacy for leadership.

Table 4.18

Final Estimation of Fixed Effects for the Relationship between Individual Predictors and Perceived Student Self-Efficacy for Leadership

Fixed Effect	Coefficient	Standard Error	T-Ratio
Intercept	13.04	0.06	234.72***
Prior Group Involvement slope (Pre3B)	0.12	0.03	3.68***
Prior Positional Leadership slope (Pre3D)	0.47	0.04	11.15***
Racecat2 slope (African American/Black)	0.19	0.16	1.21
Racecat3 slope (American Indian)	0.18	0.37	0.55
Racecat4 slope (Asian American)	-0.43	0.13	-3.19**
Racecat5 slope (Latino/a)	-0.19	0.17	-1.07
Racecat6 slope (Multiracial)	-0.06	0.09	-0.73
Racecat7 slope (Race not included)	0.17	0.20	0.86
Gender slope (Dem8.1)	0.26	0.04	6.18***

* $p < .05$, ** $p < .01$, *** $p < .001$

There were four significant cross-level interactions involving institutional factors and student self-efficacy for leadership. These are displayed in Table 4.19 and include: public/private on the intercept ($\gamma_{02} = 0.27$, $t = 2.26$, $p < .05$); Carnegie type and student prior participation in a leadership position ($\gamma_{21} = -0.06$, $t = -2.19$, $p < .01$); institutional control (public/private) and Asian Pacific American racial classification (γ_{52}=0.57, t=2.11, p<.05); and institutional control and students whose race was not included as an option of the MSL survey (γ_{82}=-0.87, t=-2.133, p<.05) . These interaction effects are

graphed and explained in Figure 4.20, 4.21, and 4.22. Adding the institutional level factors and emergent cluster types to the model accounted for 26.89% of the between-program variance in student self-efficacy for leadership.

Table 4.19
Final Estimation of Fixed Effects for the Relationship between Individual and Group Predictors and Perceived Student Self-Efficacy for Leadership

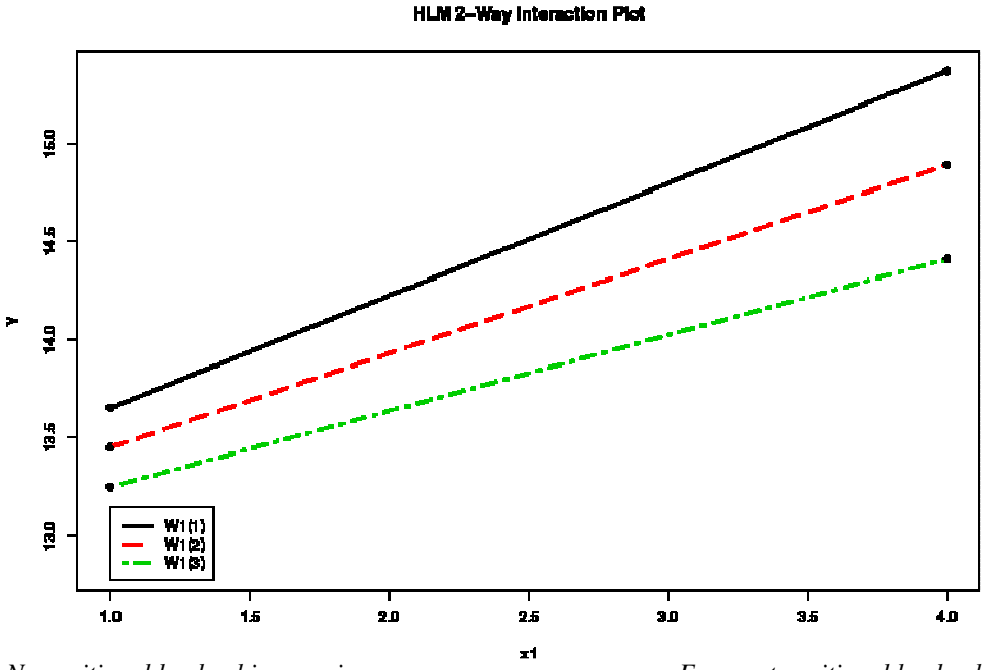
Fixed Effect	Coefficient	Standard Error	T-Ratio
Intercept	13.15	0.22	58.82***
Carnegie	-0.07	0.05	-1.51
Public/Private	0.27	0.12	2.26*
Cluster1	0.04	0.17	0.22
Cluster2	-0.004	0.19	-0.02
Cluster3	-0.12	0.15	-0.83
Prior Group Involvement slope	0.16	0.15	1.06
Carnegie	0.01	0.03	0.33
Public/Private	0.01	0.08	0.11
Cluster1	-0.02	0.11	-0.19
Cluster2	-0.17	0.13	-1.35
Cluster3	-0.12	0.10	-1.28
Prior Positional Leadership slope	0.63	0.13	4.93***
Carnegie	-0.06	0.03	-2.19*
Public/Private	-0.09	0.07	-1.35
Cluster1	-0.02	0.09	-0.19
Cluster2	0.09	0.11	0.92
Cluster3	0.14	0.08	1.72
African American slope	-0.61	0.66	-0.92
Carnegie	0.07	0.16	0.43
Public/Private	0.53	0.35	1.51
Cluster1	0.36	0.44	0.81
Cluster2	0.12	0.63	0.18
Cluster3	0.50	0.41	1.23
American Indian slope	0.23	5.64	0.04
Carnegie	0.08	1.35	0.06
Public/Private	-0.21	3.07	-0.07
Cluster1	0.39	3.20	0.12
Cluster2	-0.87	3.48	-0.25
Cluster3	-0.84	2.91	-0.29
Asian American slope	-0.26	0.57	-0.46
Carnegie	-0.03	0.13	-0.25
Public/Private	0.57	0.21	2.70**
Cluster1	-0.44	0.40	-1.10
Cluster2	-0.03	0.48	-0.06
Cluster3	-0.38	0.35	-1.08
Latino/a slope	-0.44	0.76	-0.57
Carnegie	0.09	0.16	0.63
Public/Private	-0.01	0.37	-0.03
Cluster1	-0.68	0.66	-1.04

Cluster2	0.06	0.74	0.08
Cluster3	0.08	0.56	0.14
Multiracial slope	-0.33	0.47	-0.69
Carnegie	0.07	0.10	0.68
Public/Private	0.07	0.23	0.31
Cluster1	-0.01	0.34	-0.03
Cluster2	0.51	0.44	1.15
Cluster3	-0.06	0.30	-0.18
Race not listed slope	0.49	0.97	0.51
Carnegie	0.09	0.21	0.48
Public/Private	-0.87	0.41	-2.13*
Cluster1	-0.71	0.74	-0.95
Cluster2	-0.25	0.85	-0.29
Cluster3	-0.01	0.65	-0.02
Gender slope	0.27	0.24	1.10
Carnegie	0.01	0.05	0.27
Public/Private	0.01	0.12	0.11
Cluster1	-0.08	0.17	-0.48
Cluster2	-0.18	0.19	-0.95
Cluster3	-0.06	0.15	-0.38

* $p < .05$, ** $p < .01$, *** $p < .001$

Figure 4.20 represents the interaction plot of prior leadership positional experience and institutional Carnegie level on self-efficacy, where the Y axis represents scores of the self efficacy for leadership measure, the X axis represents the extent of positional leadership experience prior to college ranging from 1 (never) to 4 (very often). The solid line represents Carnegie level 1 (baccalaureate), the middle dashed line represents Carnegie levels 2 and 3 (masters and research intensive), and the lower dashed and dotted line represents Carnegie level 4 (research extensive). This interaction plot depicts the fact that institutional type does not make much of a difference in student efficacy for leadership if students had little to no prior positional leadership experience before coming to college. However, for students with more extensive prior positional leadership experience, attending a baccalaureate level institution significantly increased their level of self-efficacy over attending a research extensive institution. Possible explanations for this will be explored in Chapter Five.

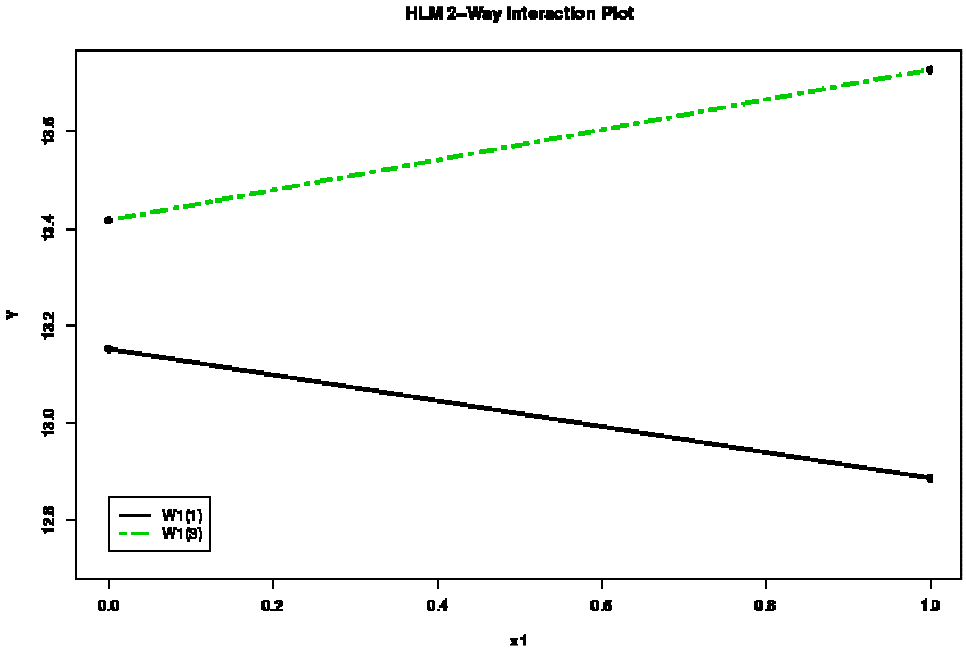
Figure 4.20 Interaction Plot of Prior Leadership Positional Experience and Institutional Carnegie Level on Self-Efficacy



No positional leadership experience *Frequent positional leadership experience*

Figure 4.21 represents the interaction plot of students who identified as Asian Pacific American and institutional control (public/private) on self-efficacy, where the Y axis represents scores of the self efficacy for leadership measure, the X axis represents the whether or not a student identified as Asian Pacific American where zero indicates they did not and one indicates they did. The solid line represents public institutions (coded as zero) and the dashed line represents private institutions (coded as one). This interaction plot depicts the fact that the type of institution one attends makes less of a difference on self-efficacy for students who do not identify as Asian Pacific American as it does for those who do identify. For students who do identify as Asian Pacific American, attending a private college or university can result in significantly higher levels of self-efficacy for leadership than students attending a public institution. Possible explanations for this will be explored in Chapter Five.

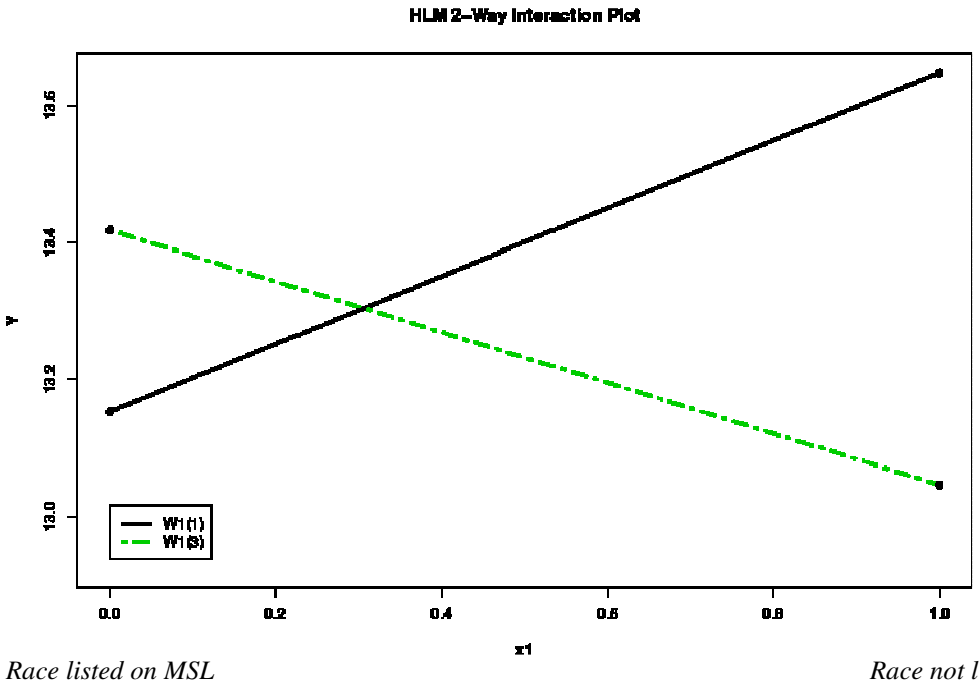
Figure 4.21 Interaction Plot of Asian Pacific American Race Status and Institutional Control (Public/Private) on Self-Efficacy



Did not identify as APA *Identify as APA*

Figure 4.22 represents the interaction plot of students who identified their race as not listed on the MSL survey and institutional control (public/private) on self-efficacy, where the Y axis represents scores of the self efficacy for leadership measure, the X axis represents the whether or not a student identified their race as not listed where zero indicates their race was listed and one indicates there race was not listed. The solid line represents public institutions (coded as zero) and the dashed line represents private institutions (coded as one). This interaction plot indicates that students whose race fit into the MSL racial options categories scored higher on self-efficacy at private institutions, and conversely, students whose race was not listed as an option choice on the MSL scored higher on self-efficacy at public institutions.

Figure 4.22 Interaction Plot of Not-Listed Race Status and Institutional Control (Public/Private) on Self-Efficacy



Race listed on MSL *Race not listed*

Results for Student Social Change Leadership Outcomes (Omnibus SRLS)

Similarly, another two-level hierarchical linear model was used to examine the relationship between institutional factors such as institutional control, Carnegie classification, and emergent cluster at level two and student self-perceived levels of leadership for social change (Y) as measured by the omnibus SRLS at level one. An individual's gender and ethnicity (dummy coded) and high school leadership involvement were included as control variables at Level 1. The form of this model was as follows:

Level-1 Model

Y = B0 + B1*(PRE3B) + B2*(PRE3D) + B3*(RACECAT2) + B4*(RACECAT3) + B5*(RACECAT4) + B6*(RACECAT5) + B7*(RACECAT6) + B8*(RACECAT7) + B9*(DEM8.1) + R

Level-2 Model

B0 = G00 + G01*(CARNEGIE) + G02*(PUBPRIV) + G03*(CLUSTER) + G04*(CLUSTER2) + G05*(CLUSTER3) + U0

B1 = G10 + G11*(CARNEGIE) + G12*(PUBPRIV) + G13*(CLUSTER) + G14*(CLUSTER2)

+ G15*(CLUSTER3)
    B2 = G20 + G21*(CARNEGIE) + G22*(PUBPRIV) + G23*(CLUSTER) + G24*(CLUSTER2)
+ G25*(CLUSTER3)
    B3 = G30 + G31*(CARNEGIE) + G32*(PUBPRIV) + G33*(CLUSTER) + G34*(CLUSTER2)
+ G35*(CLUSTER3)
    B4 = G40 + G41*(CARNEGIE) + G42*(PUBPRIV) + G43*(CLUSTER) + G44*(CLUSTER2)
+ G45*(CLUSTER3)
    B5 = G50 + G51*(CARNEGIE) + G52*(PUBPRIV) + G53*(CLUSTER) + G54*(CLUSTER2)
+ G55*(CLUSTER3)
    B6 = G60 + G61*(CARNEGIE) + G62*(PUBPRIV) + G63*(CLUSTER) + G64*(CLUSTER2)
+ G65*(CLUSTER3)
    B7 = G70 + G71*(CARNEGIE) + G72*(PUBPRIV) + G73*(CLUSTER) + G74*(CLUSTER2)
+ G75*(CLUSTER3)
    B8 = G80 + G81*(CARNEGIE) + G82*(PUBPRIV) + G83*(CLUSTER) + G84*(CLUSTER2)
+ G85*(CLUSTER3)
    B9 = G90 + G91*(CARNEGIE) + G92*(PUBPRIV) + G93*(CLUSTER) + G94*(CLUSTER2)
+ G95*(CLUSTER3)

A preliminary completely unconditional HLM model was run to examine the variance partitioning for perception of socially responsible leadership outcomes. The Σ^2 representing within individual level variance in socially responsible leadership was 0.13. The Tau representing between institution variance was 0.002. The significant χ^2 (127.69, p=.000) indicates that the variance between institutions is significantly different from zero, and thus level matters. The Inter-class Correlation Coefficient (or ICC) was 0.66 and indicated that 98.59% of the variance in the student self-perception of socially responsible leadership outcomes is based on within individual differences while 1.40% of the variance in perceived leadership efficacy was based on differences between institutions.

The results of the conditional HLM analysis are displayed in Table 4.23. As seen in the table, the γ_{00} intercept from the estimated model is 4.00, which is the mean for socially responsible leadership scores. The significant *t*-test associated with this effect means that individual predictors do make a difference to the model. Prior leadership involvement, both group membership (y_{10}=0.03, p=.000) and positional leadership

(y_{20}=0.05, p=.000), were significantly positively associated with student scores on the omnibus SRLS. Gender (y_{90}=-0.03, p=.000) was also significantly related to leadership scores, indicating women having higher scores on social change leadership outcomes as measure by the omnibus SRLS than men. Identifying as American Indian was significantly positively associated with social change leadership outcomes (y_{40}=0.09, p=0.046), while identifying as Asian Pacific American was significantly negatively associated with leadership for social change (y_{50}=-0.04, p=0.02). Adding the individual level predictors to the model accounted for 4.9% of the between-individual variance in self-efficacy for leadership.

Table 4.23

Final Estimation of Fixed Effects for the Relationship between Individual Predictors and Perceived Student Leadership for Social Change

Fixed Effect	Coefficient	Standard Error	T-Ratio
Intercept	4.00	0.01	479.55***
Prior Group Involvement slope (Pre3B)	0.03	0.01	5.26***
Prior Positional Leadership slope (Pre3D)	0.05	0.01	8.73***
Racecat2 slope (African American/Black)	0.04	0.02	1.65
Racecat3 slope (American Indian)	0.09	0.04	1.99*
Racecat4 slope (Asian American)	-0.04	0.02	-2.40*
Racecat5 slope (Latino/a)	0.03	0.02	1.13
Racecat6 slope (Multiracial)	0.04	0.02	1.55
Racecat7 slope (Race not included)	0.04	0.04	1.09
Gender slope (Dem8.1)	-0.03	0.01	-3.77***

* $p < .05$, ** $p < .01$, *** $p < .001$

There were three significant cross-level interactions involving institutional factors and student scores of the omnibus SRLS. These are displayed in Table 4.24 and include: student prior participation in a leadership position on the intercept ($\gamma_{20} = 0.05$, $t = 2.34$, $p < .05$); institutional membership in cluster one and gender ($\gamma_{93} = -0.07$, $t = -2.58$, $p = .01$); and institutional membership in cluster three and gender (y_{95}=-0.06, t=-2.32, p<.05). These interaction effects are graphed and explained in Figure 4.25 and 4.26. Adding the institutional level factors and emergent cluster types to the model accounted for 11.66%, of the between-program variance in student self-efficacy for leadership.

Table 4.24
Final Estimation of Fixed Effects for the Relationship between Individual and Group Predictors and Perceived Student Leadership for Social Change

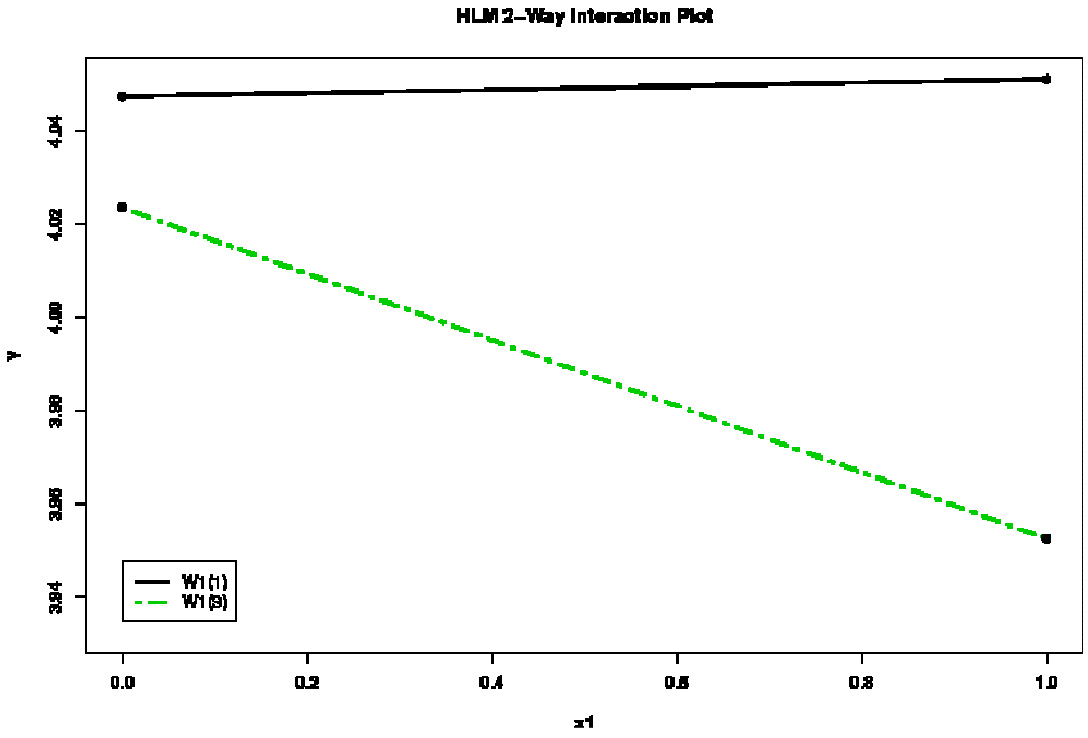
Fixed Effect	Coefficient	Standard Error	T-Ratio
Intercept	4.05	0.04	103.23***
Carnegie	-0.01	0.01	-1.30
Public/Private	0.01	0.02	0.31
Cluster1	-0.02	0.03	-0.79
Cluster2	0.00	0.03	0.01
Cluster3	-0.02	0.03	-0.76
Prior Group Involvement slope	0.001	0.03	0.04
Carnegie	0.01	0.01	1.20
Public/Private	0.02	0.01	1.50
Cluster1	0.00	0.02	0.05
Cluster2	0.00	0.02	0.12
Cluster3	0.00	0.02	0.11
Prior Positional Leadership slope	0.05	0.02	2.34*
Carnegie	0.00	0.00	0.00
Public/Private	-0.01	0.01	-0.52
Cluster1	-0.01	0.02	-0.83
Cluster2	0.02	0.02	1.08
Cluster3	0.01	0.01	0.40
African American slope	-0.05	0.11	-0.46
Carnegie	0.03	0.03	0.94
Public/Private	0.09	0.06	1.53
Cluster1	-0.01	0.07	-0.20
Cluster2	-0.19	0.11	-1.80
Cluster3	-0.01	0.07	-0.15
American Indian slope	0.01	0.96	0.01
Carnegie	0.01	0.23	0.03
Public/Private	0.01	0.52	0.01

Cluster1	0.06	0.54	0.11
Cluster2	0.23	0.59	0.39
Cluster3	-0.02	0.49	-0.04
Asian American slope	-0.04	0.10	-0.37
Carnegie	0.01	0.02	0.66
Public/Private	0.01	0.04	0.27
Cluster1	-0.06	0.07	-0.86
Cluster2	-0.04	0.08	-0.47
Cluster3	-0.06	0.06	-0.97
Latino/a slope	0.03	0.13	0.20
Carnegie	0.03	0.03	1.00
Public/Private	0.04	0.06	0.66
Cluster1	-0.21	0.11	-1.88
Cluster2	-0.22	0.12	-1.76
Cluster3	-0.05	0.09	-0.53
Multiracial slope	-0.01	0.08	-0.12
Carnegie	0.01	0.02	0.86
Public/Private	-0.06	0.04	-1.54
Cluster1	0.02	0.06	0.30
Cluster2	0.07	0.08	0.90
Cluster3	0.05	0.05	0.89
Race not listed slope	0.17	0.16	1.02
Carnegie	-0.01	0.03	-0.37
Public/Private	-0.08	0.07	-1.18
Cluster1	-0.08	0.12	-0.60
Cluster2	-0.09	0.14	-0.63
Cluster3	-0.03	0.11	-0.26
Gender slope	0.003	0.04	0.09
Carnegie	0.01	0.01	0.63
Public/Private	- 0.02	0.02	-0.97
Cluster1	- 0.07	0.03	-2.58*
Cluster2	0.01	0.03	0.17
Cluster3	-0.06	0.03	-2.33*

* $p < .05$, ** $p < .01$, *** $p < .001$

Figure 4.25 represents the interaction plot of gender and institutional membership in cluster one on social change leadership outcomes, where the Y axis represents scores of the omnibus SRLS, the X axis represents gender where zero is female and one is male. The solid line represents institutions *not* in cluster one and the dashed line represents institutions in cluster one. This interaction plot depicts the fact that cluster membership makes less of a difference for women than it does for men. Men who attend schools that are members of cluster one score significantly lower on SRLS scores than men who attend other institutions. Possible explanations for this will be explored in Chapter Five.

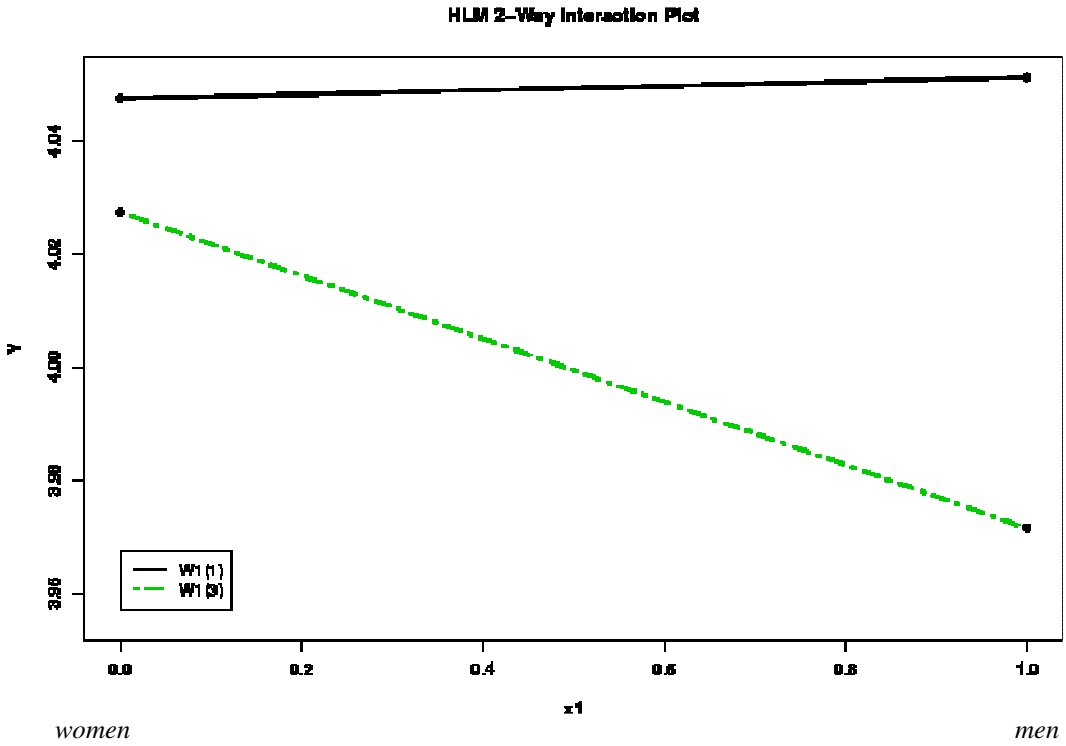
Figure 4.25 Interaction Plot of Gender and Institutional Membership in Cluster One on Social Change Leadership Outcomes



women *men*

Figure 4.26 represents the interaction plot of gender and institutional membership in cluster three on social change leadership outcomes, where the Y axis represents scores of the omnibus SRLS, the X axis represents gender where zero is female and one is male. The solid line represents institutions *not* in cluster three and the dashed line represents institutions in cluster three. This interaction plot depicts the fact that cluster membership makes less of a difference for women than it does for men. Men who attend schools that are members of cluster three score significantly lower on SRLS scores than men who attend other institutions. Possible explanations for this will be explored in Chapter Five.

Figure 4.26 Interaction Plot of Gender and Institutional Membership in Cluster Three on Social Change Leadership Outcomes



Research Question Two Summary

Research question two explored the extent to which divergent classifications of leadership programs differentially influenced perceived college student leadership efficacy and leadership learning outcomes. Because students were nested within institutions, two-step hierarchical linear modeling was used to examine the relationship between institutional factors such as institutional control, Carnegie classification, and cluster membership at level two, and student self-perceived levels of leadership efficacy and social change leadership outcomes at level one. An individual's gender and ethnicity

(dummy coded) and high school leadership involvement were included as control variables at level one.

Results on the dependent variable of perceived self-efficacy for leadership indicated that 98.12% of the variance in the student self-perception of efficacy for leadership is based on within individual differences while 1.87% of the variance in perceived leadership efficacy was based on differences between institutions. Prior leadership involvement, both group membership and positional leadership, were significantly positively associated with student self-efficacy scores at level one. Gender was also significantly related to self-efficacy, indicating men having higher scores of self-perceived efficacy for leadership than women. Being Asian American as compared to White was significantly negatively associated with self-efficacy for leadership at level one.

At level two, four cross-level interaction effects were significant: 1) an institution being public or private was significantly related to self-efficacy scores with private institutions having higher student self-reported efficacy for leadership outcomes; 2) an institution's Carnegie classification does not make much of a difference in student efficacy for leadership if students had little to no prior positional leadership experience before coming to college, but for students with more extensive prior positional leadership experience, attending a baccalaureate level institution significantly increased their level of self-efficacy over attending a research extensive institution; 3) for students who do identify as Asian Pacific American, attending a private college or university can result in significantly higher levels of self-efficacy for leadership than students attending a public institution; and 4) students whose race fit into the MSL racial options categories scored

higher on self-efficacy at private institutions, while students whose race was not listed as an option choice on the MSL scored higher on self-efficacy at public institutions. An institution's cluster membership did not make a significant difference in any of the self-efficacy findings.

Cluster membership did, however, have two significant interaction effects when looking at student outcomes related to socially responsible leadership. Another two-level hierarchical linear model was used to examine the relationship between the aforementioned institutional factors and student self-perceived levels of leadership for social change as measured by the omnibus SRLS at level one. An individual's gender and ethnicity (dummy coded) and high school leadership involvement were included as control variables at level one. The Inter-class Correlation Coefficient (or ICC) indicated that 98.59% of the variance in the student self-perception of socially responsible leadership outcome is based on within individual differences while 1.40% of the variance in perceived leadership efficacy was based on differences between institutions.

Prior leadership involvement, both group membership and positional leadership, were significantly positively associated with student scores on the omnibus SRLS. Gender was also significantly related to leadership scores, indicating women having higher scores on social change leadership outcomes as measure by the SRLS than men. Identifying as American Indian was significantly positively associated with social change leadership outcomes, while identifying as Asian Pacific American was significantly negatively associated with leadership for social change when compared to White students.

At level two, three cross-level interaction effects were significant: 1) student prior participation in a leadership position on the intercept, such that students with prior positional leadership experiences had higher scores on the omnibus SRLS; 2) institutional membership in cluster one and gender; and 3) institutional membership in cluster three and gender. Institutional cluster membership makes less of a difference for women than it does for men. Men who attend schools that are members of cluster one or cluster three scored significantly lower on SRLS scores than men who attend other institutions.

Thus, though numerous significant interaction effects revealed useful findings, only limited evidence emerged that divergent classifications of leadership programs differentially influenced perceived college student leadership efficacy and leadership learning outcomes. Chapter Five will explore these findings in more detail.

CHAPTER V
CONCLUSIONS AND IMPLICATIONS

Few existing studies of collegiate leadership development programs used a focused theoretical approach to systematically evaluate institutional and programmatic effects on targeted student leadership outcomes. The purpose of this study was to determine whether a meaningful empirical typology of institutions with co-curricular leadership development programs could be developed based on structural elements and programmatic characteristics, and then examine any effects of different classifications of leadership programs on perceived student leadership outcomes of self-efficacy and social change. Chapter Four presents findings from a two-step cluster analysis and an integrative content analysis which indicate an emergent typology of leadership programs based on variables related to theoretical intentionality, resource level, and productivity. Results from two hierarchical linear models, also presented in Chapter Four, reveal numerous level-one effects on perceived student leadership outcomes related to social change and self-efficacy for leadership, including pre-college positional leadership and group experiences, gender, and race. Two-level hierarchical linear models also showed limited second level interaction effects, primarily related to institutional control and Carnegie classification. Typologic clusters had few meaningful differential effects on student outcomes.

The purpose of this chapter is to interpret these results in light of previous research and theory, explore theoretical and practical implications of findings, present limitations of the study, and offer directions for further research.

Cluster Analysis Results

A two-step cluster analysis resulted in the emergence of a three cluster typology of institutions with co-curricular leadership development programs. Table 4.9 summarizes between-group differences on the selected clustering variables in detail and Table 4.11 shows results on secondary variables of interest. Interpretation of clustering variables and external analysis of the clusters led to the following cluster descriptions. Cluster one consisted of institutions with well funded, highly productive co-curricular leadership programs that are high intentional -that is, they value planning and a clear theoretical approach **("highly resourced, highly productive, highly intentional" programs**). These institutions also are more likely to be at the more advanced stages of enhancing quality or sustained institutionalization of leadership programs, are more likely to have a leadership center on campus, and have high numbers of staff solely-dedicated and affiliated with leadership programming. Every institution in cluster one uses the Social Change Model as its theoretical frame and they have the highest amounts of programming, regardless of audience.

Cluster two consisted of programs that receive the least funding and offer the lowest amount of co-curricular programming, but do engage in planning **("limited resources, moderately productive, moderately intentional" programs).** Cluster three consisted of programs with moderate amounts of funding and programming, but who do not particularly engage planning or adopt a clear theoretical approach **("moderately resourced, moderately productive, less intentional" programs**). Though institutions in cluster two and three have similar average numbers of staff affiliated with leadership programs, programs in cluster two have a higher average number of full time staff

devoted to programs. This may indicate that while institutions in cluster three fund their programs at higher levels, institutions in cluster two devote a greater percentage of resources to funding staff positions, a figure that was not taken into account in the expenditures question. While both clusters of institutions offer similar average number of programs, institutions in cluster two offer higher numbers of programs for positional leaders, while institutional in cluster three have higher mean numbers of open programs or programs targeted at specific leadership sub-groups.

The outlier cluster consists of seven institutions with wide ranges of responses, often far above or below the means of institutions in the other clusters. None of these schools submitted information on their budgets, and they report being at all levels of program institutionalization from brand-new programs to sustained campus commitment. They have a much higher mean number of staff dedicated to leadership, but report much lower levels of affiliated staff involvement than institutions in the other clusters.

Theoretical Connections and Implications

Though typologies are prominent in many areas of higher education, and despite wide interest in collegiate leadership development programs and a plethora of documents proscribing essential elements of leadership programs, there have been few attempts to classify or label particular types of leadership development programs. A scan of the leadership program evaluation literature revealed several common themes or elements that are suggested to make a difference in student leadership learning (CAS, 2006; Chambers 1992, 94; Cress et al., 2001; Roberts & Ullom, 1989; Zimmerman-Oster & Burkhardt, 1999a). These themes included program theoretical orientation, common program elements, strategic planning and evaluation, access to human and fiscal

resources, and collaboration. This study used variables addressing each of these themes as clustering variables.

It is interesting to note that of these variables only access to resources and intentionality (both of theoretical frame and of strategic planning efforts) served as discriminating cluster variables. The level of funding of more intentional co-curricular leadership programs also adds validation to the work of Smart, Ethington, Riggs, and Thompson (2002) that showed student services expenditures had a significant ($p<.01$) positive total effect on student leadership abilities while at college. These findings also echo the emphasis on planning as articulated by Anthony-Gonzales and Fiutak (1981), Janosik and Sina (1988), and Kellogg (1999), and theoretical focus (Dugan & Owen, 2007; Rost, 1993; Yukl, 2002; Zimmerman-Oster & Burkhardt, 1999a).

Despite indications that common program elements that focus on training, education, and development (Roberts, 1981) would define clusters of programs, there were not significant variations in the mean numbers of these types of programs to discriminate among institutions. Institutions in cluster two and cluster three both averaged between ten and eleven leadership programs of any type per year. Similarly, number of collaborators did not serve as a discriminating variable, with the mean for all three clusters hovering at 2.47 collaborators. These data indicate that program focus and resources may be more essential to the development of a meaningful typology than the number and type of programs and collaborators.

The fact that clusters did not emerge around other institutional variables, such as Carnegie classification, type, or size, further affirms the salience of variables identified in the leadership program evaluation literature. Also, the finding that institutions in cluster

one were at more advanced stages of enhancing quality or sustained institutionalization of leadership programs, supports the work of Furco (1999, 2000) connecting program stage of development to level of mission clarity and institutional funding. This also supports findings revealed through the Documenting Effective Educational Practices (DEEP) studies that high performing institutions are characterized by "lived" missions and educational philosophies (Kuh et al., 2005).

Practical Implications

The emergence of a meaningful typology of institutions with collegiate leadership development programs also has practical significance to the development of leadership for social change. MSL-IS results show the highly heterogeneous nature of co-curricular leadership programs. Program variety in size, scope, purpose, reporting lines, resources, and stage of development makes it difficult to advocate for and make claims about the effects of such programs. Having a typology that, at the very least, begins to offer a language and structure about how to make distinctions among programs is the beginning of being able to develop resources to serve specified planning, advocacy, or assessment needs. Knowing that having a theoretical focus is important makes it more like that practitioners will engage with leadership theory. Being able to characterize a leadership program along the clustering dimensions allows practitioners to identify peer institutions with similar approaches. The effects of this were seen in the anecdotal margin notes on the MSL-IS instrument declaring the structure of the instrument itself as transformational.

Future iterations of the MSL-IS will continue to explore the connections among institutional predictors and student outcomes. Additions to the existing MSL-IS might include: examining the level of experience of leadership educators associated with

diverse types or programs; the role of transition and staff turnover in program theoretical orientation; looking at different types of institutions (such as community colleges, women's colleges, HBCUS and HSIs) to see if they adopt unique approaches to leadership development; examining the effects of curricular leadership programs; gauging the role of institutional selectivity as a predictor of leadership; and conducting needed site visits and interviews to complement MSL-IS data with qualitative information.

Limitations

Several limitations may affect the interpretability of cluster analysis results. Methodological issues include the use of self-report data. Though attempts were made to meet the five essential criteria education researchers say are essential in the use of self-report data (requested information is known to the respondent; questions are phrased clearly and unambiguously; questions refer to recent activities; respondents think questions merit a thoughtful response; and questions do not encourage the respondent to answer in socially desirable ways) these data are still vulnerable to examination (Kuh et al., 2001). Another potential shortfall of the MSL-IS instrument is that it relied on one self-appointed "content-matter expert" to describe both the breadth and depth of leadership programs on each particular campus. Though many campuses assembled ad-hoc committees or used advisory boards to complete the survey, using one individual's interpretation as a proxy for institutional level effects is problematic.

In addition, the relatively small number of institutions in the study limited the number of variables that could be included as clustering variables in the analysis. Of those variables that were used as clustering variables, two had issues with

multicollinearity which could affect resulting cluster solutions. Because no measure of collaboration could be identified that did not have multicollinearity issues, the variable was retained because of the theoretical importance of having each area deemed essential to leadership programs in the literature be included in analysis. The fact that collaboration did not emerge as a meaningful discriminator among clusters may be connected to this.

Limitations in interpretation include the selection and labeling of clusters which is always open to researcher interpretation (Steiger, 1979). This is especially true in the subtle differences between cluster two and three in this study, and the attempt to characterize the widely divergent institutions that comprised the outlier cluster.

Suggestions for Further Research

The aforementioned limitations offer insight as to why this emerging typology may not have resulted in distinct student outcomes, as will be presented in the HLM results section of this chapter. Though this research serves as an important first step in developing a data-driven typology to assist with leadership program planning, advocacy, research and evaluation needs, more empirical studies to this effect are needed. Future studies should build on this study's inclusion of a wide variety of institutional types and programs, but should include a larger number of institutions to build statistical power and allow for the inclusion of a greater number of clustering variables. Exploration of institutions at varying stages of program institutionalization, as well as those with highly developed curricular leadership programs, should also be addressed. The Center for Creative Leadership's current work on a typology of team and organizational capabilities (2007) and the International Leadership Association's guidelines for leadership education

programs (Ritch, 2007) may provide further frameworks that may serve as new clustering variables for further typologic explorations.

Content Analysis Results

An integrative model of content analysis as enumerated by Nuendorf (2002) was conducted to assist in the description and validation of the resulting three cluster typology. Given the wide array of materials submitted as part of the MSL-IS process, this study focused on the most commonly submitted document, co-curricular leadership program mission statements, and to examine variables related to the intentionality and institutionalization of leadership programs, such as the strength of the connection between program and institutional mission statements. Of the 52 institutions included in this study, only thirty had published mission statements for their co-curricular leadership programs and were included in this part of the study.

Table 4.16 presents content analysis results by cluster. Frequencies were determined by examining ratings from all three raters on each variable and using the dominant response to profile the variable. It should be noted that only five of all 52 institutions participating in the MSL and MSL-IS had any clearly stated definition of leadership and/or clearly articulated theoretical frame published on their websites, according to coders. Only four institutions had what coders considered to be strong connections between their institutions mission and that of their leadership program. Of those institutions who expressed leadership related values or assumptions in their mission statements, most expressed multiple values and assumptions. Given the overall low levels of variables related to intentionality of program design and delivery, there was not a clear reinforcement of cluster descriptions as presented in the cluster analysis.

Theoretical Implications

The literature is replete with suggestions that programmatic mission statements should be congruent with institutional mission statements (Boyer, 1990; Chaffee, 1998; Holland, 1999; Kezar, 2006; Roberts & Ullom, 1990; Zimmerman-Oster & Burkhardt, 1999a, 1999b) and vice versa (CAS, 2006). The rationale behind these statements seems to be the idea that "articulating a shared purpose is a requisite step on the road to organizational success" and that statements of institutional priorities are essential to guiding decisions about program creation and termination (Morphew & Hartley, 2006, p. 456). Given the importance of this congruence, it is startling how few institutions (n=30) had any published statement about the purpose, goals, or values of their co-curricular leadership programs, and how even fewer (n=4) had strong institutional-program connections. This is echoed in the MSL-IS descriptive data where only 53.8 percent of respondents admitted to having a clearly articulated mission or vision for their leadership program. If, as *Leadership in the Making* (Zimmerman-Oster & Burkhardt, 1999a) suggests, one hallmark of successful collegiate leadership development programs is the presence of a strong connection between the mission of the institution and the mission of the leadership development program or center, the results of this study indicate co-curricular leadership programs are not building their capacity in this important way.

The results were even more astounding when it came to published statements about program theoretical orientation. Though 42.3 percent of institutions reported having clear definitions and theories that informed their leadership programs, raters found only five such statements in published program statements. Researchers have found that leadership programs that explicitly state and model their theoretical orientation have

greater effect on student leadership learning (Eich, 2007). Though there are strong theoretical expressions of the importance of institution-program mission congruence and clear theoretical orientation, co-curricular leadership programs have not capitalized on these findings. This suggests the importance of more clearly articulating and better promoting this existing research to leadership educators.

Practical Implications

The practical implications of so few leadership programs having published statements of mission, purpose, or theoretical orientation are numerous. If, as Rost (1993) states, "the issue of defining leadership is central to the problems both scholars and practitioners have had with conceptualizing and practicing leadership" (p. 37), then programs who do not have such clear statements put their student leadership development efforts at risk. If an institution is unclear about what leadership means on that campus and to that co-curricular program, how can it make effective choices around program design? How can such a program define and assess outcomes if it hasn't articulated a clear statement of purpose? Even if this is an issue of espoused versus enacted values (in that the program has such documents but they are not made public) how can students make informed decisions about where to spend their co-curricular time and energy if they are unsure of the purpose or rationale of a program? How do possible funders know program goals?

These questions are especially salient for smaller, more mission focused institutions which tend to rely on shared values and philosophies to promote active student engagement (Kezar, 2006a). If, as Kezar and Kinzie (2006) note, individual campus missions seemed to have more impact on programmatic practices than

institutional type, what does it mean if those institutions do not reflect the importance of student leadership development?

Limitations

The effects of this content analysis were clearly hampered by a lack of evidence with which to code. Not being able to access leadership program mission statements from 22 participating institutions resulted in an inability to use content analysis results to evaluate the face validity of cluster descriptions. Other methodological concerns include somewhat lower inter-rater reliabilities on rating programmatic assumptions about leadership (.65) and in evaluating strength of institutional-program mission congruence (.65). Despite conducting four separate coder training sessions to refine the codebook and establish inter-rater reliability, the fact remains that objectivity is much tougher to achieve with latent variables such as leadership values and assumptions than with more readily observable constructs (Neundorf, 2002).

Suggestions for Further Research

Though this portion of the study did not serve its intended purpose, it nevertheless revealed meaningful findings for leadership program educators and researchers. Scholars should continue to examine the role of mission and theoretical orientation in the design and delivery of leadership programs. Does practitioner reluctance to publish such statements come from a lack of prioritizing such processes or from a commitment to an atheoretical or heterogeneous approach? If practitioners are operating from an atheoretical perspective does it stem from a purposeful choice or an uncertainty about how to negotiate the empirical leadership literature? If it is the latter, the implications for professional development are clear. The next iteration of the MSL-IS will use computer-

aided content analysis, such as Latent Semantic Analysis, to code mission statements in an attempt avoid discrepancies among coders.

Hierarchical Linear Modeling Results

Research question two explored the extent to which divergent classifications of leadership programs differentially influenced perceived college student leadership efficacy and leadership learning outcomes. Results on the dependent variable of perceived self-efficacy for leadership indicated prior leadership involvement, both group membership and positional leadership, were significantly positively associated with student self-efficacy scores at level one. Gender was also significantly related to self-efficacy, indicating men having higher scores of self-perceived efficacy for leadership than women. Being Asian American was significantly negatively associated with self-efficacy as compared to White students for leadership at level one.

At level two, four cross-level interaction effects were significant: 1) an institution being public or private was significantly related to self-efficacy scores with private institutions having higher student self-reported efficacy for leadership outcomes; 2) an institution's Carnegie classification does not make much of a difference in student efficacy for leadership if students had little to no prior positional leadership experience before coming to college, but for students with more extensive prior positional leadership experience, attending a baccalaureate level institution significantly increased their level of self-efficacy over attending a research extensive institution; 3) for students who do identify as Asian Pacific American, attending a private college or university can result in significantly higher levels of self-efficacy for leadership than students attending a public institution; and 4) students whose race fit into the MSL racial options categories scored

higher on self-efficacy at private institutions, while students whose race was not listed as an option choice on the MSL scored higher on self-efficacy at public institutions. An institution's cluster membership did not make a significant difference in any of the self-efficacy findings.

Another two-level hierarchical linear model was used to examine the relationship between the aforementioned institutional factors and student self-perceived levels of leadership for social change as measured by the omnibus SRLS at level one. Again, prior leadership involvement, both group membership and positional leadership, were significantly positively associated with student scores on the omnibus SRLS. Gender was also significantly related to leadership scores, this time indicating women having higher scores on social change leadership outcomes as measure by the SRLS than men. Identifying as American Indian was significantly positively associated with social change leadership outcomes, while identifying as Asian Pacific American was significantly negatively associated with leadership for social change, as compared to White students.

At level two, three cross-level interaction effects were significant: 1) student prior participation in a leadership position on the intercept, such that students with prior positional leadership experiences had higher scores on the omnibus SRLS; 2) institutional membership in cluster one and gender; and 3) institutional membership in cluster three and gender. Institutional cluster membership makes less of a difference for women than it does for men. Men who attend schools that are members of cluster one or cluster three scored significantly lower on SRLS scores than men who attend other institutions.

Theoretical Implications

Results suggest the importance of pre-college experiences to collegiate student leadership development, particularly pre-college experiences with positional leadership and group membership. If, as Astin (1993) discovered, the strongest effects on leadership skill formation were interactions with peers, it stands to reason that pre-college group experience promote peer interaction and thus leadership capability. Recent studies on leadership identity development affirm the importance of engaging in groups, learning from membership continuity, and evolving perceptions of groups, but more research is needed on how pre-college group experiences shape college-level leadership learning (Komives, et al., 2005).

Level one results from this study echo findings from other explorations of the MSL student outcomes around race and gender (Calizo, Cilente, & Komives, 2007; Dugan, Jacoby, Gasiorski, Jones, & Kim, 2007). Female students score significantly higher on the omnibus SRLS, yet significantly lower on the measure of self efficacy for leadership. Higher social change outcomes for women supports research that suggests women's leadership style may be associated with more participatory, relational, and reciprocal strategies than their male counterparts (Astin & Leland, 1991; Eagly & Carli, 2007; Kezar et al., 2006; Kezar & Moriary, 2000; Whitt, 2004). It is critical to further explore lower self-efficacy scores for women since leadership self-efficacy can affect the goals a leader selects, leader motivation, the development of leadership strategies, and the execution of those strategies (McCormick, 2001). It is also notable that second level interaction effects on the omnibus SRLS revealed that men who attend schools that are members of cluster one or cluster three scored significantly lower on SRLS scores than

men who attended other institutions. This is very likely due to the fact that schools in cluster one (100%) and cluster three (63%) were more likely to use the social change model as the theoretical basis for their leadership development efforts, than schools in cluster two and the outlier cluster. This finding begs the question of whether leadership educators are disadvantaging male students in adopting more participatory and relational approaches to leadership.

Race-related findings that students who identify as Asian Pacific American (APA) score significantly lower on both social change and leadership efficacy outcomes than White students is troubling. Liang, Lee, and Ting (2002) offer that APA students may have a different approach to leadership based on traditional cultural values such as deference to authority, humility, preferring harmony over conflict, and attending to group needs over individual desires. They also note that APA individuals have long been the target of oppression and discrimination that may shape their world view. Though one might posit that more collectivist approaches to the world may yield higher results on collaborative models such as the social change model (Balon, 2003), that is not the case in this study. Further exploration is needed into response patterns of APA students shaped these scores and what specific environmental supports do promote APA leadership on campus. A recent paper explores response patterns in APA students, such as a tendency to not select the extremes on Likert scales (Wang, Hempton, Dugan, & Komives, 2007). The second-level interaction effect on the self-efficacy outcome begins to paint a more complex picture. For students who do identify as Asian Pacific American, attending a private college or university can result in significantly higher levels of self-efficacy for leadership than students attending a public institution. APA students who attend private

institutions may be more likely to be from more privileged backgrounds and/or are less likely to be first generation college students. This finding merits further exploration.

The finding that American Indian students scored significantly higher on the omnibus SRLS than White students was also intriguing. Ostick (2006) offers that traditional cultural values such as generativity, leadership by consensus, and service to the community are reflected in the social change model of leadership. Kezer, Carducci, and Contreras-McGavin (2006) describe the "mixed results" of the degree to which social and cultural differences affect leadership models. There is great need for a meta-analysis to examine the overlap of race, gender, ethnicity, and other factors such as class and sexual orientation on leadership.

One possible interpretation of the finding that students whose race was not listed on the MSL instrument had higher self efficacy at public institutions is that those students are predominantly international students (and thus none of the hyphenated American race categories appealed to them). Public institutions are more likely to have structural diversity and thus may provide a supportive climate likely to foster leadership efficacy in these students.

The level two hierarchical models also revealed significant interaction effects among institutional control and leadership outcomes. These results are contrary to Pascarella and Terenzini's (2005) finding that "most studies suggest that various aspects of a campus's climate or the experiences students have while enrolled are more powerful predictors of leadership development than an institution's structural or organizational characteristics" (p. 236). The finding that students attending private institutions have higher self-reported efficacy for leadership outcomes than those at public institutions may

be related to the high intercorrelation between private institutions and institutional size. Toutkoushian and Smart (2001) found that students enrolled in larger institutions reported lower gains than other students in interpersonal skills. The extent to which private schools are smaller in size and/or offer more intimate experiences with leadership development may explain this effect. Similar logic may explain the finding that an institution's Carnegie classification does not make much of a difference in student efficacy for leadership if students had little to no prior positional leadership experience before coming to college, but for students with more extensive prior positional leadership experience, attending a baccalaureate level (often smaller in size) institution significantly increased their level of self-efficacy over attending a research extensive institution. Certainly further research is needed to explore these provocative interaction effects among institutional control and leadership outcomes.

Practical Implications

If pre-college leadership experiences are essential to how students experience leadership in college it is essential that practitioners partner with k-12 educators to help design and influence those experiences. The intersections of gender and the experience of post-industrial leadership models suggest that practitioners must find ways to bring women's higher level of competence in social change based leadership into congruence with their beliefs about their own efficacy for leadership.

It is imperative that practitioners think intentionally about how they teach socially responsible leadership to men and Asian Pacific American students, and consider incorporating emerging research about the most effective experiences and institutional environments that foster this kind of leadership. Leadership theories, models, and

programs that directly address the unique talents and needs of students from specific racial and cultural backgrounds are sorely needed. The intersection of leadership identity and other multiple forms of identity should be thoughtfully addressed in program and course design.

The more that is known about how institutional environments shape the experience of student leadership development, the more leadership educators can seek to design environments that model the meaningful characteristics of those institutions. For example, if attending private schools enhances one's self efficacy, what is it about those schools that can be adopted by public institutions?

Limitations

Methodological limitations of the HLM portion of this study include the lack of true pre/post design to account for changes in student leadership development over time. Astin and Lee (2003) express concern over the use of cross-sectional design, especially when attempting to make claims about institutional effectiveness. This study only made use of demographic and pre-college experience factors as inputs, a design limitation in and of itself, but used institutional level data from a second source to approximate organization level effects. Yammarino and Spangler (1998) avow that most organizational studies of leadership are subject to methodological flaws including a lack of intentional theorizing about levels of analysis issues, and same-source data bias. This study addresses both of those issues by using HLM to address multiple levels of analysis simultaneously without violating assumptions of independence or with-in group differences, and avoids same source data bias by using distinct instruments to gather individual and institutional level data.

Two other methodological limitations were the multicollinearity of Carnegie type and institutional size as second level predictors which resulted in the selection and use of Carnegie type as a proxy for institutional size, and the use of means substitution to replace missing data on the on seventeen percent (n=1203) of the self-efficacy for leadership scores. Finally, this study only seeks to measure one particular theoretical definition of leadership, leadership for social change. Care must be taken in interpreting results especially for campuses that seek to develop different approaches to leadership.

Suggestions for Further Research

The advent of software packages such as HLM 6.0 that make it easier to further explore individual and institutional interaction effects while simultaneously controlling for inputs allows for a much more sophisticated analysis of the latent construct of leadership. Since leadership by definition involves the intersection of individual actors and groups or institutions, it follows that levels of analysis issues must be accounted for. This study of the intersections of institutional context, leadership program characteristics, and individual student leadership outcomes has only scratched the surface of what needs to be discovered about the design and delivery of collegiate leadership programs.

More research is needed on how pre-college group experiences shape college-level leadership learning; about how gender, race, and other intersecting aspects of identity shape and are shaped by leadership experiences; and about interaction affects among micro, meso, and macro level predictors.

Conclusion

In 1989 Bensimon, Newman, and Birnbaum called for leadership research that made use of more multivariate and complex approaches to examine the role of

individuals within organizations and institutions. In 2006 Kezer, Carducci, and Contreras-McGavin reissued this call stating "understanding how context affects leadership is perhaps one of the most important areas of future research in this new area of non-leader centric models" (p. 174). They posit that multilevel studies of leadership that take micro, meso, and macro level predictors into account will greatly enhance the current understanding of leadership.

This study was an attempt to connect institutional context, leadership program characteristics, and individual student leadership outcomes to examine what features of the design and delivery of leadership programs made the most difference to student learning. The on-going development of an emergent typology of collegiate leadership programs, the surfacing of heterogeneous and atheoretical approaches to student leadership development, and the significant effects of pre-college experiences, gender and racial differences, and institutional type and control on student leadership outcomes add needed specificity to the leadership program evaluation literature and reveal new paths for future research and practice.

APPENDIX A

MSL-IS IRB Approval

UNIVERSITY OF MARYLAND
INSTITUTIONAL REVIEW BOARD

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To: Susan R. Komives, John P. Dugan
Julie Owens and Renardo Hall
National Clearinghouse for Leadership Programs

From: RC Freedman for Roslyn Edson, M.S., CIP
IRB Manager
University of Maryland, College Park

Re: IRB Application # 05-0625
Title: The Multi-Institutional Study of Leadership Survey

Approval Date: February 3, 2006

Expiration Date: February 3, 2007

Type of Application: Initial

Type of Research: Nonexempt

Type of Review: Expedited

The University of Maryland, College Park Institutional Review Board (IRB) approved your IRB application. The research was approved in accordance with the University's IRB policies and procedures and 45 CFR 46, the Federal Policy for the Protection of Human Subjects. Please reference the above-cited IRB application number in any future communications with our office regarding this research. The research does not qualify for exemption because the subjects are providing some private information about themselves (e.g. Please rate your perception about your particular student leadership program) and the disclosure of some of the responses outside of the research could be damaging to a subject's reputation and/or employability.

Recruitment/Consent: For research requiring written informed consent, the IRB-approved and stamped informed consent document is enclosed. The IRB approval expiration date has been stamped on the informed consent document. Please keep copies of the consent forms used for this research for three years after the completion of the research.

Continuing Review: If you want to continue to collect data from human subjects or analyze data from human subjects after the expiration date for this approval, you must submit a renewal application to the IRB Office at least 30 days before the approval expiration date.

Modifications: Any changes to the approved protocol must be approved by the IRB before the change is implemented except when a change is necessary to eliminate apparent immediate hazards to the subjects. If you want to modify the approved protocol, please submit an IRB addendum application to the IRB Office.

Unanticipated Problems Involving Risks: You must promptly report any unanticipated problems involving risks to subjects or others to the IRB Manager at 301-405-0678 or redson@umresearch.umd.edu.

Student Researchers: Unless otherwise requested, this IRB approval document was sent to the Principal Investigator (PI). The PI should pass on the approval document or a copy to the student researchers. This IRB approval document may be a requirement for student researchers applying for graduation. The IRB may not be able to provide copies of the approval documents if several years have passed since the date of the original approval.

Additional Information: Please contact the IRB Office at 301-405-4212 if you have any IRB-related questions or concerns.

APPENDIX B
MSL-IS IRB Renewal

UNIVERSITY OF MARYLAND
INSTITUTIONAL REVIEW BOARD

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September 24, 2007

MEMORANDUM
Application Approval Notification

To: Dr. Susan R. Komives
Dr. John P. Dugan
Julie Owen
Renardo Hall
National Clearinghouse for Leadership Program,
Office of Campus Programs

From: Roslyn Edson, M.S., CIP, IRB Manager
University of Maryland, College Park

Re: **IRB Application Number:** 07-0447
Project Title: "The Multi-Institutional Study of Leadership-Institutional Survey (MSL-IS)"

Approval Date: September 21, 2007

Expiration Date: September 21, 2008

Type of Application: Initial

Type of Research: Nonexempt
(Please note: This research project does not qualify for exempt reviews because the survey responses are person identifiable and the inadvertent disclosure of some of the survey responses outside the research could be damaging to a subject's reputation and/or employability.)

Type of Review For Application: Expedited

The University of Maryland, College Park Institutional Review Board (IRB) approved your IRB application. The research was approved in accordance with 45 CFR 46, the Federal Policy for the Protection of Human Subjects, and the University's IRB policies and procedures. Please reference the above-cited IRB application number in any future communications with our office regarding this research.

Recruitment/Consent: For research requiring written informed consent, the IRB-approved and stamped informed consent document is enclosed. The IRB approval expiration date has been stamped on the informed consent document. Please keep copies of the consent forms used for this research for three years after the completion of the research.

Continuing Review: If you intend to continue to collect data from human subjects or to analyze private, identifiable data collected from human subjects, after the expiration date for this approval (indicated above), you must submit a renewal application to the IRB Office at least 30 days before the approval expiration date.

(continued)

Modifications: Any changes to the approved protocol must be approved by the IRB before the change is implemented, except when a change is necessary to eliminate apparent immediate hazards to the subjects. If you would like to modify the approved protocol, please submit an addendum request to the IRB Office. The instructions for submitting a request are posted on the IRB web site at: **http://www.umresearch.umd.edu/IRB/irb_Addendum%20Protocol.htm.**

Unanticipated Problems Involving Risks: You must promptly report any unanticipated problems involving risks to subjects or others to the IRB Manager at 301-405-0678 or **redson@umresearch.umd.edu.**

Student Researchers: Unless otherwise requested, this IRB approval document was sent to the Principal Investigator (PI). The PI should pass on the approval document or a copy to the student researchers. This IRB approval document may be a requirement for student researchers applying for graduation. The IRB may not be able to provide copies of the approval documents if several years have passed since the date of the original approval.

Additional Information: Please contact the IRB Office at 301-405-4212 if you have any IRB-related questions or concerns.

APPENDIX C
MSL-IS Email Contact Template

MSL –Institutional Survey Contact E-mail for Institutional Survey

February XX, 2006

Dear [INSERT CAMPUS CONTACT],

Thank you for all the hard work you have been doing to get the student survey underway. We are ready now to shift to gathering data on various dimensions of the institution's profile and programs to see how these may contribute to campus findings.

The campus assessment will include a form for you to complete, gathering of key documents for our team to content analyze, and identification of campus web sites for analysis. Enclosed is a general institutional instrument for data relating to your institution and key information of leadership program elements and entities on campus. This instrument may require you to contact other key offices on campus to obtain more detailed information. Please make sure to have the person who is completing the survey sign the consent form.

Please complete a consent form as well as the instrument. **We ask that you return the consent form and instrument by March 10, 2006**.

Again, thank you so much for your continued involvement and support for the Multi-Institutional Study of Leadership. The data that we will obtain will be very rich and will contribute very much to our understanding of leadership development on our college campuses. If you have any questions, please let me know.

Sincerely,
[INSERT MSL RESEARCH TEAM MEMBER]

APPENDIX D
MSL-IS Cover Letter

February 20, 2006

Dear [INSERT CAMPUS CONTACT]:

Thank you for all the hard work you have been doing to get the Multi-Institutional Study of Leadership (MSL) student survey underway. We are now ready to begin collecting data for the institutional portion of the study that examines the environmental dimensions that contribute to enhanced student leadership outcomes across institutional types. The information you provide about student leadership programs on your campus is vital to the richness of the overall MSL data set.

The MSL institutional survey (MSL-IS) process involves you or your designee: completing the institutional survey instrument; gathering any key documents (such as brochures or flyers) that may be helpful in describing your campus' leadership development efforts; and the identification of leadership-related web sites on your campus. The MSL-IS process may require you to contact other key offices on campus to obtain more detailed information. If you do not feel you are informed about leadership opportunities on your campus, please consider forwarding the survey to an alternate contact. ***Please make sure to have the person who is completing the survey sign the consent form located inside the MSL-IS instrument booklet.***

In order for us to allow time for data analysis, **we ask that you or your designee return the consent form, instrument, and any leadership-related publications or materials in the postage-paid envelope provided**.

Again, thank you so much for your continued involvement and support for the Multi-Institutional Study of Leadership. The data collected via this instrument will contribute greatly to our understanding of leadership development on college campuses. If you have any questions about this process, please contact your institutional liaison.

Sincerely,

Dr. Susan R. Komives
Associate Professor, University of Maryland
Co-Principal Investigator, Multi-Institutional Study of Leadership

John P. Dugan
Coordinator, Student Involvement and leadership
Co-Principal Investigator, Multi-Institutional Study of Leadership

APPENDIX E

MSL-IS Consent Form for Participants

Appendix C
Multi-institutional Study of Leadership
CONSENT FORM

Why is this research being done? This is a research project being conducted by the National Clearinghouse for Leadership Programs at the University of Maryland, College Park. Your campus is one of 55 participating institutions. We are inviting you to participate in this research project because you are the campus contact for the MSL and have knowledge of your campus leadership programs. The purpose of this research project is to assess campus programs and practices designed to influence leadership development.

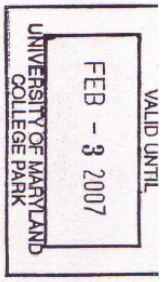
What will I be asked to do? We request that you complete the attached survey designed to provide basic data about your institution and to describe elements of your leadership program. The questions include such items as identifying program target audiences, structure, staffing, funding, facilities, goals, collaborations with stakeholders, and leadership focus/content. In some cases we request you gather copies of program materials or provide web sites or file attachments of those materials. *It may take several weeks to gather the information requested in this survey since you may have to contact other campus offices for information.*

What about confidentiality? We will do our best to keep your responses confidential. Completed surveys will be locked in a file cabinet in the researcher's office. Your responses and all documents will be destroyed at the completion of the study. Data will be coded, and a code will be placed on the survey and other collected data. Identifying information about you or your role will be blacked off the survey form. When we write a report or article about this research project, your identity and your institution's identity will be protected to the maximum extent possible. Your information may be shared with representatives of the University of Maryland, College Park or governmental authorities if you or someone else is in danger or if we are required to do so by law.

What are the risks of this research? There are no known risks associated with participating in this research project. You are providing only descriptive data and public documents for this assessment.

What are the benefits of this research? This research is not designed to help you personally. We hope that, in the future, other educators might benefit from this study through improved understanding of campus leadership programs and practices that develop student leadership.

Do I have to be in this research? May I stop participating at any time? Your campus has elected to be part of this multi-institutional study and seeks to have its students, programs, and practices assessed. Your participation in this research is completely voluntary. You may choose not to take part at all. If you decide to participate in this research, you may stop participating at any time. If you decide not to participate in this study or if you stop participating at any time, you or your campus will not be penalized or lose any benefits to which you otherwise qualify. However, lack of participation may mean incomplete data for your individual campus analysis.



What if I have questions? This research is being conducted by Susan R. Komives and John Dugan at the University of Maryland, College Park. If you have any questions about the research study itself, please contact Susan R. Komives at 3214 Benjamin Building (Komives@umd.edu; 301-405-2870) or John Dugan at 0110 Stamp Student Union (dugan@umd.edu; 301-405-0838), both at the University of Maryland, College Park, MD 20742. If you have questions about your rights as a research subject or wish to report a research-related injury, please contact: Institutional Review Board Office, University of Maryland, College Park, Maryland, 20742; (e-mail) irb@deans.umd.edu;

(telephone) 301-405-0678 This research has been reviewed according to the University of Maryland, College Park IRB procedures for research involving human subjects.

Statement of Age of Subject and Consent Your signature indicates that: (1) you are at least 18 years of age; (2) the research has been explained to you; (3) your questions have been fully answered; and (4) you freely and voluntarily choose to participate in this research project.

Your name _____

Signature _____ Date_____

APPENDIX F
MSL-IS Survey Instrument

Multi-Institutional Study of Leadership

Institutional Survey Instrument

Sponsored by the National Clearinghouse for Leadership Programs, the ACPA-College Student Educators International Educational Leadership Foundation, and the National Association of Student Personnel Administrators Foundation

LIAISON/ PROGRAM CONTACT INFORMATION

1. **Your Name:**

Your Position/Title:

Position/Title of person to whom you report:

2. **Please rate your perception of your personal knowledge about all** existing student leadership opportunities ***on your campus:***
(*Check one response.*)

- ☐ Not Informed
- ☐ Somewhat informed
- ☐ Informed
- ☐ Highly informed

If you do not feel you are informed about leadership opportunities on your campus, please consider forwarding this survey to an alternate contact.

INSTITUTIONAL INFORMATION

3. **Please provide the following demographic information for the *undergraduate* population on your campus.**

% that live in university owned housing .....

% that live off campus.....

4. **At which of the following stages would you characterize the OVERALL student leadership development efforts on your campus?**
(*Check the category that best applies.*)

- ☐ Brand new/emerging
- ☐ Building critical mass (several leadership programs exist on campus, may or may not be coordinated)
- ☐ Enhancing quality (coordinating efforts occur across multiple leadership programs on campus)
- ☐ Sustained institutionalization (campus-wide recognition of leadership as engrained in the fabric of the institution)

5. **Where are your student leadership development programs housed?**
(*Check all that apply.*)

- ☐ Student Affairs
- ☐ Academic Affairs
- ☐ Other departments (Business Affairs, President's Offices, etc.)
- ☐ Community
- ☐ Other (please specify):

6. **How are student leadership development efforts coordinated across campus?**
(*Check all that apply.*)

- ☐ Advisory board or other coordinating body
- ☐ Individual coordinator
  If yes, to what position does this person report?
- ☐ Annual retreats/ planning sessions
- ☐ Loosely coordinated (sharing information through listservs, etc)
- ☐ Not coordinated
- ☐ Other:

7. **Is there a campus-wide coordinating entity (committee, center, or clearinghouse) devoted to assisting various campus constituents in the implementation, advancement, and institutionalization of leadership programs?**
(*Circle one response.*)

Yes No Don't know

8. **Does your institution have a strategic plan (short and long term goals)?**
(*Circle one response.*)

Yes No Don't know

If yes, does your strategic plan mention/include student leadership development?
(*Circle one response.*)

Yes No Don't know

9. **To what extent do institutional policy-making boards/committees recognize leadership as an essential goal for the campus?**
(*Circle one response.*)

None Some To a great extent Is essential

10. **Does your campus have a leadership center?**
(*Circle one response.*)

Yes No

If yes, is the center:
(*Check all that apply.*)

- ☐ a stand alone building
- ☐ located in a union/student center
- ☐ located in a residence hall
- ☐ located in an academic building
- ☐ located off-campus
- ☐ Other (please specify):

Please continue on the next page →

11. Does your campus have an institutional research office/person?
(*Circle one response.*)

Yes No

12. Does your campus have a student affairs research office/person?
(*Circle one response.*)

Yes No

13. Are leadership programs on your campus assessed:
(*Check one response.*)

- ☐ at the program level
- ☐ at the institutional level
- ☐ at both the program and institutional level
- ☐ don't know

14. Which of the following national studies, if any, does your campus participate in?
(*Check all that apply.*)

- ☐ CIRP (Cooperative Institutional Research Program)
- ☐ CSEQ (College Student Experiences Questionnaire)
- ☐ NSSE (National Survey of Student Engagement)
- ☐ SSI (Noel Levitz Student Satisfaction Inventory)
- ☐ NSLLP (National Study of Living Learning Programs)

15. Does your campus use the Council for the Advancement of Standards (CAS) leadership standards and self assessment guides (SAGs)?
(*Circle one response.*)

Yes No Don't Know

16. Does your campus have a campus-wide assessment program?
(*Circle one response.*)

Yes No Don't Know

DESCRIPTION OF CAMPUS LEADERSHIP PROGRAMS

For the purposes of this instrument, please use the following definition of a student leadership program.

Student Leadership Program: any activity or set of activities intentionally designed with the explicit intended outcome of developing or enhancing the leadership skills, knowledge, or abilities of college students.

17. Please provide a brief description of your campus' leadership program(s). Please attach any brochures, flyers, etc, that may be helpful in understanding the nature and scope of your activities. If your campus has multiple leadership programs, please be as comprehensive as possible.

Is there a website(s)? If so, please list URL(s):

18. Using the sheet on the next page, please briefly describe each component of your campus' leadership program(s) and check the boxes that apply.

Please refer to the following definitions when responding:

Program Audience:

Open Program: any and all students permitted to enroll, attend, and participate

Targeted Program: programs designed for students with certain characteristics (e.g., first-year students, Greek students, Asian American Students, engineering majors)

Positional Program: only students in specific leadership roles or positions are invited or permitted to attend (e.g., resident assistants, organization treasurers)

Program Function:

Training: activities designed to enhance skills and improve an individual's performance in a particular role that the student currently holds

Education: activities designed to educate and develop the overall leadership capacity of an individual outside of the role that the student may currently hold. These activities can include education about leadership theories, approaches and models that are broadly applicable.

Development: activities designed to encourage the personal development, progress, and growth of students and provide interaction with other students and surroundings. Developmental complexity will prepare student leaders to "more effectively and productively interact in a complex, diversified world" (Anthony-Gonzalez & Roberts, 1981, p. 23).

Please continue on the next page →

To complete this form, please refer to the prior page for definitions. Please add extra paper if necessary. An example is provided in italics under each section.

Short-Term Campus Leadership Experiences:

(Examples include individual or one-time workshops, day-long conferences, lectures, one-shot trainings)

Brief Description of Program Element	Who is the audience? (*Check all that apply.*)	What is the main function? (*Check all that apply.*)
Example: *Conference for student org. officers*	□ Open □ Targeted **X** Positional	**X** Training **X** Education □ Development
_____	□ Open □ Targeted □ Positional	□ Training □ Education □ Development
_____	□ Open □ Targeted □ Positional	□ Training □ Education □ Development
_____	□ Open □ Targeted □ Positional	□ Training □ Education □ Development
_____	□ Open □ Targeted □ Positional	□ Training □ Education □ Development

Moderate-Term Campus Leadership Experiences:

(Examples include semester-long single courses, multiple or on-going retreats, multiple-day conferences, institutes, workshops, extended trainings)

Brief Description of Program Element	Who is the audience? (*Check all that apply.*)	What is the main function? (*Check all that apply.*)
Example: *Introduction to Leadership class*	**X** Open □ Targeted □ Positional	□ Training **X** Education **X** Development
_____	□ Open □ Targeted □ Positional	□ Training □ Education □ Development
_____	□ Open □ Targeted □ Positional	□ Training □ Education □ Development
_____	□ Open □ Targeted □ Positional	□ Training □ Education □ Development
_____	□ Open □ Targeted □ Positional	□ Training □ Education □ Development

Long-Term Campus Experiences:

(Examples include multi-semester leadership programs, leadership certificate program, leadership minor or major, living-learning program)

Brief Description of Program Element	Who is the audience? (*Check all that apply.*)	What is the main function? (*Check all that apply.*)
Example: *Leadership Certificate Program*	**X** Open □ Targeted □ Positional	**X** Training **X** Education **X** Development
_____	□ Open □ Targeted □ Positional	□ Training □ Education □ Development
_____	□ Open □ Targeted □ Positional	□ Training □ Education □ Development
_____	□ Open □ Targeted □ Positional	□ Training □ Education □ Development
_____	□ Open □ Targeted □ Positional	□ Training □ Education □ Development

Please continue on the next page →

MULTI-INSTITUTIONAL STUDY OF LEADERSHIP - Institutional Survey Page 6
To be completed by MSL Institutional Liaison or Identified Leadership Program Contact

19. To what extent would you say the combination of leadership programs offered on your campus focus on the following:
(*Circle one response for each.*)

1 = None **3 = Often**
2 = Some **4= Very Often**

Individual skill building and development (e.g., how to delegate, run a meeting, budgeting, public speaking.)	1	2	3	4
Group/organizational development (e.g. group roles, group decision making, organizational planning, stages of group development)	1	2	3	4
Societal/community capacity-building (e.g. forming coalitions, confronting privilege and oppression, policy development)	1	2	3	4

20. Please rate the extent to which the combination of leadership programs offered on your campus focus on the following:
(*Circle one response for each.*)

1 = None **3 = Often**
2 = Some **4= Very Often**

Consciousness of self (awareness of one's values, attitudes, and beliefs)	1	2	3	4
Congruence (acting on one's beliefs in a consistent manor)	1	2	3	4
Commitment (intensity and duration of one's involvement in an activity)	1	2	3	4
Collaboration (working with others to benefit from diverse talents and perspectives)	1	2	3	4
Common Purpose (working with shared aims and values)	1	2	3	4
Controversy with Civility (airing differences in an open and respectful way)	1	2	3	4
Citizenship (recognizing individual responsibilities as well as individual rights)	1	2	3	4
Change (working to make a difference to benefit the common good)	1	2	3	4

21. Which, if any, of the following leadership organizations and associations are used in planning leadership development programs on campus?
(*Check all that apply.*)

- ☐ American Educational Research Association (AERA)
- ☐ ACPA Commission for Student Involvement
- ☐ Association of Leadership Educators (ALE)
- ☐ Center for Creative Leadership (CCL)
- ☐ Center for Ethical Leadership
- ☐ Colorado Leadership Alliance
- ☐ Discipline-based association
  Please specify:

- ☐ Greenleaf Center for Servant-Leadership
- ☐ International Leadership Association (ILA)
- ☐ LeaderShape, Inc.
- ☐ National Clearinghouse for Leadership Programs (NCLP)
- ☐ National Society for Experiential Education (NSEE)
- ☐ NASAP Student Leadership Institute
- ☐ NASPA Knowledge Community for Student Leadership Programs
- ☐ Other (please specify):

PRIMARY CO-CURRICULAR LEADERSHIP PROGRAM

For questions 22-43, please select ONE office, department, or organization that you would consider the primary co-curricular student leadership development program on your campus. It may be helpful to think of the office or program with the most comprehensive set of leadership program offerings, the one that serves the most students, or the program about which you have the best working knowledge.

22. Name of your primary CO-CURRICULAR leadership development/office/program.

What department houses this program?

Please continue on the next page →

MULTI-INSTITUTIONAL STUDY OF LEADERSHIP - Institutional Survey **Page 7**
To be completed by MSL Institutional Liaison or Identified Leadership Program Contact

23. Is there a clear definition of leadership that informs this program/office?
(*Circle one response.*)

Yes (please provide) No Don't know

If yes, who was involved in developing or selecting this definition?
(*Check all that apply.*)

- ☐ Students
- ☐ Faculty
- ☐ Community members
- ☐ Alumni
- ☐ Donors
- ☐ Don't know
- ☐ Other (please specify):

24. Which of the following theories/models, if any, are used in your primary co-curricular program?
(*Check all that apply.*)

- ☐ Great man/trait theories (e.g. Stogdill & Gibb)
- ☐ Behavioral/situational theories (e.g. Hersey & Blanchard, Kouzes & Posner)
- ☐ Influence/Charisma theories (e.g. Weber, House & Bass)
- ☐ Transactional/Transformational leadership (e.g. Burns, Bass)
- ☐ Servant leadership/stewardship/followership (e.g. Greenleaf, Block, Kelly)
- ☐ Social change model of leadership development (Astin & HERI)
- ☐ The Relational Leadership Model (Komives, Lucas, & McMahon)
- ☐ Leadership Identity Development Model (Komives)
- ☐ Adaptive/Chaos leadership (e.g. Heifetz, Wheatley)
- ☐ Organizational/systems theories (e.g. Senge, Lipman-Blumen)
- ☐ Management models (e.g. Peters, Maxwell, Drucker)
- ☐ Personal developmental models and tools (e.g. Covey, MBTI)
- ☐ Other (please specify):
- ☐ None
- ☐ Don't know

25. Does this program have a clearly articulated mission/vision statement?
(*Circle one response.*)

Yes No Don't know

If yes, who was involved in developing this statement?
(*Check all that apply.*)

- ☐ Students
- ☐ Faculty
- ☐ Community members
- ☐ Alumni
- ☐ Donors
- ☐ Other (please specify):
- ☐ Don't know

26. Does this program have a strategic planning process?
(*Circle one response.*)

Yes No Don't know

If yes, how often does your program engage in the strategic planning process?
(*Check all that apply.*)

- ☐ Have only done it once
- ☐ Every 6-10 years
- ☐ Every 2-5 years
- ☐ Every year
- ☐ More than once a year

27. Please indicate to what degree the following statements are true of your co-curricular leadership program:
(*Circle one response for each.*)

1 = Strongly disagree **3 = Agree**
2 = Disagree **4= Strongly Agree**

The program serves both positional (e.g. organizational presidents, officers) and non positional (e.g. general members, those with no formal title) leaders	1	2	3	4
The program operates from the perspective that leadership can be learned	1	2	3	4
The program operates from the perspective that one must be ethical to be a leader	1	2	3	4
The program operates from the perspective that management and leadership are the same	1	2	3	4
The program seeks to connect theory to practice	1	2	3	4
The program encourages students to critically reflect on their experiences	1	2	3	4
The program encourages students to apply what they have learned	1	2	3	4

(#27 continued on next page)

Please continue on the next page →

The program serves as a vehicle to teach social responsibility	1	2	3	4
The program is theory based	1	2	3	4
The program combines intellectual development with experiential learning	1	2	3	4
The program encourages political involvement	1	2	3	4
Students participating in the program learn historical perspectives on leadership	1	2	3	4
Students participating in the program learn personal skill development	1	2	3	4
Students participating in the program learn to work effectively in groups	1	2	3	4
Students participating in the program learn to make changes at the systems level	1	2	3	4
The program teaches specific skills (e.g. agenda setting, public speaking, member recruitment	1	2	3	4

28. Please estimate how long your primary co-curricular leadership program has been in existence.

At which of the following stages would you characterize your primary co-curricular leadership program?
(*Choose one category that best describes your program.*)

- ☐ Brand new/emerging
- ☐ Building critical mass (you are in the process of adding new program elements; programs may or may not have stated goals and learning outcomes)
- ☐ Enhancing quality (most program elements have stated goals and learning outcomes that are regularly assessed; programs exist for multiple audiences and entry points)
- ☐ Sustained institutionalization (your leadership program is engrained in the fabric of the institution; all program efforts are coordinated and regularly assessed; programs exist for almost any student regardless of previous leadership experience or developmental level)

29. How many of the following faculty/staff have positions are *solely* dedicated to your primary co-curricular leadership program?

Full-time staff/faculty .....
Part-time staff/faculty .....
Graduate Assistants.....
Student employees .....
Administrative staff .....

How many of the following faculty/staff positions are *connected to/affiliated with* your primary co-curricular program?

Full-time staff/faculty .....
Part-time staff/faculty .....
Graduate Assistants.....
Student employees .....
Administrative staff .....

30. Does your co-curricular leadership program have an advisory committee or board?
(*Circle one response.*)

Yes No

If yes, who is part of this group?
(*Check all that apply.*)

- ☐ Students
- ☐ Faculty
- ☐ Staff
- ☐ Community members
- ☐ Alumni
- ☐ Donors
- ☐ Other (please specify):

What are the primary tasks/functions of your advisory group?
(*Check all that apply.*)

- ☐ Advising/consulting on existing programs
- ☐ Assist in long-range program planning
- ☐ Assist with developmental/fundraising functions
- ☐ Serve networking/marketing/lobbying function
- ☐ Promote adherence to standards, policies, and procedures
- ☐ Oversee evaluation/assessment efforts of program and/or individuals
- ☐ Make specific program decisions (e.g. recipients of awards, admissions)

Please continue on the next page →

MULTI-INSTITUTIONAL STUDY OF LEADERSHIP - Institutional Survey Page 9
To be completed by MSL Institutional Liaison or Identified Leadership Program Contact

31. **How many organizational levels exist between the director of your co-curricular program and the president of the institution? For example, if your program *director* reports to a *dean* who reports to the *provost* who reports to the president, that would be THREE levels.**

32. **What is the approximate annual budget of your primary co-curricular leadership program, excluding salaries?**

33. **What percentage of dollars are from the following sources?**

General budget (state funds, tuition dollars, etc) .....

Student fees.....

Grants and Foundations.....

Corporate sponsorship.....

Private Donors/ Endowments.....

Self-support/ raised revenue.....

Federal work-study .....

Other .....

□ Would rather not say

34. **Does your primary co-curricular leadership program:** (*Check all that apply.*)

□ Share space with other programs/departments
□ Have your own space/office in a union/student center
□ Have your own space/office in a residence hall
□ Have your own space/office in an academic building
□ Other (please specify):

35. **How often, if at all, does your primary office or program collaborate with the following campus units?** (*Circle one response for each.*)

1 = Never
2 = Sometimes
3 = Often
4 = Very Often
n/a = Don't Have/Not Applicable

Academic departments	1	2	3	4	n/a
Alumni/parent affairs	1	2	3	4	n/a
Campus recreation center	1	2	3	4	n/a
Career center	1	2	3	4	n/a
Community student services	1	2	3	4	n/a
Counseling center	1	2	3	4	n/a
Disability resources and services	1	2	3	4	n/a
Health center	1	2	3	4	n/a
Institutional research	1	2	3	4	n/a
Learning assistance services	1	2	3	4	n/a
Multicultural programs and services	1	2	3	4	n/a
Orientation	1	2	3	4	n/a
Residence Life	1	2	3	4	n/a
Student activities/programming	1	2	3	4	n/a
Study abroad	1	2	3	4	n/a
Other (please specify)	1	2	3	4	n/a

Please continue on the next page →

PRIMARY CO-CURRICULAR LEADERSHIP PROGRAM: STAKEHOLDERS

Student Involvement:

36. To what extent are students in your primary co-curricular program involved in the following activities:
(Circle one response for each.)

1 = None **3 = Often**
2 = Some **4= Very Often**

Students take an active role in planning programs	1	2	3	4
Students take an active role in implementing programs	1	2	3	4
Students take an active role in evaluating programs	1	2	3	4
Students are given opportunities to take on leadership roles within the program	1	2	3	4
Students are involved in peer mentoring	1	2	3	4
Students are involved in peer consultation and facilitation	1	2	3	4
Students receive recognition for participating in the program	1	2	3	4
Students are aware of your program's philosophy and goals	1	2	3	4

Staff and Faculty Involvement:

37. To what extent are staff and faculty in your primary co-curricular program involved in the following activities:
(Circle one response for each.)

1 = None **3 = Often**
2 = Some **4= Very Often**

Staff/Faculty take an active role in planning programs	1	2	3	4
Staff/Faculty plan most programs that are offered	1	2	3	4
Staff/Faculty take an active role in implementing programs	1	2	3	4
Staff/Faculty take an active role in evaluating programs	1	2	3	4
Staff/Faculty are given opportunities to take on leadership roles within the program	1	2	3	4

(#37 continued in next column)

Staff/Faculty mentor students	1	2	3	4
Staff/Faculty are involved in consultation and facilitation	1	2	3	4
Staff/Faculty receive recognition for participating in the program	1	2	3	4
Staff/Faculty are aware of your program's philosophy and goals	1	2	3	4

Community Involvement: (off campus stakeholders)

38. To what extent are community members involved in the following activities:
(Circle one response for each.)

1 = None **3 = Often**
2 = Some **4= Very Often**

Community members take an active role in planning programs	1	2	3	4
Community members take an active role in implementing programs	1	2	3	4
Community members take an active role in evaluating programs	1	2	3	4
Community members are given opportunities to take on leadership roles within the program	1	2	3	4
Community members mentor students	1	2	3	4
Community members are involved in consultation and facilitation	1	2	3	4
Community members receive recognition for participating in the program	1	2	3	4
Community members are aware of your program's philosophy and goals	1	2	3	4

Primary Co-Curricular Leadership Program: Assessment

39. Does your primary co-curricular leadership program/office have stated learning objectives?
(Circle one response.)

Yes No

40. Does your program/office have specific long term outcomes in mind?
(Circle one response.)

Yes No

Please continue on the next page →

41. Which of the following are used to evaluate the effectiveness of your program?
(*Check all that apply.*)

- □ Tracking or recording attendance numbers
- □ Needs assessment
- □ Satisfaction assessment
- □ Outcomes assessment
  - □ Self report data
  - □ Pre/post measures
  - □ Portfolios
  - □ Raters/rubrics
- □ Organization comparisons
- □ Cost effectiveness measures
- □ Assessing organizational culture
- □ Using nationally accepted standards to assess needs (e.g. CAS)
- □ Qualitative/anecdotal assessment/focus groups
- □ Other (please specify):

42. Do your program assessment efforts include gathering data?
(*Circle one response.*)

Yes No

If yes, are data:
(*Check all that apply.*)

- □ Used to make changes/improvements to existing programs
- □ Used to make funding decisions about your programs
- □ Disseminated across campus
- □ Disseminated beyond the campus
- □ Used to examine impact on community and institutions as well as participants

43. Do evaluation efforts use participatory action research methods/involve students and/or community members in gathering and evaluating data?
(*Circle one response.*)

Yes No Don't know

CURRICULAR PROGRAM DESCRIPTION

For questions 44 through 51, please consider any curricular leadership offerings on your campus.

44. Does your campus have an academic (credit-bearing) leadership component?
(*Circle one response.*)

Yes No Don't know

(If no, please skip to #52)

If you are in the process of developing one, please answer the questions below for the program you are creating.

45. Which of the following do you offer?
(*Check all that apply.*)

- □ Certificate
- □ Minor
- □ Major
- □ Stand Alone Classes
- □ Not applicable

46. For programs with academic components, is the program inter- or multi-disciplinary?
(*Circle one response.*)

Yes No Don't know

If so, please list all departments or schools that are part of your program.

47. Does the program have an academic home above the departmental level?
(*Circle one response.*)

Yes No Don't know

48. Which area of campus coordinates your curricular leadership offerings?
(*Check all that apply.*)

- □ Student Affairs
- □ Academic Affairs
- □ Partnership of the two
- □ Don't Know
- □ Not applicable

49. Who teaches your leadership classes?
(*Check all that apply.*)

- □ Students
- □ Graduate Assistants/ Teaching Assistants
- □ Adjunct/Part-time faculty
- □ Tenure Track Faculty
- □ Staff
- □ Community members
- □ Alumni
- □ Donors

50. How are instructors compensated for their teaching efforts?
(*Check all that apply.*)

- □ Built into their job/role
- □ Receive reduced workload/course release time
- □ Receive financial remuneration
- □ Receive academic credit
- □ Are not compensated
- □ Other (please specify):

Please continue on the next page →

51. Do you have undergraduate teaching assistants?
(*Circle one response.*)

Yes No Don't know

52. If you are willing to participate in a follow-up interview about your campus leadership programs, please indicate your email and phone number below:

*Thank you for this important information that you have provided. Your participation in this portion of the study is greatly appreciated. Please return this form to your campus contact by **March 10, 2006**.*

APPENDIX G
Content Analysis Codebook

Institutional Code:_____

Search Protocol: First examine statements submitted as part of the MSL-IS. If no relevant statements were submitted, search website provided as part of MSL for statements. If still cannot locate leadership program statements, search entire institution website for primary co-curricular leadership program statement. If specific statements cannot be located for the primary co-curricular leadership program, expand search to include statements for "activities and leadership development". Do NOT code division level mission/vision statements.

Definition of "mission statements": statements of principle that guide practice…

Note where statements came from:
__ MSL-IS submission
__ Website provided in MSL-IS
__ Search of institutional website for primary co-curricular leadership program
__ Search of institutional website for broader "activities and leadership" or "student involvement" statements

Document coded includes which of the following (as labeled by the institution - check all that apply):

__ no relevant statements could be found
__ mission/purpose
__ vision
__ values
__ vague statements of philosophy

I. Theoretical frame
0= none
1= one
2= multiple

(Select as many as apply, only if explicitly stated in the document…i.e. using relevant terms, concepts, etc…..don't read into vague statements….for example, count "consciousness of self" as use of SCM, but not "self exploration")

A= Great man/trait theories (e.g. Stogdill & Gibb)
B= Behavioral/situational theories (e.g. Hersey & Blanchard, Kouzes & Posner)
C= Influence/Charisma theories (e.g. Weber, House & Bass)
D= Transactional/Transformational leadership (e.g. Burns, Bass)
E= Servant leadership/stewardship/followership (e.g. Greenleaf, Block, Kelly)
F= Social change model of leadership development (Astin & HERI)
G= The Relational Leadership Model (Komives, Lucas, & McMahon)
H= Leadership Identity Development Model (Komives)
I= Adaptive/Chaos leadership (e.g. Heifetz, Wheatley)
J= Organizational/systems theories (e.g. Senge, Lipman-Blumen)

K= Management models (e.g. Peters, Maxwell, Drucker)
M= Personal developmental models and tools (e.g. Covey, MBTI)
N= Post-Industrial
O= Other (please specify):_____

II. Expresses leadership-related values

0= none
1= one
2= multiple

(Select as many as apply, only if explicitly stated in the document…this could be using the word itself, or clearly defining the concept)

A= diversity/ multiculturalism/ inclusion
B= collaboration
C= engagement/ involvement
D= ethics/ integrity
E= globalism/ international
F= reflection
G= recognition
H= civic engagement/service-learning/change
I= self awareness
J= learning/ knowledge
K= accountability
L= discussion/argument
M= commitment
N= flexibility
O= practical application/ specific contexts of leadership/ real world application

III. Expresses leadership-related assumptions

0= none
1= one
2= multiple

(Select as many as apply, only if explicitly stated in the document…this could be using the word itself, or clearly defining the concept)

A= anyone is capable of leadership/ everyone has the potential for leadership
B= leadership can be learned and/or developed
C= leadership is a process, not merely a position
D= leadership should be practiced in multiple contexts/communities (local, national, global)
E= leadership competence should include knowledge, skills, and experiences
F= The program serves both positional (e.g. organizational presidents, officers) and non positional (e.g. general members, those with no formal title) leaders
G= The program operates from the perspective that one must be ethical to be a leader
H= The program operates from the perspective that management and leadership are the different constructs

I= The program seeks to connect theory to practice/ connect intellectual and experiential/ encourages students to apply what they have learned
L= The program serves as a vehicle to teach social responsibility
N= The program encourages political involvement
O= Students participating in the program learn historical perspectives on leadership
P= Students participating in the program learn to work effectively in groups
Q= Students participating in the program learn to make changes at the systems level
R= The program teaches specific skills (e.g. agenda setting, public speaking, etc.)

IV. Clearly stated definition of leadership

0= no
1= yes

V. Mission incorporates principles of student learning and/or student development

0= no
1= yes – implicitly
2= yes - explicitly

VI. Addresses curricular and co-curricular elements

0= none
1= co-curricular only
2= curricular only
3= both co-curricular and curricular mentioned

VII. Strength of connection between program mission and institutional mission

Protocol: Search institution website for institution mission statement. Review statement and code as follows:

0=no connection
1=some connection
2=strong connection

A= program mentions/reflects institutional mission statement
B= institutional mission mentions/reflects student leadership development

APPENDIX H

MSL Selection Criteria and Screening Factors

1. Institutional Control
    a. Public
    b. Private
2. Carnegie Classification
    a. Research- Extensive
    b. Research- Intensive
    c. Masters I
    d. Baccalaureate (merged)
    e. Associates Colleges
3. Institutional Size
    a. Small
    b. Medium
    c. Large
4. Geographic Region
    a. South
    b. East
    c. West
    d. Midwest
    e. Plains
5. Geographic Location
    a. Urban
    b. Suburban
    c. Rural
6. Primary Student Residence
    a. Commuter
    b. Residential
7. Special Focus
    a. Historically Black College or University (HBCU)
    b. Hispanic Serving Institution (HSI)
    c. Women's College
    d. Big Ten
    e. Ivy League
    f. Religious Affiliation
8. Curricular Leadership Program
    a. Institutionalized
    b. In Development
    c. None
9. Co-curricular Leadership Program
    a. Institutionalized
    b. In Development
    c. None
10. Current Use of Social Change Model
    a. Yes
    b. No
11. Institutional Commitment to Project
    a. High
    b. Moderate
    c. Low
12. Fee Assistance Needed
    a. Yes
    b. No

APPENDIX I

Participating Institutions and School Classifications

INSTITUTION	CARNEGIE TYPE	PUBLIC/ PRIVATE	SIZE
Auburn University	Research Extensive	Public	Large
Brigham Young University	Research Extensive	Private	Large
California State University, Northridge	Masters	Public	Large
California State University, San Marcos	Masters	Public	Medium
Claflin University	Baccalaureate	Private	Small
Colorado State University	Research Extensive	Public	Large
DePaul University	Research Intensive	Private	Medium
Drake University	Masters	Private	Medium
Drexel University	Research Intensive	Private	Medium
Elon University	Masters	Private	Medium
Florida International University	Research Extensive	Public	Large
Florida State University	Research Extensive	Public	Large
Franklin College	Baccalaureate	Private	Small
Gallaudet University	Masters	Private	Small
George Mason University	Research Intensive	Public	Large
Georgia State University	Research Extensive	Public	Large
John Carroll University	Masters	Private	Medium
Lehigh University	Research Extensive	Private	Medium
Marquette University	Research Extensive	Private	Medium
Meredith College	Masters	Private	Small
Metro State University	Baccalaureate	Public	Large
Miami University of Ohio	Research Intensive	Public	Large
Monroe Community College	Associates College	Public	Large
Montgomery College	Associate College	Public	Large
Moravian College	Baccalaureate	Private	Small
Mount Union College	Baccalaureate	Private	Small
North Carolina State University	Research Extensive	Public	Large
Northwestern University	Research Extensive	Private	Medium

Oregon State University	Research Extensive	Public	Large
Portland State University	Research Intensive	Public	Large
Rollins College	Masters	Private	Small
Simmons College	Masters	Private	Small
St. Norbert College	Baccalaureate	Private	Small
State University of New York at Geneseo	Masters	Public	Medium
Susquehanna University	Baccalaureate	Private	Small
Syracuse University	Research Extensive	Private	Large
Texas A & M University	Research Extensive	Public	Large
Texas Woman's University	Research Intensive	Public	Medium
University of Arizona	Research Extensive	Public	Large
University of Arkansas	Research Extensive	Public	Large
University of California, Berkeley	Research Extensive	Public	Large
University of Illinois at Urbana-Champaign	Research Extensive	Public	Large
University of Maryland Baltimore County	Research Extensive	Public	Medium
University of Maryland College Park	Research Extensive	Public	Large
University of Maryland Eastern Shore	Research Intensive	Public	Medium
University of Minnesota	Research Extensive	Public	Large
University of Nevada Las Vegas	Research Intensive	Public	Large
University of New Hampshire	Research Extensive	Public	Large
University of North Carolina, Greensboro	Research Intensive	Public	Large
University of North Dakota	Research Intensive	Public	Large
University of Rochester	Research Extensive	Private	Medium
University of Tampa	Masters	Private	Medium

APPENDIX J
MSL IRB Approval

UNIVERSITY OF MARYLAND
INSTITUTIONAL REVIEW BOARD

2100 Lee Building
College Park, Maryland 20742-5121
301.405.4212 TEL 301.314.1475 FAX
irb@deans.umd.edu
www.umresearch.umd.edu/IRB

October 21, 2005

MEMORANDUM

Application Approval Notification

To:	Dr. Susan R. Komives, Mr. John Dugan Ms. Paige Haber, Ms. Jennifer Smist Office of Campus Programs, National Clearinghouse for Leadership Programs
From:	Roslyn Edson, M.S., CIP IRB Manager University of Maryland, College Park
Re:	Application Number: 05-0454 Project Title: "The Multi-Institutional Study of Leadership"
Approval Date:	October 21, 2005
Expiration Date:	October 21, 2006
Type of Application:	New Project
Type of Research:	Nonexempt (Please note: This research does not qualify for an exemption because a contractor, Survey Sciences Group, will collect identifiable private information [the students' electronic mail addresses] for the investigator.)
Type of Review For Application:	Expedited

The University of Maryland, College Park Institutional Review Board (IRB) approved your IRB application. The research was approved in accordance with 45 CFR 46, the Federal Policy for the Protection of Human Subjects, and the University's IRB policies and procedures. Please reference the above-cited IRB application number in any future communications with our office regarding this research.

Recruitment/Consent: For research requiring written informed consent, the IRB-approved and stamped informed consent document is enclosed. The IRB approval expiration date has been stamped on the informed consent document. Please keep copies of the consent forms used for this research for three years after the completion of the research.

(continued)

Continuing Review: If you want to continue to collect data from human subjects or analyze data from human subjects after the expiration date for this approval, you must submit a renewal application to the IRB Office at least 30 days before the approval expiration date.

Modifications: Any changes to the approved protocol must be approved by the IRB before the change is implemented, except when a change is necessary to eliminate apparent immediate hazards to the subjects. If you would like to modify the approved protocol, please submit an addendum request to the IRB Office. The instructions for submitting a request are posted on the IRB web site at: **http://www.umresearch.umd.edu/IRB/irb_Addendum%20Protocol.htm**

Unanticipated Problems Involving Risks: You must promptly report any unanticipated problems involving risks to subjects or others to the IRB Manager at 301-405-0678 or redson@umresearch.umd.edu.

Student Researchers: Unless otherwise requested, this IRB approval document was sent to the Principal Investigator (PI). The PI should pass on the approval document or a copy to the student researchers. This IRB approval document may be a requirement for student researchers applying for graduation. The IRB may not be able to provide copies of the approval documents if several years have passed since the date of the original approval.

Additional Information: Please contact the IRB Office at 301-405-4212 if you have any IRB-related questions or concerns.

APPENDIX K
MSL IRB Renewal

UNIVERSITY OF
MARYLAND
INSTITUTIONAL REVIEW BOARD

2100 Blair Lee Building
College Park, Maryland 20742-5125
301.405.4212 TEL 301.314.1475 FAX
irb@deans.umd.edu
www.umresearch.umd.edu/IRB

MEMORANDUM October 1, 2007
Renewal Approval Notification

To:	Dr. Susan R. Komives John Dugan Lee Calizo Kristan Cilente Kirsten Freeman Fox Jon Garland Sean Gehrke Renardo Hall Katie Hershey Ramsey Jajabi Karol Martinez Marlena Martinez Jim Neumeister Daniel Ostick Julie Owen Jeremy Page Tom Segar Nathan Slife Wendy Wagner Office of Campus Programs
From:	Roslyn Edson, M.S., CIP IRB Manager University of Maryland, College Park
Re:	**IRB Application Number:** 05-0454 **Title of Research Project:** "The Multi-Institutional Study of Leadership"
Approval Date:	September 28, 2007
Expiration Date:	September 28, 2008
Type of Application:	Renewal
Type of Research:	Nonexempt
Type of Review:	Expedited

The University of Maryland, College Park Institutional Review Board (IRB) approved your IRB application. The research was approved in accordance with the University's IRB policies and procedures and 45 CFR 46, the Federal Policy for the Protection of Human Subjects. Please reference the above-cited IRB application number in any future communications with our office regarding this research.

Recruitment/Consent: For research requiring written informed consent, the IRB-approved and stamped informed consent document is enclosed. The IRB approval expiration date has been stamped on the informed consent document. Please keep copies of the consent forms used for this research for three years after the completion of the research.

Continuing Review: If you want to continue to collect data from human subjects or analyze data from human subjects after the expiration date for this approval, you must submit a renewal application to the IRB Office at least 30 days before the approval expiration date.

Modifications: Any changes to the approved protocol must be approved by the IRB before the change is implemented except when a change is necessary to eliminate apparent immediate hazards to the subjects. If you want to modify the approved protocol, please submit an IRB addendum application to the IRB Office.

Unanticipated Problems Involving Risks: You must promptly report any unanticipated problems involving risks to subjects or others to the IRB Manager at 301-405-0678 or redson@umresearch.umd.edu.

Student Researchers: Unless otherwise requested, this IRB approval document was sent to the Principal Investigator (PI). The PI should pass on the approval document or a copy to the student researchers. This IRB approval document may be a requirement for student researchers applying for graduation. The IRB may not be able to provide copies of the approval documents if several years have passed since the date of the original approval.

Additional Information: Please contact the IRB Office at 301-405-4212 if you have any IRB-related questions or concerns.

APPENDIX L

Participant First Email Contact Template

Dear {UserData:FName},

You have been randomly selected by [INSERT INSTITUTION NAME] to participate in a national study of college student experiences. Your participation is VERY important and will contribute a great deal to understanding the student experience at both [INSERT INSTITUTION NAME] and in the broader context of higher education. This is an amazing opportunity for [INSERT INSTITUTION NAME] and we hope you are excited to participate.

To participate in the survey, please follow these instructions:

1. Go to http://www.ssgresearch.com/leadership
2. Enter the following ID: {UserData:CUSTOMID}
3. Click the Start Survey button on the screen to begin

Participation is easy and just by completing the survey you will automatically be entered into a raffle for numerous prizes including: {INSERT LIST OF INSTITUTIONAL INCENTIVES}.

What does it mean to participate?

•Participation will involve completing an online survey/questionnaire about your college involvement and thoughts about leadership.

•The survey should take approximately 20 minutes to complete.

•Your response is completely confidential.

•Participation is totally voluntary and you may withdraw at any time.

•Take note of your unique Study ID: {UserData:CUSTOMID}, you will need to enter this ID into the login box on the website.

We encourage you now to click on the link above to indicate your consent to participate in the survey. If you have any questions, please contact [INSERT INSTITUTIONAL CONTACT NAME AND INFO]

Thank you for your participation!

Sincerely,

{INSERT INSTITUTIONAL CONTACT PERSON NAME}

{INSERT TITLE}

APPENDIX M

Second and Third Email Contacts Template

Dear {UserData:FName},

We recently contacted you concerning a national study of college students' experiences. [INSERT INSTITUTION NAME] is participating in the study and encourages your response. There is still time to participate.

Your participation is VERY important and will contribute a great deal to understanding the college student experience at both [INSERT INSTITUTION NAME] and in the broader context of higher education. This is an amazing opportunity for [INSERT INSTITUTION NAME] and we need your participation.

To participate in the survey, please follow these instructions:

1. Go to http://www.ssgresearch.com/leadership
2. Enter the following ID: {UserData:CUSTOMID}
3. Click the Start Survey button on the screen to begin

Participation is easy and just by completing the survey you will automatically be entered into a raffle for numerous prizes including: {INSERT INCENTIVES LIST}

What does it mean to participate?

* Participation will involve completing an online survey/questionnaire about your college involvement and thoughts about leadership.

* The survey should take approximately 20 minutes to complete.

* Your response is completely confidential.

* Participation is totally voluntary and you may withdraw at any time.

* Take note of your unique Study ID: {UserData:CUSTOMID}, you will need to enter this ID into the login box on the website.

Please take the time now to be part of this critical study. We encourage you to click on the link above to indicate your consent to participate in the survey. If you have any questions, please contact [INSERT INSTITUTIONAL CONTACT NAME AND INFO].

Thank you for your participation!

Sincerely,

{INSERT INSTITUTIONAL CONTACT PERSON NAME}

{INSERT TITLE}

APPENDIX N

Final Email Contact Template

Dear {UserData:FName},

We would like to thank everyone who responded to the Multi-Institutional Study of Leadership Survey. The response was tremendous and will help researchers better understand how experiences in and outside the classroom impact life and perceptions at college.

The study is very close to being completed. If you have not yet participated and would like to do so, please follow these simple instructions. Remember, completing the survey will enter you into a drawing to win one of the following prizes: {INSERT INCENTIVES LIST}

To participate in the survey, please follow these instructions:

1. Go to http://www.ssgresearch.com/leadership
2. Enter the following ID: {UserData:CUSTOMID}
3. Click the Start Survey button on the screen to begin

What does it mean to participate?

* Participation will involve completing an online survey/questionnaire about your college involvement and thoughts about leadership.
* The survey should take approximately 20 minutes to complete.

* Your response is completely confidential.

* Participation is totally voluntary and you may withdraw at any time.

* Take note of your unique Study ID: {UserData:CUSTOMID}, you will need to enter this ID into the login box on the website.

We encourage you now to click on the link below to indicate your consent to participate in the survey. If you have any questions, please contact: {INSERT INSTITUTIONAL CONTACT PERSON NAME}

Thank you for your participation!

Sincerely,

{INSERT INSTITUTIONAL CONTACT PERSON NAME}

{INSERT TITLE}

APPENDIX O

MSL Consent Form for Participants

You have been randomly selected to participate in an important research project being conducted by **[INSERT INSTITUTION NAME]** and the National Clearinghouse for Leadership Programs. The purpose of this research project is to enhance knowledge regarding college student leadership development as well as the influence of higher education on the development of leadership capacities.

If you choose to participate in this important research study, you will be asked to complete an online survey that should take about 20 minutes. On this survey you will be asked questions pertaining to your pre-college and college experiences and attitudes.

- All information collected in this study will be kept confidential. Reports and presentations on the study will be based on grouped data and will not reveal your identity. Data will be collected by an independent contractor specializing in survey collection.

- There are no known risks associated with your participation in this study.

- Your participation is entirely voluntary, and you are free to withdraw from participation at any time. Failure to participate will not result in the loss of any benefit from your institution.

- The research is not designed to help you personally, but the benefits of participation include contributing to research on an important topic.

If you have any questions about participating in this study, please contact **[INSERT INSTITUTION CONTACT NAME]**, your campus' principal investigator, at **[INSERT PHONE NUMBER]** or via email at **[INSERT EMAIL ADDRESS]**.

If you have questions about your rights as a research subject or wish to report a research-related injury, please contact the campus Institutional Review Board Office at **[INSERT LOCAL IRB CONTACT INFORMATION]**.

Answering "Yes" indicates that:

- you are at least 18 years of age;
- the research has been explained to you;
- your questions have been fully answered; and
- you freely and voluntarily choose to participate in this research project.

___ Yes, I wish to participate in this study and begin the instrument.

___ No, I do not wish to participate in this research study.

APPENDIX P
MSL Survey Instrument

MULTI-INSTITUTIONAL STUDY OF LEADERSHIP **Revised 8/01/06 Version 12** **1**

NOTE:
This is a paper and pencil version of what will be presented as an on-line web survey. Skip patterns will automatically take the respondent to the appropriate section. Shaded sections/ items will be used in split samples and will not be asked of all participants.

COLLEGE INFORMATION

1. Did you begin college at your current institution or elsewhere? (Choose One)

- ○ Started here
- ○ Started elsewhere

2. Thinking about this academic term, how would you characterize your enrollment? (Choose One)

- ○ Full-Time
- ○ Less then Full-Time

3. What is your current class level? (Choose One)

- ○ First year/freshman
- ○ Sophomore
- ○ Junior
- ○ Senior
- ○ Graduate student
- ○ Other

4. Are you currently working OFF CAMPUS?
(Circle one) YES NO
If NO skip to #5

4a. Approximately how many hours do you work off campus in a typical 7 day week?

[ ]

4b. In your primary off campus position, how frequently do you: (Circle one for each item)

1 = Never	**3 = Often**
2 = Sometimes	**4 = Very Often**

Perform repetitive tasks	1	2	3	4
Consider options before making decisions	1	2	3	4
Perform structured tasks	1	2	3	4
Have the authority to change the way some things are done	1	2	3	4
Coordinate the work of others	1	2	3	4
Work with others on a team	1	2	3	4

5. Are you currently working ON CAMPUS?
(Circle one) YES NO
if NO skip to #6

5a. Approximately how many hours do you work on campus in a typical 7 day week?

[ ]

5b. In your primary position, how frequently do you: (Circle one for each item)

1 = Never	**3 = Often**
2 = Sometimes	**4 = Very Often**

Perform repetitive tasks	1	2	3	4
Consider options before making decisions	1	2	3	4
Perform structured tasks	1	2	3	4
Have the authority to change the way some things are done	1	2	3	4
Coordinate the work of others	1	2	3	4
Work with others on a team	1	2	3	4

6. In an average academic term, do you engage in any community service?
YES NO
if NO skip to #7

In an average academic term, approximately how many hours do you engage in community service? (circle one for each category).

As part of a class
0 1-5 6-10 11-15 16-20 21-25 26-30

With a student organization
0 1-5 6-10 11-15 16-20 21-25 26-30

As part of a work study experience
0 1-5 6-10 11-15 16-20 21-25 26-30

On your own
0 1-5 6-10 11-15 16-20 21-25 26-30

7. Check all the following activities you engaged in <u>during your college experience</u>.

- ○ Studied abroad
- ○ Experienced a practicum, internship, field experience, co-op experience, or clinical experience
- ○ Participated in a learning community or some other formal program where groups of students take two or more classes together.
- ○ Enrolled in a culminating senior experience (capstone course, thesis etc.)

○ None of the above

YOUR PERCEPTIONS BEFORE ENROLLING IN COLLEGE

8. Looking back to *before you started college*, how confident were you that you would be successful at the following:
(Circle one response for each.)

1 = Not at all confident 3 = Confident
2 = Somewhat confident 4 = Very confident

Handling the challenge of college-level work	1	2	3	4
Feeling as though you belong on campus	1	2	3	4
Analyzing new ideas and concepts	1	2	3	4
Applying something learned in class to the "real world"	1	2	3	4
Enjoying the challenge of learning new material	1	2	3	4
Appreciating new and different ideas, beliefs	1	2	3	4
Leading others	1	2	3	4
Organizing a group's tasks to accomplish a goal	1	2	3	4
Taking initiative to improve something	1	2	3	4
Working with a team on a group project	1	2	3	4

9. Looking back to *before you started college*, how often did you engage in the following activities:
(Circle one response for each.)

1 = Never 3 = Often
2 = Sometimes 4 = Very Often

Performing volunteer work	1	2	3	4
Participating in student clubs/ groups	1	2	3	4
Participating in varsity sports	1	2	3	4
Took leadership positions in student clubs, groups or sports	1	2	3	4
Participating in community organizations (e.g. church youth group, scouts)	1	2	3	4
Taking leadership positions in community organizations	1	2	3	4
Participating in activism in any form (e.g. petitions, rally, protest)	1	2	3	4
Getting to know people from backgrounds different than your own	1	2	3	4
Learning about cultures different from your own	1	2	3	4
Participating in training or education that developed your leadership skills	1	2	3	4

10. Looking back to *before you started college*, please indicate your agreement with the following items by choosing the number that most closely represented your opinion about that statement AT THAT TIME:
(Circle one response for each.)

1 = Strongly disagree 4 = Agree
2 = Disagree 5= Strongly Agree
3 = Neutral

Hearing differences in opinions enriched my thinking	1	2	3	4	5
I had low self esteem	1	2	3	4	5
I worked well in changing environments	1	2	3	4	5
I enjoyed working with others toward common goals	1	2	3	4	5
I held myself accountable for responsibilities I agree to	1	2	3	4	5
I worked well when I knew the collective values of a group	1	2	3	4	5
My behaviors reflected my beliefs	1	2	3	4	5
I valued the opportunities that allowed me to contribute to my community,	1	2	3	4	5
I thought of myself as a leader ONLY if I was the head of a group (e.g. chair, president)	1	2	3	4	5

11a. Before you started college, **how would you describe the amount of leadership experience you have had (e.g., student clubs, performing groups, service organizations, jobs)?** Please circle the appropriate number
No experience 1 2 3 4 5 Extensive experience

11b. Before you started college, **how often did others give you positive feedback or encourage your leadership ability (e.g., teachers, advisors, mentors)?**
Please circle the appropriate number
Never 1 2 3 4 5 frequently

11c. Before you started college, **How would you have reacted to being chosen or appointed the leader of a group?** Please circle the appropriate number
Very uncomfortable 1 2 3 4 5 very comfortable

11d. Before you started college, **how often did you see others be effective leaders?**
Please circle the appropriate number
Never 1 2 3 4 5 frequently

11e. Before you started college, **how often did you think of yourself as a leader**
Please circle the appropriate number
Never 1 2 3 4 5 frequently

YOUR EXPERIENCE IN COLLEGE

12. How often have you engaged in the following activities during your college experience:
(Circle one for each item)

1 = Never 3 = Often
2 = Sometimes 4 = Very Often

Paid attention to national issues	1	2	3	4
Paid attention to global issues	1	2	3	4
Was aware of the current issues facing the community surrounding your institution	1	2	3	4
Signed a petition or sent an email about a social or political issue	1	2	3	4
Bought or did not buy a product or service because of your views about the social or political values of the company that produces or provides it	1	2	3	4
Contacted a public official, newspaper, magazine, radio, or television talk show to express your opinion	1	2	3	4
Took part in a protest, rally, march, or demonstration	1	2	3	4

13. Since starting college, how often have you:

been an involved member or active participant in college organizations?
Never 1 2 3 4 5 Much of the time

held a leadership position in a college organization? (for example, serving as an officer or a club or organization, captain of an athletic team, first chair in a musical group, section editor of the newspaper, chairperson of a committee)
Never 1 2 3 4 5 Much of the time

been an involved member or active participant in an off-campus community organization (e.g. PTA, church group)?
Never 1 2 3 4 5 Much of the time

held a leadership position in a community organization? (for example, serving as an officer or a club or organization, leader in a youth group, chairperson of a committee)
Never 1 2 3 4 5 Much of the time

YOUR STUDENT GROUP INVOLVEMENTS

14. Which of the following kinds of student groups have you been involved with during college?
(Check all the categories that apply)

- ○ Academic/ Departmental/ Professional (e.g., Pre-Law Society, an academic fraternity, Engineering Club)
- ○ Arts/Theater/Music (e.g., Theater group, Marching Band)
- ○ Campus-wide programming groups (e.g., program board, film series board, a multicultural programming committee)
- ○ Cultural/ International (e.g., Black Student Union, German Club)
- ○ Honor Society (e.g., Omicron Delta Kappa [ODK], Mortar Board, Phi Beta Kappa)
- ○ Living-learning programs (e.g., language house, leadership floors, ecology halls)
- ○ Leadership (e.g., Peer Leadership Program, Emerging Leaders Program)
- ○ Media (e.g., Campus Radio, Student Newspaper)
- ○ Military (e.g., ROTC)
- ○ New Student Transitions (e.g., admissions ambassador, orientation advisor)
- ○ Para professional group (e.g., Resident assistants, peer health educators)
- ○ Political/ Advocacy (e.g., College Democrats, Students Against Sweatshops)
- ○ Religious (e.g., Campus Crusades for Christ, Hillel)
- ○ Service (e.g., Circle K, Alpha Phi Omega [APO])
- ○ Culturally based fraternities and sororities (e.g., National Pan-Hellenic Council (NPHC) groups such as Alpha Phi Alpha Fraternity Inc., or Latino Greek Council groups such as Lambda Theta Alpha)
- ○ Social fraternities or sororities (e.g. Panhellenic or Interfraternity Council groups such as Sigma Phi Epsilon or Kappa Kappa Gamma)
- ○ Sports- Intercollegiate or Varsity (e.g., NCAA Hockey, Varsity Soccer)
- ○ Sports- Club (e.g., Club Volleyball)

- ○ Sports- Leisure or Intramural (ex: Intramural flag football, Rock Climbing)
- ○ Special Interest (ex: Comedy Group)
- ○ Student governance group (ex: Student Government Association, Residence Hall Association, Interfraternity Council) IF CHECKED go to item 14A

14A. Were you involved in your campus-wide student government association? (Circle one) YES NO

If No, skip to item 15.

Thinking about your student government experience, indicate your level of agreement with the following items:
(Circle one response for each.)

1 = Strongly disagree 4 = Agree
2 = Disagree 5 = Strongly agree
3 = Neutral

I found it hard to represent my constituents' concerns	1	2	3	4	5
I successfully initiated change on behalf of my constituents (e.g., policy, institutional, or social)	1	2	3	4	5
My motivation for involvement was about gaining influence	1	2	3	4	5
My motivation for involvement was to receive recognition	1	2	3	4	5
My motivation for involvement was to help others	1	2	3	4	5
I have witnessed effective constituency-based efforts for change	1	2	3	4	5
Effective constituency-based efforts for change have influenced my own actions	1	2	3	4	5
I held a constituency-based position prior to this college SGA experience (e.g. high school or other governance group)	1	2	3	4	5
Experience with previous constituency based positions did NOT make me more effective in my college SGA work	1	2	3	4	5

15. At any time <u>during your college experience</u>, how often have you been in mentoring relationships where another person intentionally assisted your growth or connected you to opportunities for career and personal development?
Indicate how many times

Student affairs staff
(e.g., a student organization advisor, career counselor, the Dean of Students, or residence hall coordinator):
..... never once several many

Faculty ..... never once several many

Employers ..... never once several many

Community members ..... never once several many
Other students ..... never once several many

16. During interactions with other students outside of class, how often have you done each of the following in an average school year? (Circle one for each.)

1 = Never 3 = Often
2 = Sometimes 4 = Very Often

Talked about different lifestyles/ customs	1	2	3	4
Held discussions with students whose personal values were very different from your own	1	2	3	4
Discussed major social issues such as peace, human rights, and justice	1	2	3	4
Held discussions with students whose religious beliefs were very different from your own	1	2	3	4
Discussed your views about multiculturalism and diversity	1	2	3	4
Held discussions with students whose political opinions were very different from your own	1	2	3	4

DEVELOPING YOUR LEADERSHIP ABILITIES

17. **<u>Since starting college</u>, how many times have you participated in the following types of training or education that developed your leadership skills (ex: courses, Resident Assistant training, organization retreats, job training)** (Circle one for each.)

17a- Short-Term Experiences (ex: individual or one-time workshops, retreats, conferences, lectures, or training)
Never once several many

17b-Moderate-Term Experiences (ex: a single course, multiple or ongoing retreats, conferences, institutes, workshops, and/or training.
Never once several many

If NEVER skip to 17c:

Did your experience involve any academic courses?
YES NO

If no, skip to 17c

a. How many leadership courses have you completed?

[ ]

b. How many other courses have you taken that contributed to your leadership abilities (e.g. ethics course, personal development courses, management courses)? *Keep in mind you might have taken such a course but it did not contribute to your leadership.*

17c- Long-Term Experiences (ex: multi-semester leadership program, leadership certificate program, leadership minor or major, emerging leaders program, living-learning program),

Never once several many

if NEVER skip to 18

Which of the following Long-Term Activities did you experience? (check all that apply)

- o Emerging or New Leaders Program
- o Peer Leadership Program
- o Leadership Certificate Program
- o Multi-Semester Leadership Program
- o Senior Leadership Capstone Experience
- o Residential Living-learning leadership program
- o Leadership Minor
- o Leadership Major
- o Other

ASSESSING LEADERSHIP DEVELOPMENT

18. Please indicate your agreement or disagreement with the following items by choosing the number that most closely represents your opinion about that statement.
(Circle one response for each.)

***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.**

1 = Strongly disagree
2 = Disagree
3 = Neutral
4 = Agree
5= Strongly Agree

I am open to others' ideas	1	2	3	4	5
Creativity can come from conflict	1	2	3	4	5
I value differences in others	1	2	3	4	5
I am able to articulate my priorities	1	2	3	4	5
Hearing differences in opinions enriches my thinking	1	2	3	4	5
I have low self esteem	1	2	3	4	5
I struggle when group members have ideas that are different from mine	1	2	3	4	5
Transition makes me uncomfortable	1	2	3	4	5
I am usually self confident	1	2	3	4	5
I am seen as someone who works well with others	1	2	3	4	5
Greater harmony can come out of disagreement	1	2	3	4	5
I am comfortable initiating new ways of looking at things	1	2	3	4	5
My behaviors are congruent with my beliefs	1	2	3	4	5
I am committed to a collective purpose in those groups to which I belong	1	2	3	4	5
It is important to develop a common direction in a group in order to get anything done	1	2	3	4	5
I respect opinions other than my own	1	2	3	4	5
Change brings new life to an organization	1	2	3	4	5
The things about which I feel passionate have priority in my life	1	2	3	4	5
I contribute to the goals of the group	1	2	3	4	5
There is energy in doing something a new way	1	2	3	4	5
I am uncomfortable when someone disagrees with me	1	2	3	4	5
I know myself pretty well	1	2	3	4	5
I am willing to devote the time and energy to things that are important to me	1	2	3	4	5
I stick with others through difficult times	1	2	3	4	5
When there is a conflict between two people, one will win and the other will lose	1	2	3	4	5
Change makes me uncomfortable	1	2	3	4	5
It is important to me to act on my beliefs	1	2	3	4	5
I am focused on my responsibilities	1	2	3	4	5
I can make a difference when I work with others on a task	1	2	3	4	5
I actively listen to what others have to say	1	2	3	4	5
I think it is important to know other people's priorities	1	2	3	4	5

My actions are consistent with my values 1 2 3 4 5

I believe I have responsibilities to my community 1 2 3 4 5

I could describe my personality 1 2 3 4 5

I have helped to shape the mission of the group 1 2 3 4 5

New ways of doing things frustrate me 1 2 3 4 5

Common values drive an organization 1 2 3 4 5

I give time to making a difference for someone else 1 2 3 4 5

I work well in changing environments 1 2 3 4 5

I work with others to make my communities better places 1 2 3 4 5

I can describe how I am similar to other people 1 2 3 4 5

I enjoy working with others toward common goals 1 2 3 4 5

I am open to new ideas 1 2 3 4 5

I have the power to make a difference in my community 1 2 3 4 5

I look for new ways to do something 1 2 3 4 5

I am willing to act for the rights of others 1 2 3 4 5

I participate in activities that contribute to the common good 1 2 3 4 5

Others would describe me as a cooperative group member 1 2 3 4 5

I am comfortable with conflict 1 2 3 4 5

I can identify the differences between positive and negative change 1 2 3 4 5

I can be counted on to do my part 1 2 3 4 5

Being seen as a person of integrity is important to me 1 2 3 4 5

I follow through on my promises 1 2 3 4 5

I hold myself accountable for responsibilities I agree to 1 2 3 4 5

I believe I have a civic responsibility to the greater public 1 2 3 4 5

Self-reflection is difficult for me 1 2 3 4 5

Collaboration produces better results 1 2 3 4 5

I know the purpose of the groups to which I belong 1 2 3 4 5

I am comfortable expressing myself 1 2 3 4 5

My contributions are recognized by others in the groups I belong to 1 2 3 4 5

I work well when I know the collective values of a group 1 2 3 4 5

I share my ideas with others 1 2 3 4 5

My behaviors reflect my beliefs 1 2 3 4 5

I am genuine 1 2 3 4 5

I am able to trust the people with whom I work 1 2 3 4 5

I value opportunities that allow me to contribute to my community 1 2 3 4 5

I support what the group is trying to accomplish 1 2 3 4 5

It is easy for me to be truthful 1 2 3 4 5

THINKING MORE ABOUT YOURSELF

19. How would you characterize your political views? (Mark One)

- ○ Far left
- ○ Liberal
- ○ Middle-of-the-road
- ○ Conservative
- ○ Far right

20. In thinking about how you have changed <u>during college</u>, to what extent do you feel you have grown in the following areas? (Circle <u>one</u> response for each.)

1 = Not grown at all **3 = Grown**
2 = Grown somewhat **4 = Grown very much**

Ability to put ideas together and to see relationships between ideas 1 2 3 4

Ability to learn on your own, pursue ideas, and find information you need 1 2 3 4

Ability to critically analyze ideas and information 1 2 3 4

Learning more about things that are new to you 1 2 3 4

21. Please indicate the extent to which you agree or disagree with the following statements. (Circle <u>one</u> response for each.)

1 = Strongly disagree **3 = Agree**
2 = Disagree **4 = Strongly agree**

Since coming to college, I have learned a great deal about other racial/ethnic groups 1 2 3 4

- o You are a foreign born, resident alien/ permanent resident
- o You are on a student visa

31. Please indicate your racial or ethnic background. (Mark all that apply)

- o White/Caucasian
- o African American/Black
- o American Indian/Alaska Native
- o Asian American/Asian
- o Native Hawaiian/Pacific Islander
- o Mexican American/Chicano
- o Puerto Rican
- o Cuban American
- o Other Latino American
- o Multiracial or multiethnic
- o Race/ethnicity not included above

32. Do you have a mental, emotional, or physical condition that now or in the past affects your functioning in daily activities at work, school, or home?

Yes No

if Yes Please indicate all that apply:

- o Deaf/Hard of Hearing
- o Blind/Visually Impairment
- o Speech/language condition
- o Learning Disability
- o Physical or musculoskeletal (e.g. multiple sclerosis)
- o Attention Deficit Disorder/ Attention Deficit Hyperactivity Disorder
- o Psychiatric/Psychological condition (e.g. anxiety disorder, major depression)
- o Neurological condition (e.g. brain injury, stroke)
- o Medical (e.g. diabetes, severe asthma)
- o Other

33. What is your current religious affiliation? (Choose One)

- o None
- o Agnostic
- o Atheist
- o Buddhist
- o Catholic
- o Hindu
- o Islamic
- o Jewish
- o Mormon
- o Quaker
- o Protestant (e.g. Baptist, Methodist, Presbyterian)
- o Other
- o Other Christian
- o Rather not say

34. What is your best estimate of your grades so far in college? [Assume 4.00 = A] (Choose One)

- o 3.50 – 4.00
- o 3.00 – 3.49
- o 2.50 – 2.99
- o 2.00 – 2.49
- o 1.99 or less
- o No college GPA

35. What is the <u>HIGHEST</u> level of formal education obtained by any of your parent(s) or guardian(s)? (Choose one)

- o Less than high school diploma or GED
- o High school diploma or GED
- o Some college
- o Associates degree
- o Bachelors degree
- o Masters degree
- o Doctorate or professional degree (e.g., JD, MD, PhD)
- o Don't know

36. What is your <u>best estimate</u> of your parent(s) or guardian(s) combined total income from last year? If you are independent from your parents, indicate your income. (Choose one)

- o Less than $12,500
- o $12,500 - $24,999
- o $25,000 – $39,999
- o $40,000 – $54,999
- o $55,000 - $74,999
- o $75,000 - $99,999
- o $100,000 - $149,999
- o $150,000 - $199,999
- o $200,000 and over
- o Don't know
- o Rather not say

37. Which of the following best describes where are you currently living while attending college? (Choose one)

- o Parent/guardian or other relative home
- o Other private home, apartment, or room
- o College/university residence hall
- o Other campus student housing
- o Fraternity or sorority house
- o Other

INDIVIDUAL CAMPUS ITEMS

1.
2.
3.
4.
5.
6.
7.
8.
9.
10.

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