CHAPTER ONE

INTRODUCTION

Quality assessment has become increasingly important in higher education, despite the fact that many practitioners do not know what it means to assess, why assessment should be conducted, or who should be assessed (Upcraft & Schuh, 2000). In the past, quality has been measured by input data rather than output data (Hyman, Beeler, & Benedict, 1994; Upcraft & Schuh, 1996). Such measures have taken the form of evaluating the amount of funding available to campuses, standardized test scores of incoming students, and students' high school grades (Hyman, Beeler, & Benedict, 1994). However, as assessment in higher education progressed, placing so much attention on inputs led to a great deal of criticism (Woodard, Hyman, Von Destinon, & Jamison, 1991).

As a result, more institutions are looking at student outcomes as a means of assessing quality. Outcomes can be defined as relationships between an intentional intervention and some desired outcome (Upcraft & Schuh, 2000). Gains in student learning (Schilling & Schilling, 1998) and increased critical thinking skills are just two of the many outcomes that institutions have measured. Many colleges and universities are currently concerned with outcomes assessment (Attinasi, 1992b; Braxton, Smart, & Thieke, 1991; Cress, Astin, Zimmerman-Oster, & Burkhardt, 2001; Erwin, 1991; Love, 1995; Terenzini, Pascarella, & Blimling, 1996). These measures are necessary as stakeholders look for more accountability on the part of institutions. Outcomes assessment has also become an important part of accreditation and quality assurance for institutions (Winston & Creamer, 1997).

In one **area** of outcomes assessment, colleges and universities are focusing on graduating students who will succeed in careers (Braxton, Smart, & Thieke, 1991; Erwin, 1991; Quinn,

2004). Studies indicate that jobs employing the most skilled workers are growing most rapidly in the U.S. (Carnevale, 2001). Colleges and universities have recognized that most high-paying jobs require a college degree and they have adjusted their curricula to reflect the skills needed to earn these jobs (Carnevale, 2001). To accomplish this, institutions have explored what skills and experiences employers' value so that they can provide those skill sets and experiences for students. To some degree the skills and experiences employers seek vary by study. Nevertheless, employers seem to seek certain skills across disciplines such as reading, writing, creative thinking, personal management, group effectiveness, organizational effectiveness and leadership (Attinasi, 1992a; Grogger & Eide, 1994; Kerka, 1990; Mittelhauser, 1998). In general, employers look for students who have completed a bachelor's degree and possess a broad skill set (Aksoy, 1998).

Research reveals that employers are focused on these skill sets. In a study of organizations that employed graduates of one institution, more than 90% of employers were satisfied with those employees. Employers identified select skills as most desirable, including: (a) technical skills and knowledge needed for the job, (b) understanding and speaking the languages in which business is conducted, (c) individuals who listen to understand and learn, (d) the ability to learn new skills and knowledge on the job, and (e) the ability to recognize and solve problems that arise on the job (Donnelly, 2000).

Additional research has explored skills needed for specific careers. Those individuals working in information technology, for example, have been shown to benefit from training centered on strategic thinking, consulting, and effective management and leadership (Santosus, 2003). These skills are position specific.

Students themselves believe several skills should be developed during their college careers. Time management skills, reading skills, and public-speaking skills were among those identified by students as key to success in college (Gallagher, Golin, & Kelleher, 1992). With students being more savvy consumers, institutions are becoming even more conscious of providing what their consumers want, whether that consumer is the student or the employer.

Many employers specifically seek leadership skills among the graduates they hire (Gale, 2002; Gerber, 2003; Kerka, 1990; Stronge, 1998; Santosus, 2003). In general, employers are more interested in students who are leaders (van Linden & Fertman, 1998). A national study conducted by Colorado State University listed leadership potential as a major quality employers look for in new hires (Kretovics & McCambridge, 1999). A study at Florida State University also found that employers feel it is important for graduates to have leadership experience (Reardon, Lenz, & Folsom, 1998).

As a result, colleges and universities have introduced programs for students designed to promote those leadership skills. These skills have been categorized. Technical skills reflect the specialized knowledge, tools and techniques that leaders either possess or employ (Stronge, 1998). Conceptual skills are thought of as intelligence, judgment, ability to see the big picture, and to envision change (Stronge, 1998). Finally, human skills encompass the ability to work with and through others (Stronge, 1998). More specifically, the top four characteristics desired in business leaders are honesty, the ability to inspire, the ability to enable others to act, and the ability to encourage the heart (Kouzes & Posner, 1995).

In addition to the emphasis on leadership as a means of employability, other reasons exist for promoting leadership development. Leadership development as a means of student development is one such reason (Buckner & Williams, 1995; Eiche, Sedlacek, & Adams-Gaston,

1997). Leadership experiences have been shown to contribute significantly to the growth and development of students at colleges and universities (Kuh, 1992; Pascarella & Terenzini, 1991). Additionally, involvement in campus life has been shown to influence student development (Astin, 1975, 1984, 1985; Bowen, 1977; Chickering, 1969, 1974, 1981; Miller & Jones, 1981; Pace, 1979; Parker, 1978).

More specifically, "one of the central purposes of student leadership development programs in American universities is to provide a comprehensive offering of activities and services to compliment an academic education" (Buckner & Williams, 1995, p.1). It has been documented that participation in leadership activities had more of an impact on student development than affective measurements of the students' commitment to their personal and social development in college (Graham & Cockriel, 1997).

Involvement in leadership activities, and therefore leadership development, has been associated with gains in practical and interpersonal competence (Kuh, 1993), intellectual development (Baxter Magolda, 1992), development of altruism (Pascarella, Ethington, & Smart, 1988), and commitment to common social purposes (Boyer, 1987). Additionally, leadership development programs have become a major part of the holistic student-development goals of student affairs divisions (Council for the Advancement of Standards, 1997; Miller & Jones, 1981, as cited in Arminio et al., 2000).

Programs to promote leadership development have taken both curricular (Burch, 1984; Freeman, Knott, & Schwartz, 1994; Riggio, Ciulla, & Sorenson, 2003) and cocurricular (Freeman, Knott, & Schwartz, 1994; Posner & Brodsky, 1993) forms. Other work has been done to combine these two areas into a comprehensive leadership development program (Hovest & Vinton, 1993).

In terms of curricular approaches, classroom-related programs have been offered on numerous campuses across the country (Burch, 1984; Freeman, Knott, & Schwartz, 1994). These include courses offered as part of an academic major or minor, as well as those included in other academic disciplines. Co-curricular offerings are more experiential, such as the role of a Resident Assistant (Blimling, 1995; Posner & Brodsky, 1993), or student government and residence hall government opportunities.

Whether curricular or cocurricular, leadership development programs have been established with an end goal in mind: to provide students with the necessary leadership (and other) skills so that they can compete for jobs offered by employers looking for those qualities. In addition, a holistic learning experience has been identified as a second goal. Achieving this outcome assumes that campuses can move students from a starting point with respect to leadership skills to an ending point at which they have acquired the skills that employers seek and experiential learning expects. The end point seems to be clearly delineated in the literature: research has revealed what skill sets employers seek in job applicants (Grogger & Eide, 1994; Kerka, 1990; Santosus, 2003). Research on the starting point, however, is scarce. What leadership skills and experiences do students bring with them to college? Such information would seem essential when designing leadership development programs.

In summary, outcome assessment has become increasingly important in higher education (Attinasi, 1992b; Braxton, Smart, & Thieke, 1991; Cress, Astin, Zimmerman-Oster, & Burkhardt, 2001; Erwin, 1991; Love, 1995). One component of this assessment has examined what skills employers seek in college graduates (Grogger & Eide, 1994; Kerka, 1990; Santosus, 2003). One common skill employers cite is leadership abilities (Gale, 2002; Gerber, 2003; Kerka, 1990; Stronge, 1998; Santosus, 2003; van Linden & Fertman, 1998). Those who hire

college graduates have identified for institutions the leadership skills they would like to see in graduates (Kerka, 1990; Stronge, 1998; Santosus, 2003). In response, colleges and universities have established leadership development programs to promote these skills among their students (Cress et. al., 2001; Hovet & Vinton, 1993; Outcalt, Faris, McMahon, Tahtakran, & Noll, 2001; Striffolino & Saunders, 1988; Turrentine, 2001). However, little research has been conducted to look at the baseline leadership skills that students entering college possess. This study addressed that gap in the literature on leadership development among college students.

Purpose of the Study

The purpose of this study was to examine the pre-college leadership skills of first-year students as measured by the Student Leadership Outcomes Inventory (SLOI). More specifically, this study sought to determine the pre-college skills in eight distinct subgroups related to leadership: self-management, interpersonal, problem-solving/decision-making, cognitive development/critical analysis, organization and planning, self-confidence, diversity awareness, and technology. Additionally, I looked at differences in pre-college leadership skills by race and gender. A modified version of the SLOI (Vann, 2000) was administered to measure participants' pre-college leadership skills.

Research Questions

Specifically, this study was designed to answer the following research questions:

1. What are the pre-college leadership skills of first-year students?
2. Are there differences in pre-college leadership skills of first-year students by race?
3. Are there differences in pre-college leadership skills of first-year students by gender?
4. Are there differences in pre-college leadership skills of first-year students based on the interaction between race and gender?

Significance of the Study

This study was significant for future practice, research and policy. In terms of practice, several campus constituencies might benefit. One such group is faculty who work with first-year students. The results of this study provided them with data about the pre-college leadership skills of first-year students. Faculty might use these data to design academic programs and services to promote leadership development that are appropriate given students' pre-college experiences.

Student affairs professionals may also benefit from this study. The results provided them with a better understanding of the leadership skill sets that first-year students possess. This may enable them to assess the cocurricular leadership programs they manage.

First-year students might also benefit from the findings. The results provided them with a better understanding of the leadership skills typical students possess upon matriculation. This information might enable them to assess where they are, and to identify goals for themselves, in terms of leadership education.

Primary and secondary educators and administrators might also benefit from this study. By examining the pre-college leadership skills of first-year students, the study assesses the leadership education these students receive prior to entering college. The data collected during this study could assist primary and secondary school administrators in curriculum planning related to leadership education.

Finally, secondary students making college enrollment decisions might also benefit from this study. The results provided these students with a better understanding of the leadership skill levels students their age possess as they enter college. Students might use the results to assess their own leadership skills.

The present study also had significance for future research. This study examined the pre-college leadership skills and behaviors of first-year students. Future studies could look at the changes in those skills and behaviors over the course of the college career. Such a longitudinal study would expand upon the information available about gains in leadership skills over time.

The current study utilized quantitative methods of data collection to analyze the pre-college leadership skills and behaviors of first-year students. Future studies could employ qualitative methods so as to gain a more detailed understanding of the pre-college leadership skills these students possess. Such data would enrich what is known about leadership skills among entering college students.

Pre-college leadership skills of first-year students were analyzed in this study. However, where did these students gain the skills and behaviors they possess? Future research could look at the sources of pre-college leadership experiences. This type of study could serve as an assessment of the leadership opportunities occurring at the primary and secondary school level.

Finally, this study was significant for future policy. The results provided institutional policymakers with information about the pre-college leadership skills and behaviors of first-year students. Policymakers might use this information to suggest curricular policies regarding leadership skills.

Student affairs policymakers may also benefit from this study. The results provided them with data concerning first-year students. Those in student affairs may use these results to examine policies regarding cocurricular leadership opportunities.

This study had significance for high school academic policymakers. The results provided them with information on the leadership skills of students upon graduation from high school.

High school academic policymakers may use these findings to assess policies on leadership curricula.

Finally, this study had significance for high school administrators. The results provided them with information on leadership opportunities in high school. High school administrators may use the study to assess policies on those opportunities.

Delimitations

As with all research, this study had several initial delimitations. One was related to the sample. All participants in this study came from a large, public, land-grant institution in a mid-Atlantic state. It is possible that students at this institution differed in some important way from first-year students at other college and universities. If this occurred, it might have influenced the findings.

Another delimit dealt with the reactive effect of the data collection. The participants in this study were aware they were participating in a study, and thus may have not been candid in their responses. If so, this might affect the validity of the data collected.

A third delimit dealt with the previous data collected on the SLOI. In previous studies, the SLOI has been normed on a mainly White population. It is possible that a level of bias could exist in this instrument which would limit the effectiveness of measuring the leadership skills of non-White populations.

Finally, the use of a survey to collect data could be seen as a delimit. It is possible that the survey did not ask everything necessary to measure leadership skills. It is also possible that participants might have misinterpreted items or interpreted items in different ways. If so, this might have influenced the results in some unforeseen manner.

Although the study did have several delimitations, they did not detract from the overall benefit of the study. The current study was useful because it examined an area of leadership development that had not yet been explored.

Organization of the Study

The current study is organized into five chapters. Chapter One introduced the topic of the study, providing the research questions, the significance of the study, and the delimitations. The second chapter reviews the literature relevant to the study. Chapter Three includes a description of the methodology of the study, the sampling techniques, and the procedures used to collect and analyze the data. In the fourth chapter, the results of the study are discussed, and in the fifth and final chapter, a discussion of those results and their implications for future practice, research, and policy is included.

CHAPTER TWO

LITERATURE REVIEW

In order to explore the research related to this study, it was necessary to examine the literature on leadership skills. Three groups of studies emerged in this review: studies about leadership skills in general; studies about the leadership skills of primary and secondary school students; and studies about the leadership skills of college students.

The leadership skills of college students were examined using the eight subgroups of the SLOI. These were (a) self-management, (b) interpersonal skills, (c) problem-solving and decision-making, (d) cognitive development and critical analysis, (e) organization and planning, (f) self-confidence, (g) diversity awareness, and (h) technology. Race and gender also emerged as overall subgroups concerning the leadership skills of college students. This literature review is organized around these topics and subtopics.

Research on Leadership Skills in General

A review of the literature on leadership skills in the general population revealed research on different groups of individuals. A large body of work looks at the leadership skills of primary, secondary, and post-secondary educators (Gehrke, 2001; Langbort, 2001; Thornton, Langrall, Jones, & Swafford, 2001). Additionally, the leadership skills of world leaders and other public figures also have been studied extensively (Bennis & Thomas, 2002; Cooke, 1989; Gardner, 1995; McFarland, Senn, & Children, 1993).

The body of literature focusing on the leadership skills of educators revealed some unique findings. Several leadership skills were identified as necessary for teachers in primary and secondary schools. They should be able to build rapport with others and diagnose problems in their organizations. Additionally, good educators should be able to deal with change and find

and utilize the resources around them. At the same time, they should be able to manage their work and build skills and confidence in others (Lieberman, Saxl, & Miles, 1988).

In a discussion of the leadership skills of middle and high school principals, several characteristics were identified as important. Principals should be people of substance who stand for important ideas and values. In addition, they should be able to share their ideas in a way that invites others to reflect, inquire, and better understand their own thoughts about the issues at hand. They may then use those ideas to help others and make the lives of others more sensible and meaningful (Sergiovanni, 1994). The ability to promote positive interactions among school staff, students, and parents is also an important skill for school leaders (Blasé, 1987).

Additionally, the ability to build personal relationships is an important leadership skill (Wheatley, 1992). This concept of leadership has at its foundation relationships where "different settings and people evoke some qualities from us and leave others dormant" (Wheatley, 1992, p.34). Facilitating an atmosphere of trust and self-responsibility are also important traits of school leaders (Huber & Kiegelmann, 2002). The ability to include staff members in decision making, to challenge and support them, and to accept suggestions of others are hallmarks of school leadership (Huber & Kiegelmann, 2002).

Other literature addresses the leadership skills of members of the global community. Community volunteers employ good listening and problem solving skills for example. They also conduct meetings effectively and promote local involvement and activity on the part of others (Bolton, 1988). More specifically, Crosby (1999, p.3) outlines leadership skills for the global communities as (a) understanding the social, political, economic, and technological "givens", (b) understanding the people involved, especially oneself, (c) building teams, (d) nurturing effective and humane organizations, interorganizational networks, and communities, (e) creating and

communicating meaning in formal and informal forums, (f) making and implementing legislative, executive, and administrative policy decisions in formal and informal arenas, (g) enforcing ethical principles, laws, and norms and resolving residual conflicts in formal and informal courts, and (h) coordinating leadership tasks in change cycles.

Furthermore, human relations skills have been identified as the means by which leaders promote success within organizations. Five effective leadership practices are important to garnering optimal performance from organizational members. Challenging the process refers to searching for opportunities to change the status quo. Inspiring a shared vision involves having a vision, and through hard work and dedication, inspiring others to share that vision. Facilitating collaboration and building inspired teams is seen as enabling others to act. Leading by example, or modeling the way is next on the list of effective practices. Last is the ability to encourage the heart, or promote heroic feelings (Kouzes & Posner, 1995).

<div align="center">Leadership Skills in Primary and Secondary School Students</div>

For purposes of this study, an extensive review of the literature concerning pre-college leadership skills was conducted. Literature on this subject was comprehensive with regard to the specific age groups.

Skill sets which children as young as those in elementary school need to succeed have been identified. These include the desire to be challenged and the ability to solve problems creatively. In addition children should possess the ability to reason critically, see new relationships, and possess the facility of verbal expression. Lastly, elementary students should possess flexibility in thought and action, the ability to tolerate ambiguity, and the ability to motivate others. These characteristics should then be fostered as children develop their leadership potential in the classroom (Karnes & Bean, 1990).

This growth can occur through leadership education but can also be integrated into classroom activities. It is important that teachers discuss meaningful topics with students and help them to work through possible solutions to problems (Hensel, 1991). This serves to increase their leadership development through critical thinking. Teachers also have chosen to look at biographies with students as a way of instructing them on the leadership skills they are trying to impart. These biographies should be about individuals from all races as there is a need for people with leadership skills in all cultures (Wade & Putnam, 1995).

Educating to promote these skills is not common, however. "Many students are offered the opportunity to participate in extracurricular activities, but it is typical to see no formal instruction on leadership concepts and skills in school" (Bisland, Karnes, & Baker Cobb, 2004, p 51). This suggests it is even more important that students be given time to allow their leadership skills to develop (Hensel, 1991). Almost all students have some leadership skills and those who develop their skills at the right time have the potential to become the country's leaders (Evans & Evans, 2002). Educators recognize that children in today's schools are the potential leaders of tomorrow (Chan, 2000).

According to Stogdill (1974), getting an early start with regard to leadership skills is connected to adult leadership skills. More specifically, leadership experiences at a young age have more of an impact on adult leadership than academic achievement. Leadership development programs for youth therefore have the potential to produce increased self-confidence and responsibility, a sense of pride, motivation to start activities, better communication skills, interpersonal skills, and time management skills (Karnes & Meriweather, 1989).

As students enter secondary education, these benefits continue. Pre-college women's leadership skills lead to a higher rate of social adjustment and better college GPA (Tomlinson-

Clarke & Clarke, 1994). Increased knowledge and interpersonal skills, both of which are considered leadership skills, are also gained by those women with opportunities for leadership in high school (Tomlinson-Clarke & Clarke, 1994).

Student participation in high school athletics and leadership ability has also been examined (Dobosz & Beaty, 1999). Adolescent leaders, as compared to nonleaders, are dominant along both physical and psychological dimensions (Graustrom, 1986). Athletes have more potential to develop as leaders at the high school level (Snyder & Spreitzer, 1992).

Leadership Skills among College Students

The literature on leadership skills also has focused on college students (Chambers, 1992; Cooper et al., 1994; Cox & Miranda, 2003; Cress et al., 2001; Graham & Cockriel, 1997; Romero-Aldaz, 2001; Skeat, 2000; Striffolino & Saunders, 1988; Turrentine, 2001). This has been due in great part to the belief that the development of leadership skills is one responsibility of higher education.

In addition, research on the power of developing leadership skills for the purposes of experiential education and social development has also been discussed. Gardner's (1990) work on experiential education in leadership has been very influential. He offers several experientially-based outcomes for leadership programs.

First, Gardner (1990) argues that "opportunities for students to experience the shared responsibilities of group action and to learn the skills required to make a group function effectively" are needed (p.168). Other outcomes include "opportunities for students to test their judgment under pressure", "opportunities for students to test and sharpen their intuitive gifts, "exposure to new constituencies", and "exposure to the untidy world, where decisions must be made on inadequate information and the soundest argument does not always win" (p.168).

Overall, research shows that involvement in student organizations appears to have positive effects on students' total academic experience (Cooper et al., 1994). "Early leadership experiences provide individuals with the tools they need to succeed academically, in the workforce, and in other social arenas" (Kimbrough & Hutcheson, 1998, p.96). Despite this, student leaders remain an understudied group of college students (Kimbrough & Hutcheson, 1998). One means of assessing those positive effects is through gains in leadership skills.

There are many measures of leadership skills present in the research, and a comprehensive analysis of those skills was sought. These skills were examined in eight distinct areas, all of which can be considered leadership characteristics. Together, these areas provide a solid understanding of leadership skills among college students.

One measure of leadership skills is in the area of self-management. Research indicates that leadership experiences in college lead to positive impacts on personal growth and development among college students (Striffolino & Saunders, 1988). Student leaders in colleges and universities show a greater willingness to take risks and perform under pressure (Cress et al., 2001).

Interpersonal skills are another means of measuring leadership skills. Participation in campus and recreational activities is connected with more intimate interpersonal relationships (Hood, 1984, as cited in Cooper et al., 1994). Student leaders also show a higher degree of positive mature interpersonal relationships (Cooper et al., 1994).

A third measure of leadership skills involves problem-solving and decision-making. Students who have participated in leadership activities are shown to have greater conflict resolution skills than non-participants (Cress et al., 2001).

Another way of measuring leadership skills is through the cognitive development and critical analysis demonstrated by the student. Student leaders display greater decision-making abilities than non-leaders. Additionally, those involved in leadership development display more cooperative and less authoritative behavior and hold more ethical views of leadership (Cress et al., 2001).

The organization and planning that students show is also a way of measuring their leadership skills. Student leaders have a greater ability to set goals and deal with complexity, uncertainty, and ambiguity (Cress et al., 2001). Additionally, student leaders show increased life management skills (Cooper et al., 1994).

Self-confidence in students is a major factor in establishing leadership skills. Students who participate in a leadership activity demonstrate a greater understanding of self and clarity of personal values (Cress et al., 2001). It was also discovered that the undergraduate experience, including leadership skills, has a significant impact on humanitarian values among students (Pascarella, Ethington, & Smart, 1988).

An overall awareness and understanding of issues related to diversity and multiculturalism is important when measuring leadership skills. Students who participate in leadership activities and gain leadership skills have been shown to have increased cultural participation and tolerance (Cooper et al., 1994).

Lastly, a grasp of current technology issues and ideas can provide insight into students' leadership skills. An extensive search of the literature revealed no studies on this topic. However, it would seem that research addressing the technology skills of student leaders might be merited.

These leadership skills have been further linked with outcomes of leadership education and training programs (Cress et al., 2001). In other words, students who involve themselves in leadership training and education programs have the opportunity to increase their skills and knowledge. This is a new line of thinking, compared to earlier notions of leadership as a positional or an inherent characteristic. The impact of leadership development programs on leadership skills, however, has not been explored extensively. This is despite the multitude of literature looking at the benefits of these programs in business organizations (Fuchsberg, 1993; Lombardo & McCall, 1981; McCauley & Hughes-James, 1994) and community-based organizations (Bolton, 1991).

Race

The majority of studies on leadership have employed samples that consist of White males (Rodgers, 1996). Far less literature exists which investigates the intersection of race and leadership (Arminio et al., 2000). However, student affairs administrators are working to meet the needs of the diverse student bodies they serve (El-Khawas, 1996; Talbot, 1996). This in part is due to the realization that as student affairs administrators look ahead, they should expect steadily increasing numbers of students of multiracial or bicultural heritage (El-Khawas, 1996).

More specifically, a person's racial identity, defined as the degree to which one perceives he or she is a member of a racial group (Helms, 1993), influences the groups in which they are involved, and ultimately the leadership skills they develop. Their leadership skills, in turn, affect the groups with which they choose to be involved (Tatum, 1997). Additionally, value orientation, experiences, and racial identity can influence how these students view leadership as a whole (Murray, 1994).

Perhaps the biggest skill difference by race is the ability to work in groups. Conventional leadership literature (i.e., that which is normed on Whites) espouses leadership opportunities as individual endeavors (Bennis, 1989; Blanchard & Bowles, 1997) Among minorities, however, the development of group identity and responsibilities is seen as much more important (Arminio et. al., 2000). For many African American students, referring to themselves as a leader means being a part of the enemy or oppressor. The term suggests that they buy into the system that has oppressed them (Arminio et. al., 2000).

Leadership differences also exist among multi-racial groups. These differences can cause confusion and frustration among minority members (Arminio et. al., 2000). Many minority students feel as though they are forced to think "White" and they run into cultural confusion when situations do not fit their cultural values (Arminio et. al., 2000). Approach to conflict, communication style, and body language all reportedly change for minority students when in leadership positions with White students (Arminio et. al., 2000).

Among specific racial organizations, leadership within Black Greek organizations has been shown to be more extensive than leadership among Black non-Greeks (Kimbrough & Hutcheson, 1999). These findings indicate that fraternity or sorority participation increases Black college students' level of involvement and leadership (Kimbrough & Hutcheson, 1999). This is consistent with the finding that Black students identify more as a group than as individual leaders (Arminio et. al., 2000). Additionally, Greek students at historically Black colleges and universities (HBCUs) show greater leadership skills than their non-Greek counterparts (Kimbrough & Hutcheson, 1999).

Gender

Many studies have compared males and females in terms of leadership skills and the results appear to be contradictory. In some instances, there is little support for any sort of relationship between gender and leadership (Posner & Brodsky, 1994). These scholars argue that findings pertaining to gender and leadership skills generally reveal no difference in skill levels between men and women. Gender fails to account for differences between the leadership behaviors of men and women (Bass, 1991; Komives, 1991; Powell, 1989).

Other studies, however, reveal skills that are more developed in women. The ability to enable others to act was identified as a highly developed leadership skill among women, even those with relatively little overall leadership experience (Komives, 1994). Women also emphasize building relationships more than men do. Females learn through trial and error and observation, as well as other hands-on approaches to acquiring leadership skills. Women acquire a wide range of leadership skills that includes an increased comfort with public speaking and interpersonal skills, as well as an understanding of the importance of motivation and preparedness. Women leaders also gain skills in conflict management and an increased self-awareness (Romano, 1996).

In one study, men and women both described leadership differences between genders, "providing examples such that men came immediately to the point and down to business, while women liked to process and talk more about issues" (Arminio et. al., 2000, p.504). One female RA described male RAs as more disciplinarians and female RAs as those more likely to interact and build relationships with residents (Arminio et. al., 2000).

In summary, the body of literature surrounding leadership skills is extensive. General leadership (Bolton, 1988; Huber & Kiegelmann, 2002; Lieberman, Saxl, & Miles, 1988, Sergiovanni, 1994; Wheatley, 1992) has been studied extensively. Out of that research has

emerged a body of knowledge on important leadership skills. Building personal relationships, the ability to communicate ideas and values, listening and problem-solving skills, and inspiring a shared vision were just a few of the skills that researchers have focused on.

Leadership at the primary and secondary education levels (Bisland, 2004; Bisland, Karnes, & Baker Cobb, 2004; Evans & Evans, 2002; Hensel, 1991; Karnes & Bean, 1990; Karnes & Meriweather, 1989; Wade & Putnam, 1995) has also been examined extensively. This research has focused mainly on extracurricular activities since leadership is not traditionally a part of the curriculum (Bisland, Karnes, & Baker Cobb, 2004). Overall, skills such as flexibility in thought and action, the ability to tolerate ambiguity, and the ability to motivate others have been identified.

Lastly, leadership in college (Cooper et al., 1994; Cox & Miranda, 2003; Cress et al., 2001; Graham & Cockriel, 1997; Romero-Aldaz, 2001; Skeat, 2000; Striffolino & Saunders, 1989; Turrentine, 2001) has also been studied extensively. Researchers have shown that involvement in student organizations has a positive effect on the students' overall academic experience (Cooper et. al., 1994). In addition, leadership skills in areas such as self-management, interpersonal skills, problem-solving ability, and cognitive development have all been shown.

These topics are all important to consider when discussing leadership education. However, an investigation into the leadership skills of first-year college students is missing from this body of knowledge. In order to provide leadership education for incoming students and meet the needs and goals of institutions, it is important to have a baseline from which to initiate leadership development. That is the gap in the existing body of work on leadership that this study was designed to address.

CHAPTER THREE

METHODOLOGY

The purpose of this study was to examine the pre-college leadership skills of first-year students. More specifically, this study sought to measure the pre-college skills in eight distinct subgroups related to leadership: self-management, interpersonal, problem-solving/decision-making, cognitive development/critical analysis, organization and planning, self-confidence, diversity awareness, and technology. Additionally, I looked at the differences in pre-college leadership skills by race and gender. A modified version of the Student Leadership Outcomes Inventory (SLOI) (Vann, 2000) was administered to measure participants' pre-college leadership skills.

Specifically, this study was designed to answer the following research questions:

1. What are the pre-college leadership skills of first-year students?

2. Are there differences in pre-college leadership skills of first-year students by race?

3. Are there differences in pre-college leadership skills of first-year students by gender?

4. Are there differences in pre-college leadership skills of first-year students based on the interaction between race and gender?

This chapter describes the methodology used in the present study. It includes descriptions of the sample selection, instrumentation, validity/reliability, data collection procedures, and data analysis procedures.

Sample Selection

The population from which the sample was drawn included all first-year students who lived in the residence halls during the fall 2004 semester at a large, public, research institution in the mid-Atlantic region of the United States. The population was predominantly White (73.9%)

and male (57.5%), with other groups rounding out the overall population (Virginia Tech Office of Institutional Research, 2003).

The target sample of participants for this study had several characteristics. First, the sample size consisted of 550 participants. A sample that was 57% male and 43% female was sought. In addition, a representative group by gender and race (Asian, Bi-racial, Black, Hispanic, Native American, White, Other) was sought. Other race was defined as those who did not fit into the six identified ethnicities.

In addition to race, I also wanted to ensure that the sample consisted of first-year students entering college right out of high school. It was my assumption that first-year students who were right out of high school would best be able to reflect on their pre-college leadership experiences. As a result, a criterion of all participants was that they be 18 or 19 years of age.

For the purposes of this study, a first-year student was defined as a student who graduated in the spring of 2004 and matriculated at the study institution in the fall of 2004. This ensured that the participants would be reflecting on their pre-college leadership experiences when completing the SLOI, and not experiences they might have had while in college.

I worked with the Department of Residence Life at the institution where the study was conducted to select the sample of first-year students. The Assistant Director of Occupancy Management was asked to provide me with lists of first-year students corresponding to the target sample categories.

The selected respondents were invited to participate in the study via an email message signed by myself and the Director of Residence Life. Having the letter come from an administrator on campus was done in an attempt to increase the response rate. This message (see Appendix A) informed participants that they had been selected to participate in a study about

leadership experiences in high school. They were told that participating would involve filling out a short survey online at their convenience. The survey would ask them about their involvement in high school and what they got out of that involvement and they would be eligible to win an incentive for their participation. They could be entered in a drawing to win one of four $50.00 checks upon completing the survey.

The initial email message was sent out on August 27, 2004. After one week, a follow-up email was sent out reminding the participants about the study (see Appendix B). Additionally, an email message was sent to building supervisors, asking them to encourage their Resident Advisors to speak with selected residents (see Appendix C). The email message contained a letter to the Resident Advisors as well (see Appendix D). Following these email messages, individual calls were made to students, requesting that they complete the survey and informing them of the incentive for completion. After a sufficient number of responses was collected, the survey was taken offline on October 17, 2004. I then conducted the drawing, and the winning participants were notified of their prize. The checks for $50 were sent to them via campus mail.

Instrumentation

The instrument used to collect data on pre-college leadership skills was a modified version of the Student Leadership Outcomes Inventory (SLOI) (Vann, 2000). The original focus of the SLOI was to measure outcomes associated with leadership experiences of college students. I modified the instrument in limited ways so items referred to pre-college leadership skills. Basic wording was modified, and one section on careers was removed due to its lack of applicability to first-year students.

The original SLOI consisted of 82 items in 10 sections, each organized around a different leadership skill subscale. Each section contained between two and 16 items that participants

responded to using a Likert-type scale. The modified SLOI consisted of 71 items. The scale

involving career development (5 items) was eliminated. Additionally, one item was removed

from the self-confidence subscale as it related to overall college experience and was replaced

with a similar item relating to overall high school experience. Second, a final, open-ended

response question was removed. Lastly, one item asking for organizational type, one item asking

for class standing, and 3 items asking about students' advisor were removed. A complete SLOI

item breakdown can be found in table 1. A complete copy of the modified SLOI appears in

Appendix E.

The eight scales of the SLOI were designed to gather data on the pre-college leadership

outcomes of participants. These eight scales came from factor analysis that was conducted on a

large sample of respondents who had completed the instrument over a period of time that

spanned several years. For this study, participants were asked to consider their various

leadership experiences in high school when answering the questions. For each item, participants

were asked to choose from a scale of 1 (Strongly Disagree) to 6 (Strongly Agree). The first scale

examined the self-management skills of participants. The nine items in this section asked

participants to think about the abilities they gained in various self-management skill areas. For

example, participants were asked to address their ability to perform under pressure and learn

from their mistakes.

The interpersonal skills of participants were the focus of the second scale. This section

included 13 items. Participants were asked to report the extent to which their high school

leadership experience affected various abilities. For example, they rated their ability to influence

Table 1

Student Leadership Outcomes Inventory (SLOI) Item Breakdown

Scale	Item #	Item
Self-Management		
	1.	ability to perform under pressure
	2.	ability to learn from my mistakes
	3.	ability to manage personal stress
	4.	ability to balance personal, academic, and professional life
	5.	ability to manage personal time
	6.	ability to establish priorities
	7.	ability to identify personal strengths and weaknesses
	8.	ability to understand the consequences of my actions
	9.	ability to achieve active listening (understanding feeling and content of conversation)
Interpersonal Skills		
	10.	ability to give constructive criticism to others
	11.	ability to receive constructive criticism from others
	12.	ability to express disagreement tactfully
	13.	ability to understand what is important to others
	14.	ability to influence others
	15.	ability to supervise others
	16.	ability to form professional working relationships with the opposite gender
	17.	ability to speak in public
	18.	written communication ability
	19.	ability to work as part of a group
	20.	ability to identify strengths and weaknesses of others
	21.	ability to make formal presentations
	22.	ability to speak extemporaneously (unrehearsed)
Problem-Solving/ Decision-Making		
	23.	ability to use diplomatic conflict resolution
	24.	ability to negotiate for a desired outcome
	25.	ability to use creative problem-solving
	26.	ability to use good judgment
Cognitive Development / Critical Analysis		
	27.	ability to perform calculated risk taking
	28.	ability to critically examine my mistakes
	29.	ability to make ethical decisions
	30.	ability to make practical applications of knowledge/information
	31.	ability to develop compromises
	32.	ability to assess the politics associated with issues
	33.	ability to use critical thinking skills

Organization and Planning		
	34.	ability to build consensus within a group
	35.	ability to delegate tasks to others
	36.	ability to promote/market events
	37.	ability to plan activities/events
	38.	ability to develop organization agendas
	39	ability to set deadlines
	40.	ability to run effective meetings
	41.	ability to manage organization finances
	42.	ability to manage multiple tasks
	43.	ability to form a team to accomplish a goal
	44.	ability to lead a group of people
	45.	ability to motivate other people
	46.	ability to organize tasks
	47.	ability to set long term goals
	48.	ability to meet deadlines
	49.	ability to understand organizational politics
Self-Confidence		
	50.	ability to have self-confidence in my social skills
	51.	ability to have self-confidence in my abilities
	52.	ability to be assertive in my interactions with others
	53.	ability to clarify my personal values
	54.	ability to establish my personal code of ethics
	55.	ability to contribute positively to my overall high school experience
Diversity Awareness		
	56.	ability to develop a sensitivity toward people who are different from me
	57.	ability to develop respect for the rights of others
	58.	ability to develop appreciation for different perspectives
Technology		
	59.	ability to increase my use of computer software (word processing, spreadsheets, etc.)
	60.	ability to increase locating resources on the internet
Demographics		
	61.	sex
	62.	age
	63.	ethnicity
	64.	describe your single most important student leadership experience in high school
	65.	what student leadership experiences have you had in high school
	66.	# of months spent in primary leadership experience
	67.	average # of hours per week spent on ALL high school affiliated co-curricular activity last year
	68.	# of hours per week engaged in class work outside of class
	69.	total # of leadership experiences prior to college attendance
	70.	Did you participate in any training in conjunction with your most recent or current leadership role?
	71.	If so, describe the type of training you received (length of training - # hours, overnight stays, who attends training, who presents training, topics discussed, etc.)

others and their ability to supervise others. Other items asked about public speaking skills, written communication skills, and abilities to work in groups.

The third scale was entitled Problem-Solving/Decision-Making and included **four** items. This section gathered information about the problem-solving and decision-making skills gained from the participant's high school leadership experience. Items in this section looked at conflict resolution skills, ability to negotiate desired outcomes, creative problem-solving abilities, and using good judgment.

In the fourth scale of the SLOI, cognitive development and critical analysis skills were examined. The seven items in this section looked at how the participants' high school leadership experience affected their cognitive development and critical analysis skills. For example, the participants responded to items about their ability to make ethical decisions and to develop compromises.

The fifth scale examined organization and planning on the part of participants. There were 16 items in this section. Each item dealt with an ability related to organization and planning. For example, the ability to delegate tasks to others and to plan activities or events, were examined. Other items looked at setting deadlines, managing multiple tasks, and organizing tasks.

The sixth scale of the SLOI dealt with the self-confidence of participants. The five items in this section addressed self-confidence in social skills, as well as being assertive. Other items examined the degree to which high school leadership experiences helped clarify personal values and establish personal codes of ethics.

Diversity awareness was the focus of the seventh scale. To elicit this information, the instrument asked participants about their sensitivity to, respect for, and appreciation of others.

More specifically, the three items asked participants to rate these abilities when dealing with people who are different from themselves.

The eighth scale dealt with the participant's knowledge of technology. The two items in this section addressed the ability to use computer software and locate resources on the Internet.

The final section was designed to elicit demographic information about the respondents. Among the 11 items in this section, participants were asked to report their sex, age, and ethnicity. Additionally, respondents were asked to choose their single most important leadership experience in high school. For example, participants could choose from involvement in student council, band, choir, yearbook, or sports teams. Participants were then asked to identify all other leadership experiences in which they were involved in high school. The same options were listed for both items. Data from these responses were used to describe the sample and to sort responses into analytical groups based on demographic characteristics.

<center>Validity and Reliability</center>

The validity of an instrument in quantitative research refers to the appropriateness, meaningfulness, and usefulness of specific inferences made from test scores. In other words, it determines the level to which the instrument measures what it was designed to measure (Gall, Borg, & Gall, 1996).

For purposes of the present study, several factors enhanced the validity of the original instrument that was designed to examine outcomes of leadership experiences for college students. Face validity was established by asking personnel recruiters to review and evaluate the importance of each item in terms of skills they sought in corporate managers/leaders. Items were also developed based on qualitative input from student leaders, and student organization advisors have reviewed the instrument for face validity as well. In addition, the SLOI has been

administered to students in military programs, peer educators, and students in a leadership

program, so those teaching various leadership approaches have found the instrument applicable

across different leadership models (M. Vann, personal communication, April 13, 2004).

Second, factor analyses were conducted to determine if patterns among items were

present, which also enhanced the validity of the SLOI. Factor analysis is used to look at

relationships among items and see if the information can be condensed into more manageable

components (Hair, Anderson, Tatham, & Black, 1998). This process enhanced the validity by

determining the existing relationships between items on the instrument and responses of

participants. The relationships determined during the factor analysis show a connection between

the items in the instrument and what the instrument is designed to measure. In other words, the

items on each scale measured the same phenomenon.

Reliability refers to the extent to which an instrument consistently measures a

phenomenon over different times and different populations (Gall et al., 1996). Although

complete reliability statistics for the most current scales of the instrument have not been

calculated, preliminary results indicate internal consistency on each scale, as well as for the

entire instrument. Chronbach's alphas for each proposed scale have been reported at .85 and

higher**.** Measures of internal consistency using Chronbach's alpha and Guttman split half range

from .87 to .95 for the instrument as a whole (M. Vann, personal communication, April 13,

2004). These findings suggest that the SLOI is a reliable instrument.

<div align="center">Data Collection Procedures</div>

I sought permission from the university's Institutional Review Board for Research

Involving Human Subjects at the institution where the study was administered. Once approval

was granted (see Appendix F), the sample was selected and the data collection began.

I met with the Director of Residence Life to establish a plan for distributing the survey to participants, all of whom lived in the residence halls. It was determined that an online administration of the instrument would yield the highest response rate.

I then worked with the Department of Residence Life to gather email addresses for the sample. Those students selected to participate were then sent an email message (see Appendix A) that provided them with information about the study. The email gave participants a time frame for completion of the survey and explained the incentive for completing the survey. At the bottom of the message was a link that took participants to a page that explained how their responses would be treated and assuring them of the confidentiality of their responses. From this page, respondents were directed to the online survey. After completing the survey, participants were linked to a new webpage thanking them for their participation. A weblink was provided for those interested in entering the drawing for the incentive, where they provided their email address in order to be contacted if they were selected in the drawing.

I sent out a reminder email (see Appendix B) to the participants one week after the initial email was disseminated. This served as a second request to participate in the study and reminded participants about the incentive. Following the second request, a letter was sent to all building supervisors (see Appendix C) asking for their assistance in encouraging participation. A letter was also sent directly to resident advisors (see Appendix D) asking for their assistance. Following these letters, individual phone calls were made to students, requesting their participation in the study.

<div align="center">Data Analysis Procedures</div>

Once all of the instruments were received from participants, I analyzed the data. The data were downloaded from the online survey to Microsoft Excel and transported to a Statistical

Package for Social Sciences (SPSS) (Kellough, 1985) file. Data were analyzed using SPSS.

Several steps were taken in order to analyze the data. First, the data were coded for sex (1=male, 2= female) and race (1=Asian, 2=Bi-Racial, 3=Blacks, 4=Hispanic, 5=Native American, 6=White, 7=Other). Second, respondents were asked to report their age (18 or 19) and anyone not reporting one of these two ages was eliminated since they did not meet the criteria.

I then turned to the research questions posed in the study. The first question focused on the pre-college leadership skills of first-year students. To address this question, I calculated the mean scores, and standard deviations for all respondents on each scale. This provided me with a list of pre-college leadership skills gained by participants.

The second research question dealt with differences in pre-college leadership skills by race. To respond to this question, I sorted responses into groups by race. Due to the participant rates in the study, sample size by race was unequal. To address this concern, I collapsed respondents into two groups: majority and minority participants. Majority respondents were defined as those responding as "White" and minority respondents were defined as all others. Then I calculated the mean scores for each group on each scale. Next, I conducted a series of independent t-tests to examine if there were significant differences in mean scores among groups on the scales. All t-tests were conducted at the $p<.05$ level of significance.

The third research question dealt with differences in pre-college leadership skills by gender. I calculated the mean scores for males and females on each of the SLOI scales. Independent t-tests were conducted to see if there were statistically significant differences in these scores. All t-tests were conducted at the $p<.05$ level of significance.

Finally, I examined the interactions between race and gender. I sorted participants into groups by race and sex (i. e., majority males, majority females, minority males, minority

females). I calculated the mean scores for each group for each scale on the SLOI. I then compared means among groups (p<.05) using a two-way ANOVA.

In conclusion, the purpose of this study was to examine the pre-college leadership skills of first-year students, and differences in those skills based on race and gender. The instrument employed in the study was valid and reliable. In addition, the methodology utilized was deemed sufficient to enable me to answer the specific research questions posed in the study.

CHAPTER FOUR

RESULTS

The purpose of this chapter is to report the results of the data analysis. The chapter is organized into two sections. The first section provides a description of the sample. The second section describes the analysis of the data with regards to the research questions posed in the study.

Description of the Sample

A total of 279 surveys were completed by participants, representing a 50% response rate. The demographic characteristics of the sample are reported according to sex, age, ethnicity, high school type, and high school location in Table 2. For each characteristic, some participants did not provide a response, and hence were not included in the table.

Approximately half (48.7%) of the participants were male and half (49.8%) were female. Eighty-eight percent (88%) of the participants were 18 years of age, and 9.7% were 19 years of age. The respondents were also divided into majority and minority ethnic groups. Majority was defined as White, and made up 78.1% of the sample. Minority was defined as those indicating Asian, Hispanic, Black, Bi-racial, or Other, and made up 20.4% of the sample.

Additionally, the participants were grouped into the type and location of the high school they attended. Nearly 85% of participants indicated they attended a public high school, while the remaining participants indicated they attended a private high school. Most (68.8%) of participants indicated that they attended a suburban high school, while nearly 19% attended a rural high school, and just over10% attended an urban high school.

Table 2

Demographic Characteristics of the Sample (N=279)

Characteristics	n	%N*
Sex		
Male	136	48.7
Female	139	49.8
Age		
18	246	88.2
19	27	9.7
Race		
Majority	218	78.1
Minority	57	20.4
High School Type		
Public	236	84.6
Private	38	13.6

* Note: percentages may not add up to 100 due to missing data

The researcher conducted a chi-square analysis of the potential sample and the actual sample to determine if there were any differences in demographic characteristics between the two groups by sex or race. Results of the analysis are summarized in Table 3.

Results revealed a significant difference by race at the .05 level. There were a disproportionately low number of minority respondents in the actual sample.

<div align="center">Pre-College Leadership Skills</div>

The first research question sought to identify the pre-college leadership skills of first-year students. In order to address this question, the researcher calculated descriptive statistics for the overall scores in each of the eight scales represented on the SLOI. The results are summarized in Table 4. Each question on the SLOI related to one of the eight scales, and students responded with a score between 1 (strongly disagree) and 6 (strongly agree). The data indicated that the participants scored highest on the Diversity Awareness scale (m=4.82), and lowest on the Problem-Solving scale (m=4.37), followed by the Organization and Planning scale (m=4.39).

<div align="center">Differences by Race</div>

The second research question posed in the study examined whether there were differences by race in pre-college leadership skills. A t-test was run on each of the eight scales, comparing the mean scores of majority participants to the mean scores of minority participants. Results of the t-tests are reported in Table 5. No significant differences (p< .05) were found between the pre-college leadership skills of majority students and those of minority students. It should be noted, however, that a significance of .143 was found on the self-confidence scale, with minority students reporting higher mean scores. While not statistically significant, this suggests that differences in self-confidence by race may warrant further attention by researchers.

Table 3

Differences in Sex and Race between Potential Sample (N=550) and Actual Sample (N=279)

Characteristics	Potential	Sample	Actual	Sample			
	n	%	n	%	df	x²	p
Sex					1	.033	.856
Male	315	57.27	136	49.45			
Female	235	42.73	139	50.55			
Ethnicity					1	94.26	.000*
Majority	400	72.73	218	79.27			
Minority	150	27.28	57	20.72			

* = significant at the .05 level

Table 4

Pre-College Leadership Skills of First-Year Students (N=279)

Scale	n	m	s.d
Self-Management	267	4.47	.74
Inter. Skills	257	4.40	.72
Problem-Solving/ Decision-Making	271	4.37	.84
Cog. Development/ Critical Analysis	270	4.41	.75
Organization and Planning	258	4.39	.79
Self-Confidence	270	4.57	.84
Diversity	272	4.82	.96
Technology	275	4.53	1.23

Table 5

Results of T-Tests on differences in Pre-College Leadership Skills by Race (N=279)

Scale	Ethnicity of Participants	n	m	s.d.	df	F	p
Self-Management					1	.899	.344
	Majority	211	4.50	.75			
	Minority	55	4.39	.72			
Inter. Skills					1	.550	.459
	Majority	204	4.39	.71			
	Minority	52	4.47	.80			
Problem-Solving/ Decision-Making					1	.192	.662
	Majority	213	4.38	.83			
	Minority	57	4.33	.88			
Cog. Development/ Critical Analysis					1	.284	.594
	Majority	213	4.43	.76			
	Minority	56	4.36	.72			
Organization and Planning					1	.276	.600
	Majority	205	4.38	.80			
	Minority	52	4.44	.78			
Self-Confidence					1	2.16	.143
	Majority	214	4.53	.83			
	Minority	55	4.72	.88			
Diversity					1	.458	.499
	Majority	214	4.80	.92			
	Minority	57	4.90	1.09			
Technology					1	.006	.938
	Majority	217	4.52	1.25			
	Minority	57	4.54	1.13			

Differences by Gender

The third research question presented in the study asked if there were any differences by gender in the pre-college leadership skills of participants. A t-test was run on each of the eight scales. A summary by gender of each scale is shown in Table 6. A significant difference ($p < .05$) was found on the Technology scale. Men reported a significantly greater degree of leadership skills related to technology than women. It should be noted, however, that a significance of .11 was found on the organization and planning scale, with female students reporting a higher mean score. Additionally, a significance of .14 was found on the diversity scale. Again, female students reported a higher mean score. Although neither finding is statistically significant, these probabilities are close enough to significance to merit further research.

Interaction of Race and Gender

The final research question posed in the study examined whether there were differences in pre-college leadership skills based on the interaction between race and gender. A two-way ANOVA was run on each of the eight scales, and a summary of the results are found in Table 7. In seven of the eight scales, no significant interaction effect was found. However, on the Technology scale, a significant difference ($p < .05$) was found. Post hoc tests were run to determine which specific pairs differed. A significant difference between majority male and majority female respondents was reported.

The findings from the data analysis reveal some interesting patterns. These patterns, and their implications for future practice, research, and policy are discussed in the next chapter.

Table 6

Results of T-Tests on differences in Pre-College Leadership Skills by Gender (N=279)

Scale	Gender of Participants	n	m	s.d.	df	F	p
Self-Management					1	.52	.47
	Male	135	4.50	.71			
	Female	131	4.44	.78			
Inter. Skills					1	.02	.90
	Male	129	4.40	.74			
	Female	128	4.41	.71			
Problem-Solving/ Decision-Making					1	.45	.50
	Male	135	4.40	.77			
	Female	135	4.33	.90			
Cog. Development/ Critical Analysis					1	.30	.59
	Male	135	4.44	.75			
	Female	134	4.39	.76			
Organization and Planning					1	2.54	.11
	Male	128	4.31	.78			
	Female	130	4.47	.80			
Self-Confidence					1	.01	.94
	Male	132	4.57	.84			
	Female	137	4.58	.83			
Diversity					1	2.24	.14
	Male	133	4.73	.94			
	Female	138	4.91	.98			
Technology					1	4.85	.03*
	Male	136	4.69	1.11			
	Female	138	4.37	1.33			

* significant at the p< .05 level

Table 7

Results of Two-Way ANOVAs on Interaction between Race and Gender on Pre-College Leadership Skills (N=279)

Scale	Group	n	m	s.d.	df	F	p
Self- Management					3	.49	.691
	MAM	107	4.53	.74			
	MAF	103	4.46	.76			
	MIM	27	4.40	.56			
	MIF	28	4.38	.86			
Inter. Skills					3	.196	.899
	MAM	102	4.38	.77			
	MAF	102	4.39	.63			
	MIM	26	4.48	.63			
	MIF	26	4.46	.95			
Problem-Solving/ Decision-Making					3	.283	.837
	MAM	106	4.40	.79			
	MAF	106	4.36	.86			
	MIM	28	4.41	.72			
	MIF	29	4.25	2.03			
Cog. Development/ Critical Analysis					3	.280	.840
	MAM	107	4.46	.77			
	MAF	105	4.39	.76			
	MIM	27	4.34	.66			
	MIF	29	4.39	.78			
Organization and Planning					3	1.14	.334
	MAM	102	4.32	.83			
	MAF	103	4.44	.77			
	MIM	25	4.29	.59			
	MIF	27	4.59	.90			
Self-Confidence					3	2.40	.069
	MAM	104	4.59	.87			
	MAF	109	4.48	.78			
	MIM	27	4.48	.73			
	MIF	28	4.94	.96			
Diversity					3	.916	.434
	MAM	104	4.71	.93			
	MAF	109	4.90	.92			
	MIM	28	4.85	.99			
	MIF	29	4.95	1.19			
Technology					3	2.80	.041*
	MAM	107	4.76	1.13			
	MAF	109	4.29	1.36			
	MIM	28	4.41	.96			
	MIF	29	4.66	1.28			

*significance at the P < .05 level between MAM and MAF

MAM= Majority Male   MAF= Majority Female   MIM= Minority Male   MIF= Minority Female

CHAPTER FIVE

DISCUSSION OF RESULTS

The purpose of this study was to examine the pre-college leadership skills of first-year students. These leadership skills were explored using the eight scales of the SLOI: self-management, interpersonal skills, problem-solving and decision-making skills, cognitive development and critical analysis, organization and planning, self-confidence, diversity awareness, and technology.

This chapter provides a discussion of the study and its results, the relationship of those results to prior research, as well as the limitations of the study and implications for future practice, research, and policy. Finally, conclusions resulting from the study are presented.

Discussion

The present study addressed a gap in the literature by seeking to determine the pre-college leadership skills of first-year students as a means of developing more effective leadership education programs on college campuses. The first research question posed in this study explored the pre-college leadership skills of first-year students. To address this question, the researcher examined the means and standard deviations of the responses to the eight separate scales of the SLOI. The response options ranged from 1 (strongly disagree) to 6 (strongly agree). As a result, 3.5 was the mid-point of the response range. That is, mean scores over 3.5 suggest respondents had achieved the skill to some extent, whereas means scores below 3.5 suggest they had not achieved the skill to any great degree. Among the scales, means ranged from a high score in the area of diversity awareness (m=4.82) to a low score in the area of problem-solving and decision-making skills (m=4.37).

These findings are interesting for several reasons. First, the grouping of mean scores was very close. Mean scores for all eight of the scales were around 4.5, which is one full point above the midpoint. Additionally, all mean scores were within .45 of each other, which indicated moderately high levels of leadership skills among respondents in all areas. This would suggest that those in the study had achieved some level of leadership skills prior to coming to college. This seems to contradict any assumption that students enter college without many leadership skills.

However, equally interesting were the standard deviations on each of the scales measured by the SLOI. These standard deviations ranged from a low of .72 (interpersonal skills) to a high of 1.23 (technology), which would seem to suggest a far greater range of leadership skills among participants than mean scores would indicate. That is, although leadership skills were moderately high overall among participants, there was a wide range of skills based on experience. For example, on the diversity awareness and technology scales, some students responded to items with a 1.00, suggesting they had not learned diversity awareness or technology skills in high school to any great extent at all, while others reported scores as high as 6.00, implying a fairly sophisticated understanding of these skills.

The second research question looked to determine if there were differences in pre-college leadership skills by race. No significant differences were found among respondents in any of the eight scales. For both majority and minority participants, mean scores did not vary much from the average mean scores.

The fact that there were no significant differences in pre-college leadership skills by race is intriguing for several reasons. Many assume that majority students have a greater drive to become leaders and assume leadership positions in order to succeed. This study suggests that

majority and minority students achieve leadership skills in high school at equal levels, perhaps indicating a similar drive to succeed in this area.

Additionally, the majority of participants responding to the study attended public, suburban high schools. Such schools are typically well funded and provide a wide range of activities for students. This fact may have led to more opportunities for participants to assume leadership positions and therefore to increase their leadership skills.

Incoming students at the institution where the data were collected also possessed an above average income as compared to all public universities: 46.8% of students at the study institution come from families with an average family income over $100,000 (Cooperative Institutional Research Program of the Higher Education Research Institute, 2003). It is possible that the higher socioeconomic status of participants influenced their ability to pursue leadership opportunities in high school regardless of race.

The third research question sought to address differences in pre-college leadership skills of first-year students by gender. No significant differences were found on seven of the eight scales. For both male and female participants, group mean scores did not vary much from the grand mean scores.

However, a significant difference was found between male and female students on the Technology scale. Scores on this scale indicated that male respondents indicated a significantly higher degree of leadership skills related to technology than female respondents.

These findings are interesting for several reasons. The significant difference found in the technology scale would seem to provide more evidence as to the widening technology gap between men and women (Bauer, 2000; Brosnan, 1998; Corston & Colman, 1996; Litchman, 1998; Reinen & Plomp, 1997; Sax, Astin, Lindholm, Korn, Saenz, & Mahoney, K. M., 2003;

Shashaani, 1997; Spotts, Bowman, & Mertz, 1997). This is important to note as institutions of

higher education address these issues on their campuses.

Extensive research exists that indicates females have a lower level of technology skills

than their male counterparts. At the primary and secondary education level, research has

confirmed the disparity in technology skills between boys and girls (Litchman, 1998). A 1997

study in higher education revealed that female college students were less interested, confident,

and experienced with regards to computers than males (Shashaani, 1997). Even when extended

to an international stage, research reveals that females have lower skill levels and interest in

technology (Reinen & Plomp, 1997). Additionally, male college faculty members have been

shown to rate themselves higher regarding technology skills than their female counterparts

(Spotts, Bowman, & Mertz, 1997).

However, this significant difference should also be analyzed within the context of the

entire study. The area of leadership skills related to technology was the only area in which

significant differences by gender were found. Many people assume then men are more assertive

and become leaders more frequently, as well as care more about being seen as leaders and

educating themselves on leadership topics. This research does not support that assertion.

Lastly, the fourth research question sought to address the interaction effect between race

and gender in the pre-college leadership skills of first-year students. Again, no significant

differences were found on seven of the eight scales. However, a significant difference was found

between majority male and majority female participants on the technology scale. Scores on this

scale indicated that majority male respondents indicated a significantly higher degree of

leadership skills related to technology than majority female respondents.

This significant difference provides further evidence as to the widening technology gap between men and women (Bauer, 2000; Brosnan, 1998; Corston & Colman, 1996; Litchman, 1998; Reinen & Plomp, 1997; Sax, Astin, Lindholm, Korn, Saenz, & Mahoney, K. M., 2003; Shashaani, 1997; Spotts, Bowman, & Mertz, 1997). Additionally, the differences are found within majority participants, not between majority and minority participants, as many would assume.

<div align="center">Relationship to Prior Research</div>

When looking at previous research in relation to the present study, two patterns emerged. In some instances, present findings supported prior research. In other instances, the present findings contradicted previous research.

The findings related to each of the eight scales indicate moderately high leadership skills in each of these areas. There is a substantial body of literature with regards to leadership among college students that these findings support (Cooper et. al., 1994; Cress et. al., 2001; Pascarella, Ethington, & Smart, 1988; Striffolino & Saunders, 1988). Prior studies show student leaders reported higher levels of growth and development (Striffolino & Saunders, 1988). Developing self-management and organizational skills suggest higher levels of development, which this study supports. In addition, Cress et.al. (2001) reported student leaders had a greater willingness to take risks and perform under pressure. The findings of this study show respondents had moderately higher levels of problem-solving and decision-making skills, which support Cress' claims.

Additional research indicates that students develop more mature interpersonal relationships (Cooper et al., 1994). Cress et. al. (2001) found students posses increased conflict

resolution skills. This research supports the findings of these previous studies that indicate respondents have above average interpersonal skills and problem-solving skills.

No significant differences were found in leadership skills by race. This finding contradicts prior studies in several ways. Racial identity has been shown to have an influence on leadership skills (Murray, 1994; Tatum, 1997). Previous studies have also indicated that minority students have increased abilities to work in groups and that multi-racial students report lower levels of leadership skills than White students (Arminio et. al., 2000). My findings suggest no differences by race. Prior research has also suggested that minority students possess lower levels of technology skills than majority students (Litchman, 1998). My findings contradict those previous reports.

The present study also addressed the question of differences in leadership skills by gender. First, the findings suggest that overall, male and female students possess the same degree of leadership skills when they matriculate. The findings do however indicate differences in the area of leadership skills related to technology, but no differences on the other seven scales. There is an extensive body of literature that reports no differences in leadership skills by gender (Bass, 1991; Komives, 1991; Posner & Brodsky, 1994; Powell, 1989). Literature supporting differences in technology are also extensive (Brosnan, 1998; Corston & Colman, 1996; Litchman, 1998; Reinen & Plomp, 1997; Shashaani, 1997; Spotts, Bowman, & Mertz, 1997).

However, other studies actually reveal increased leadership skills in women (Komives, 1994). More specifically, increased levels of interpersonal skills and problem-solving abilities have been seen in women (Romano, 1996). My findings do not confirm these previous results as the only difference by gender in my study related to technology skills. More research is needed to further investigate the issues of leadership and gender.

The present study has revealed some interesting results that both support and contradict previous literature. In order to fully analyze the present study, a discussion of the limitations is thus necessary.

Limitations

Several limitations to this study should be noted. One related to the response rate. Only 50.1% of those surveyed responded. This is considered a low response rate by many social scientists. It is possible that those who returned the survey differed in some way from those who chose not to return it. If this was the case, the results may have been skewed.

A second limitation involved the respondents themselves. Since the study asked participants to self report on their leadership skills, it is possible that they over-inflated their answers as they looked back on their high school experiences. If this occurred, the means on each of the scales may not have accurately reflected the pre-college leadership skills of the respondents.

Another limitation to the study involved the data collection. The data were originally scheduled to be collected within the first four weeks of the fall semester, but this deadline was extended to eight weeks due to a low response rate. As a result, it is possible that this extended time period could have altered the memories of the respondents in some way.

A fourth limitation involved the respondent's adjustment to college. Respondents were all first-year students in their first semester of college, having just graduated from high school. As such, they were in the process of making the adjustment to college and a new environment. In order to feel better about coming to college and their accomplishments in high school, it is possible that they may have over-inflated their ratings. If so, this fact might have skewed the results of the study.

The makeup of the sample might also have affected the results. At the institution where the study took place, the homogeneity of the population and high socio-economic status of all students may have influenced the limited differences by race and gender. Yet another limitation involved the opportunities provided to the respondents while they were in high school. A majority of the sample attended a public (84.6%), suburban (68.8%) high school, where there were likely more opportunities to increase their leadership skills than at other schools. If this occurred, then the results may not provide an accurate measure of pre-college leadership skills and caution should be used when generalizing the findings to other groups of students.

Another limitation involved the number of items in each scale. The eight scales contained between two and 16 items. As a result, the scales with fewer items may have been less stable. In this case, the technology scale yielded the only two significant differences in the study. This scale contained only two items, however. It is possible that the significant differences related to the limited number of items on the scale rather than any real differences among participants.

Finally, the institution where the study took place could be seen as a limitation. The study was conducted at an institution with a strong emphasis on technology in all areas of the curriculum. For example, students are required to have a personal computer when they matriculate and most classes have websites through which course materials are disseminated. As a result, the significant differences found on the technology scale may have been skewed in some way and caution should be used when generalizing them to students at institutions without such an emphasis on technology.

Although the study did have several limitations, they did not detract from the overall benefit of the study. The current study was useful because it examined an area of leadership development that had not yet been explored and the findings can inform future endeavors.

Implications

The present study had implications for practice, policy, and research. The findings have several implications for those who teach classes in leadership, leadership program coordinators, and other administrators. For instructors of leadership classes at institutions of higher education, the findings suggest they can challenge students more and not make assumptions about having to begin at a basic level when providing leadership education. The results of the study reveal a mean score above the midpoint on every scale of the SLOI. This suggests students are entering college with more well developed leadership skills than is often assumed, and dispelling this assumption might lead instructors to become more effective in their educational endeavors.

For those who teach leadership skills at the secondary level, this study also has several implications. The findings suggest that students are benefiting from the leadership education that is taking place and thus might be receptive to even more leadership education at the high school level, prior to entering college. Teachers should be motivated to challenge their students even further in this area.

Additionally, leadership educators at all levels may benefit from this study. This study supported prior research that indicates a technology gap between male and female students. Prior research also indicates that females buy into technology more when they are able to understand how it relates to their interests or tasks (Brunner, 1997). Leadership educators could thus make a more concerted effort to relate their leadership lessons to the interests and tasks of the students they serve as a means of closing the gender gap related to technology.

Leadership program coordinators may also benefit from the results of this study. The present study revealed moderately high scores on the eight leadership scales measured. This would suggest that students coming to college already possess these skills to a moderate degree.

Leadership program coordinators might focus more of their attention on a wider range of leadership skills. Topics such as community development, service-learning, ethics and morality, and global leadership are all areas that program coordinators could focus more attention on in the future.

The findings of this study also suggest that students have a wide range of leadership skills. Although many students scored far above average, others still scored far below on each of the eight scales. As a result, programs cannot be designed with one type of student or skill set in mind. Program coordinators should be aware that some students will have higher skill levels and can help educate other students in the program, which helps to build self-confidence and support the development of further leadership skills. More specifically, these skill differences would provide an opportunity for students to lead small group discussions themselves, as well as help facilitate presentations or portions of presentations.

Senior level administrators at all levels could benefit from this study as well. The moderate levels of leadership skills reported would suggest that everyone should make an effort to challenge students with more leadership responsibilities and encourage them to seek out more advanced opportunities in order to truly improve upon their leadership skills. This could be accomplished through placing additional leadership requirements on students in order to graduate. Requiring students to participate in at least one leadership or service organization, or an extracurricular activity, and also encouraging faculty members to include leadership and service requirements in their curricula when appropriate would all be positive steps toward challenging students to assume more leadership responsibilities. In doing so, administrators can accurately claim leadership skills as an outcome of their institution and provide employers with students who possess the leadership skills they look for in future employees.

In terms of policy, several constituencies may benefit from the results of this study. College administrators who advocate leadership as one outcome of their institution may use the findings. If colleges wish to graduate students with high degrees of leadership skills, they should properly evaluate and manage the funding and provide support for more involved leadership classes, programs, and opportunities. Administrators need to assess leadership skills upon entering college and then upon exiting college in order to assure that the funds being allocated are producing the desired outcome, increased leadership skills.

College administrators might also consider setting a higher standard of leadership education and have confidence that students are able to meet that standard. This study suggests that students are entering college with moderately high leadership skills so if administrators wish to graduate students with higher levels of leadership skills, they should challenge students in all areas of their college experience. This can be done by challenging those responsible for educating students to engage students in leadership endeavors and to reward those who do engage students.

Additionally, college administrators might encourage evaluation and assessment among institutions of higher education. With so many colleges and universities claiming leadership skills as an outcome of graduation, simply assessing leadership skills within the institution may not be going far enough. Administrators from different colleges and universities might work together to compare outcomes and accurately assess the leadership skills attained by students as they graduate. Financial support and other resources could also be dedicated to this endeavor so that it does not become another unfulfilled mandate.

Leadership curriculum coordinators may also benefit from this study. This study shows that students are entering college with a moderate understanding of basic leadership skills. Thus,

Leadership curriculum coordinators need to focus on assessment policies that not only measure leadership skills at matriculation and graduation, but also allow for a measure of higher order skills since students are entering college with basic leadership skills.

Furthermore, administrators now have more evidence advocating the need to narrow the gender gap in technology. This study has shown leadership skills related to technology to be significantly less developed among female students than male students. As a result, administrators need to assess the effectiveness of policies that require students to purchase or rent computers upon matriculation, manage coursework online, and also assess how technology is being incorporated into the curricula in all disciplines, not just the science and technology fields. An assessment of leadership skills at matriculation and graduation should address technology skills, as well as how the use of technology was incorporated into the curricular and cocurricular experiences of students.

Primary and secondary school administrators may also benefit from this study. The data shows negligible differences in leadership skills by gender, except in the area of technology. However, studies continue to indicate that boys are favored over girls in the classroom, especially when it comes to math and science (Litchman, 1998). School administrators might create policies that require leadership to be incorporated into the classroom during students' primary and secondary educational experience. This could take the form of separate leadership education initiatives, and could also take the form of leadership ideas being incorporated into various core subjects, such as math, science, and history. Additionally, leadership programs and opportunities might be made mandatory for all secondary schools, and adequate funding might be made available and assessment of these programs carried out, to ensure that equal opportunities are made available to all students, regardless of gender. Assessment of these

programs could take place either through individual schools, school districts, state education departments, or regional accrediting bodies.

Finally, this study had implications for future research. This study measured leadership skills on eight scales. Future studies could expand on these eight scales to incorporate additional leadership skill areas. This would provide a more complete look at the pre-college leadership skills that first-year students possess.

In this study, race and gender were analyzed in relation to the leadership skills measured. However, high school type and location were not analyzed. Future research could look at high school type and location in order to gauge whether students from certain types of high schools report higher leadership skills than students from other types of high schools.

This study took place at a large, research institution. Future studies could expand on these data to examine the pre-college leadership skills of first-year students at other institutional types (e.g., community colleges, liberal arts institutions, religious institutions). This would provide a more complete picture of the overall leadership skills of matriculating students.

Additionally, although the respondents in this study consisted of both men and women, it is possible that the questions on the instrument favored stereotypically male leadership characteristics. For example, items asked respondents about the ability to offer constructive criticism, influence others, and take calculated risks. These are all characteristics that might be interpreted as male-oriented. Future studies could seek to identify women's leadership characteristics and identify any differences that may emerge by sex. This would provide a more complete definition of leadership skills from which to assess students.

Finally, this study examined a fairly homogeneous sample of students. It is possible that the failure to find significant differences by race had to do with the characteristics of the sample.

Among all first-year students at the institution, 86% were likely to be majority students, compared to the average at all public universities (75.3%) (Cooperative Institutional Research Program of the Higher Education Research Institute, 2003). More specifically, minorities were underrepresented in the study, which could account for the lack of significant differences by race. Future studies could seek to include a more diverse sample by race and socio-economic status. This might reveal whether other characteristics influence the development of leadership skills among pre-college students.

Conclusion

In conclusion, the findings of the present study reveal moderately high levels of leadership skills among first-year college students. However, these skills vary fairly dramatically within one standard deviation, indicating that some students come to college having gained far more leadership skills than others.

In institutions of higher education today, claims of leadership as an outcome of graduation are abundant. This is in part as a result of employers urging colleges and universities to ensure students graduate with leadership skills. As a result, leadership programs are springing up all over the country and colleges and universities are claiming to educate leaders. However, a gap in the research on leadership exists. Assessment is done at the primary and secondary level, and then again upon graduation from college, but not at matriculation. This study addressed that gap and suggests that students matriculate with moderately high levels of leadership skills.

Since students are entering college with these skills, colleges need to capitalize on these abilities and look for ways to develop them further. Assessment at the beginning and then again at the conclusion of the educational experience might provide evidence of the value that

leadership programs and services provide. In doing so, colleges and universities will be able to better support their claim of graduating students with leadership skills.

To this point, no research had existed that addressed the pre-college leadership skills of first-year students. This study fills that gap and helps make the connection between high school leadership ability and leadership ability upon graduation from college. A leadership skills baseline has now been established for first-year students. This is especially important as more and more institutions promise students leadership skills when they graduate. So, as outcomes assessment continues to include leadership skills, support for leadership development among college students is increasing. Is the challenge to these students keeping pace?

It is vital that institutions of higher education take note of this study and support future studies that expand on its findings. Doing so will ensure that leadership is not merely a common promise in higher education, but a common practice.